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GENERAL SUBJECTS.

A METHOD OF PURCHASING, INSPECTING AND HANDLING HORSES FOR GOVERNMENT SERVICE.

BY MAJOR CLYDE E. HAWKINS, Q. M. CORPS, (CAVALRY).

DETAILS AND PROPER ORGANIZATION OF BOARD.

ONE Inspecting Officer, one Veterinarian, one Clerk, one Messenger. The above is the smallest board that can properly and efficiently inspect horses or mules. An efficient board organized as above would be able to inspect and ship about seventy-five head of animals per day A board so organized at first would inspect and weigh. After a considerable number of animals has passed this preliminary inspection this board would then wind and work these animals under the saddle or in harness, depending upon the class of animals. After this these animals would be checked, branded, diagram descrip-

tions completed and shipped. This board however, would be too small to inspect a large number of animals day after day where an emergency existed. In such a case the proper organization of a broad would be as follows: One Inspecting Officer, one Quartermaster Agent, two Veterinarians, three Clerks, one Messenger. A full board organized as above is designed for both fast and efficient inspecting. From experience it is found that from 150 to 250 animals can be properly inspected, branded, and shipped per day by a board organized as above. One hundred and fifty animals per day is however a very good day's work, and will keep the entire force of this large or *double-board* busy. Two hundred and fifty-two horses were inspected in one day from 7:30 A. M. to 5:30 P. M., but it is a very hard day's work and can only be properly done when the contractor has good horses and they are carefully selected and cut by him and this rate of work cannot be kept up. This means a horse completed every two minutes in an eight hour day. It will be found that five days per week is all the time per week that should be devoted to actual inspections, leaving one day for necessary work at the central office and Sunday for rest. From this double-board it is possible to form one *primary board* consisting of,

1 Inspecting Officer,
1 Veterinarian (Inspector of Animals),
2 Clerks,
1 Messenger,

and one *auxiliary board*, consisting of,

1 Quartermaster Agent,
1 Veterinarian (Acting Inspector of Animals),
1 Clerk.

This auxiliary board, if composed of trustworthy men of experience with the army types of horses and mules, may be used for preliminary inspections or in cases of emergency might inspect and accept animals upon its own responsibility but this is not in accordance with law and regulations since animals will only be inspected and accepted by an officer or officers. See "Instructions to Bidders"—Form 131 Q. M. C.—Page 2—"Inspection"—Paragraph 2. The best, most rapid,

most efficient and satisfactory method however is that outlined for the *large* or *double-board*. Only officers of well known and well established ability for inspection of horses and mules should be detailed for such work to prevent enormous money loss to the government as well as unsatisfactory animals for its use. Officers so selected should have horse and mule education, "*horse sense*," not only theoretical but also wide practical experience with horses and mules. He will therefore be a horse fancier and own and handle good high class horses himself. He should have long service with mounted troops, preferably in the cavalry, and should be a graduate of our Mounted Service School and usually have attained the rank of captain. Good knowledge of type, conformation, age, defects and soundness is essential.

Boards formerly were organized consisting of several officers, usually one cavalry officer, one artillery officer and one quartermaster and a recorder. Sometimes infantry and coast artillery officers have been employed on boards, which is absurd on the face of it. In a board so organized almost invariably there is no special knowledge, training or practical experience and animals are accepted or rejected by a majority vote. There is a divided responsibility and no particular officer can be held accountable. There is a waste of officers and past experience shows boards so constituted are unsatisfactory.

DUTIES IN DETAIL OF EACH MEMBER.

The Inspecting Officer takes general charge of the board and coördinates its work, prescribes the special duties for each member of the board, judges the proper type and conformation required, together with the veterinarian examines each animal for blemishes, defects, soundness, etc., measures the height of animals. His decision in regard to acceptance or rejection of animals is final. He takes general charge of office and necessary records.

Floor Veterinarian. One veterinarian is on duty on the floor at the place of inspection with the Inspecting Officer. It is his duty to examine all animals for soundness and advises with the Inspecting Officer on type and conformation. He also determines the age of animals. The veterinarian used on the

floor should be the one of the greatest ability and experience in such work. Not only is it his duty to see that no unsound animals are accepted, but he also has general charge of all sanitary matters in regard to stables, corrals, cars, etc., used for animals. He will also have charge of the vaccination of animals against shipping fever or the application of the mallein test and will see that a proper supply of vaccine and mallein is kept on hand. Prepares and signs health certificates of animals. He should see that the necessary syringes for administering vaccines and camel hair brushes for the opthalmic mallein test are provided.

Floor Clerk. The clerk on duty on the floor with the Inspecting Officer records in a small book for the purpose, the height, age, weight, color, sex, special description and marks of animals and assigns the proper number or letter, or both, with which the animal is to be tagged. He will also make record of any remarks pertaining to the animal as indicated by the Inspecting Officer, such as, rough hocks, slightly curby, point off left hip, etc. It is important that special marks of identification such as spots, wire cuts, split ear, scars or any other peculiarities found on the animals be recorded. At least one of the clerks should be an expert typewriter, preferably No. 3 clerk, the shipping clerk.

Messenger. The messenger is on duty at the scales to weigh and make record of weight of each animal. The scales should be in the immediate vicinity of the inspection. Where the scales are some distance from the place of inspection the weights will later be carried to record book in hands of floor clerk. He places the proper number, which is assigned to the animals by the floor clerk, on a linen shipping tag and sees tha this tag is carefully attached to the manes of horses or tails of mules by means of a fine wire. This is most important and should be attended to with care. The attaching of tags to the halter of animals is unsatisfactory as halters may be easily changed. He takes charge of branding irons and their repair and keeps the measuring stick in his care when not in actual use.

Quartermaster Agent. It is of the utmost importance that this agent be reliable, trustworthy and a practical horseman of considerable experience. After each animal is weighed he is

then immediately saddled and ridden if cavalry, or harnessed and worked if for artillery or wagon purposes. The Quartermaster Agent has general charge of this work until the animals are finally branded and shipped. He carefully observes the action, gaits and disposition of animals. He determines the fitness of animals for the work required under the saddle or hitched in harness as the case may be. At this time the animal is also tested under the saddle for cavalry and in harness for artillery or wagon at a fast run for his wind. Pack mules are usually winded in pairs by being driven at a fast gallop down a long, narrow alley-way and back where two good strong men catch them by their halters and the veterinarian examines them for soundness in wind. They may, if necessary or preferable, be hitched and driven for wind test.

It is a matter of common knowledge and experience among horse and mule men that few animals of the smaller types are found unsound in their wind. Many windy animals on the contrary are liable to be found among the heavier animals and especially among the heavy draft types. It is his duty, after advising with his veterinarian, to reject any animals for sufficient reason and report the facts to the Inspecting Officer in accordance with the latter's instructions. A doubtful case should be again submitted to the Inspector for a decision. He should see that each animal before being branded has his hind feet properly trimmed and left bare and is shod with flat shoes without calks in front. The Quartermaster Agent takes general charge of horses after they are branded to see that they are properly stabled, sheltered or placed in corrals, properly fed and watered and that forage is of the proper kind and quality. He, together with his veterinarian, will inspect cars to see that they are properly cleaned, disinfected and in a sanitary condition and that the floors are properly sanded and inspect the forage for use enroute. He should carefully inspect the water tanks in A. P. H. cars.

Second Veterinarian. It is the duty of this veterinarian along with the Quartermaster Agent to test all animals for wind and observe any unsoundness or peculiarities that may have escaped the preliminary inspection and become apparent when the animal is in harness or under the saddle. He is the assist-

ant of the Quartermaster Agent and works with him on all the duties layed down for the Quartermaster Agent. Where necessary this veterinarian will vaccinate animals against shipping fever and apply the mallein test. When the veterinarian working on the floor at the point of inspection can be spared or if not working at the time, he will assist in vaccinating and administering and judging the mallein test.

Second Clerk. This clerk works at the place of branding. It is his duty while the animal is being branded to make a diagram description of the animal on the regular descriptive card furnished by the Quartermaster Corps. This description is very important and this clerk should note on the diagrams of the horse found on this card all spots, wire cuts, scars, brands and other peculiar markings which would fully identify the animal. This card is completed from the record descriptive book of the floor clerk and they are checked against each other. He also places on the card the proper number or letter or both taken from the tag. As a rule these diagrams are made out with pencil and later on traced with ink. The use of the pencil is found by experience to be best, especially where many animals are being accepted.

Third Clerk. This clerk has immediate charge of branding. He sees that the proper number is placed on the hoof. This number should correspond with the number placed on the descriptive card and the number on the tag. He sees that the "U. S." is properly branded on the animal, that no animal is branded other than those inspected and passed and that when branded they are placed with their proper class as cavalry, artillery, etc. He is responsible to see that these numbers run consecutively, and if not, he must check back with the floor clerk. In case an animal is rejected at this end of the inspection the tag should be pulled and immediately returned to the floor clerk in order to be filled in that the number may run consecutively. This clerk in addition to his other duties is the shipping clerk. It is essential that the shipping clerk should follow the animals and check them at the end of each day's work and until they are turned over to the stock yard authorities or proper parties for shipment and finally when loaded into the cars. He will obtain suitable trustworthy men

to accompany animals to destination and explain their duties to them. This clerk should keep a contract book in which should be recorded all contracts before inspection trips are started showing the number, kind and place covered by each contract with name of contractor, point of delivery and all data concerning said contract. This book should be posted and kept up to date.

If the above book is properly kept it enables the Inspecting Officer to know the exact status of each contract on any date. The descriptive cards should be completed each evening by the floor clerk and the diagram descriptive clerk and signed by the Inspecting Officer each day to avoid congestion.

METHOD OF ADVERTISING FOR ANIMALS.

This should be done so as to give the needs of the government the widest possible publicity.

Advertise in all principal papers throughout the zone where purchases are to be made. At the central office in each zone a mailing list should be maintained giving the names and addresses of breeders and dealers throughout the zone. When animals are required immediately, proposals for the animals required should be mailed, without request to the addresses. Authority to advertise must be obtained from the Quartermaster General.

METHOD OF INFORMING PROSPECTIVE BIDDERS OF THE REQUIREMENTS OF THE GOVERNMENT.

With each proposal mailed enclose specifications, instructions to bidders and a memorandum made out by the Inspecting Officer inviting attention to the main features of the specifications and outlining the kind of animals wanted as well as those not wanted. The nature of this memorandum will depend to a great extent upon the ideas of the Inspecting Officer. It has been the experience of this office that all contractors who furnish animals for the United States Government learn the type and conformation required only by hard knocks and experience in actually showing animals for inspection.

METHOD OF RECEIVING, OPENING AND ABSTRACTING BIDS.

Animals required are advertised for in the principal newspapers of the zone and blank proposals—Q. M. C. Form No. 118—are sent to all large breeders and dealers from a list of addresses kept on file in the central office of the zone.

The exact hour and day that the bids are to be opened have already been shown in the advertisements and proposals. At the exact hour of opening same the bidders who present themselves are invited to witness the opening of the bids. Each bid is then opened in the presence of the bidders in the order in which received. After observing whether or not the bid is properly signed and attested, the bid is read aloud and a clerk makes record of the contents therein. The other bids are opened and read and recorded in the same manner. The bidders may then be informed the number of animals and the lowest bids on same.

The bids are then abstracted on Q. M. C. Form No. 123 and then carefully compared by the Inspecting Officer with the original bids and the awards are recommended on this same form. This form, together with a copy of each bid is then mailed to the Quartermaster General's office. The awards recommended are sent to the Quartermaster General's office by wire in addition to the above form when so ordered.

METHOD OF AWARDING AND PREPARING CONTRACTS.

Contracts are usually awarded to the lowest bidder recommended by the Inspecting Officer or other officer advertising for bids. It is very important that before recommending or making the award of a contract to a bidder he should be thoroughly investigated as to his general standing as a reliable trustworthy citizen in his locality and his financial responsibility as well as his fitness, ability and organization for furnishing the animals required.

Contracts are prepared upon printed Form No. 107 Q. M. C. and bond executed on Form No. 100-C Q. M. C.—which are satisfactory.

METHOD OF ASSEMBLING ANIMALS FOR INSPECTION.

Under the contract system the place of inspection is usually designated by the contractor. Where any considerable number of animals is to be furnished, the contractor employs buyers or permits those engaged in buying and shipping animals to ship their animals to the place of inspection. The assembling of animals under the contract system necessarily pertains to the contractor. It is his duty to receive, stable and shelter these animals until the date of inspection. He should sort and cut the animals according to the class for which they are intended and only present for inspection animals that conform to the requirements of the specifications. In accordance with the advertisement and proposal the place of inspection should have plenty of fresh water, shelter and proper facilities, not only for the animals, but also for the inspection and shipment of same. It is the experience of this office, as well as agents of foreign governments now buying in this country, that we must go to the large markets in order to obtain great numbers of animals. It is only the large dealers and commission companies that have the knowledge, facilities and buyers for obtaining and handling large numbers of animals. It is also the experience of this office that the large dealers and commission companies obtain by far the best grade of animals for our purpose. As a matter of fact many of these animals are purchased in the country for the purpose intended, but probably the greater number are selected in the great markets from the continual flow of animals that are coming in. Many objections have been made to obtaining animals in the large markets, but it is a fact that where great numbers of animals are assembled anywhere, even in the country, necessarily coming from a wide extent of territory they will sooner or later make conditions the same as in the great markets and the likelihood of infection and disease will exist. Where there is no emergency or rush it is true that animals can be collected in the country, in small numbers and probably escape the danger of infection and disease to some extent. However, even the small buyers and contractors use the railway stock cars to assemble their animals, unless purchased in the immediate vicinity of the inspection center. The method of purchasing animals by having the board travel the country and

buying direct from the farmer is unsatisfactory, even if only the normal number of animals is required. In order to supply the army by this method many boards would necessarily have to be employed throughout the country involving much mileage and other expenses. It is only the local buyer who kows the district where the proper class can be found and who is acquainted with the farmers in that locality who can be depended upon to obtain many animals. From the present inspection now being conducted at the National Stock Yards, Ill., I have observed that animals shown for inspection come from many widely scattered localities and have been obtained for the contractor by many different buyers. These animals are picked up a few at a time, collected locally and then shipped in car load lots to St. Louis for this inspection. Some animals shown for inspections have come from the States of Ohio, Indiana, Nebraska, Kansas, Oklahoma, Kentucky, Tennessee, etc. Especially at the present time when great numbers of animals have been taken from the country by foreign governments it is necessary to search the country far and wide for any considerable number of animals. As soon as sufficient numbers of animals are collected at the point of inspection for even one day's inspection they should be promptly inspected and shipped to rendezvous.

METHOD OF CARING FOR ANIMALS PRIOR TO INSPECTION.

Under the contract system this pertains exclusively to the contractor. In short, no real control can he had of this matter previous to inspection and purchase. Naturally it is to the contractor's benefit to see that all animals receive the best attention prior to inspection. It is well to suggest to the contractor that all animals should be kept in covered, open pens in summer and protected and well ventilated sheds or stables in cold weather. Protection against extreme weather in either summer or winter is essential. It has been observed that at points of concentration the greatest defect is crowding of animals and poor ventilation. The essential points therefore are protection against extremes of weather, plenty of ventilation, good fresh water and good forage.

METHOD OF CONDUCTING THE INSPECTION OF ANIMALS AND PROPER ORDER FOR DISPATCH.

A proper place for inspection of animals is necessary. It is the duty of the contractor to have the animals prepared for inspection. A level place, preferably a board of concrete floor should be furnished, upon which the animals are first brought for measurement. This should be at a wide, open door-way in order that the eyes may be properly examined. A suitable place is also required for walking and trotting the animals before the inspector. This place should be in the open and should be not less than fifteen feet wide and fifty yards long and should be connected with the door-way mentioned above. All animals should be handled as gently as possible, but for refractory animals a suitable chute or stocks and a couple of twiches should be furnished by the contractor. The man who handles the feet of animals should be provided with a suitable hoof pick. The following helpers or employes are necessary and should be furnished by the contractor. At least two men to lead the animals up to the inspector and to handle the animals during the inspection and two others to lead the animals away to be weighed and branded. One other good stout man accustomed to handling animals is necessary for the purpose of raising and handling the feet of animals during the inspection. This man will also take charge of the measuring standard and hands it to the Inspecting Officer for measuring. Two good men are required at the place of branding who brand the animals, under the direction of No. 3 clerk, and one man, who should be a blacksmith, to care for the fire and the branding irons. One other good man accustomed to animals and not afraid of them is required to hold the animals while being branded. The two men mentioned above are both required to handle the branding irons. In addition to the above mentioned men furnished by the contractor he is also required to furnish sufficient men to handle all animals with dispatch, that is, in getting them up to the place of inspection and taking them away and placing in stables or corrals. This in order to prevent congestion. A number of animals are then bridled, using the snaffle bit and reins for leading.

ORDER OF PROCEDURE.

The animals is then led upon the floor facing outside near the entrance of door—then measured, aged and eyes examined —then led outside walked and trotted and the inspection completed. He is then immediately sent to the scales and weighed, after which, he is ridden or worked and tested for wind and at once goes to the place of branding where his diagram description is completed and the animal branded. The animal then goes to the veterinarian who vaccinates him against shipping fever or applies the mallein test if ordered and then goes to the stable or pen assigned for his class and awaits shipment.

METHOD OF ASCERTAINING PROPER CONFORMATION.

The board should keep in communication with a contractor by letter, telephone or wire. As soon as sufficient number of animals have been collected at the place of inspection the contractor should notify the Inspecting Officer when and where he desires the inspection. It is customary for the contractor to meet the Inspecting Officer and board at the railroad station and conduct them to the place of inspection. He at this time should have collected at least one hundred or more animals. The method of inspection below given is that followed by the second or large board mentioned above and it is assumed that a large number or at least considerable numbers of animals are required.

The animal is led by the bridle reins before the Inspector on the platform near the door opening outside. The Inspector stands a few feet from and on the left of the animal. A hurried view of the animal is now taken by the Inspector and unless it is at once evident that the animal is totally unfit for the purpose intended (in which event he is rejected and at once led away and another animal led up), the Inspecting Officer measures the animal for height, observing at the same time whether shod or bare-footed and the length of the hoof. As a rule from one-half to one inch should be deducted from the actual measurement on account of shoe and surplus hoof. The measurement is called by the Inspector to the recording clerk. During this time the floor veterinarian examines the teeth for age and observes the nostrils for disease and mouth for defects. He also

examines the eyes and calls the age to the recording clerk. If the floor veterinarian finds no defects to warrant rejection at once, and the animal is of suitable age, he is then led at a trot over the run-way in a straight line away from the inspector and veterinarian and back to them.

At this time the animal is observed to see whether or not he goes sound, his gaits, action and manner of handling his legs are carefully observed. In case of any doubt arising the animal should be again moved at the walk and trot and further observed. During this part of the inspection it should be ascertained whether or not the animal has a free, bold and proper gait or whether on the contrary he is logy, heavy-footed or has any peculiarities of gait. Whether or not he is cow-hocked, bow-legged, reel-footed or splay-footed behind or whether or not pigeon-toed, splay-footed, tender, short-gaited, paddler or winger in front. Only pure gaited horses with walk, trot or gallop are accepted. Reject all animals having fancy gaits as pace, single-foot, rack, etc. During this time the animal if stringhalted will frequently pick up or snap his hind leg, especially upon turning. The animal should be observed at this time to ascertain whether he travels too close either in front or behind and the likelihood of his interferring. If results are satisfactory up to this point the horse is brought to a standstill before the inspector and veterinarian. The veterinarian standing or stooping slightly about six feet in front of the animal views his front legs for symmetry, straightness and unsoundness, observing whether or not the front legs are at the proper distance apart at the chest, whether or not he has well shaped pasterns, toed-in, splay-footed, bow-legged or knock-knees. Examines by the eye for splints, ring bone and side bone, observes the chest to see whether narrow or a proper width and full.

After this, looking between the fore legs he examines the symmetry of the hind legs and especially the hocks. Then he observes the hocks by placing the eye on a line slightly to the left and right of the forearms of the animal giving a diagonal view. In this way any dissimilarity of hind legs, and particularly the hocks, should become evident and especially if the animal has bone spavin (sometimes called a jack) or bog spavin.

The Inspecting Officer immediately follows the veterinarian in front of the animal making the same inspection.

The Inspecting Officer and veterinarian then go to the near side of the animal from six to ten feet away for the purpose of further judging the animal for type and conformation, especially observing the front legs to ascertain if properly set with reference to the animal, observing whether or not the fore-leg is normal in make-up and direction, whether the fore-arm is well developed, the leg straight, that is, neither over in the knees, calf-legged or cut out under the knees, whether or not the bone is sufficiently large, the tendons well developed and firmly attached, the slope and length of the pasterns. When the pastern is too long the strain on the ligaments is too great and the leg has the appearance of being set back too far away from the foot, especially when weight is placed upon the animal the pasterns assume a more or less horizontal position, giving the animal a coon-footed appearance. Where the pastern is very short and straight the opposite result is obtained causing an animal to travel in a peculiar fashion, called peg-legged or stilty. In the front leg the proper angle of the pastern is from fifty to fifty-five degrees with the horizontal. An animal should stand on his pasterns in such a manner that they appear not too straight up and down nor too nearly horizontal. Well developed muscles of the forearm and good bone is essential. The cannon bone should be short and the knee large, wide and deep. The inspector and veterinarian while still in this position will also observe the general conformation of the animal, head, neck, withers, barrel, back, loins and hind quarters. The withers should be well defined, neither very high nor very thick and low nor should they be thin without sufficient muscle on either side. The back should be comparatively straight and short, neither low nor unduly arched. The muscles of the loins and haunches should be strong, wide, deep and well developed. The animal should be well coupled together and should have a large well developed body or barrel without being pot-bellied, the ribs should be well separated and well sprung outwardly and the last rib should come up close to the point of the haunch bone. The shoulder should be well developed and slanting for the saddle animal, but somewhat thicker and straighter for the

harness animal. The animal should be normal in the croup and of sufficient length, not goose rumped, the thighs should be wide and thick—wide as viewed from the side, especially at the stifle, and thick as viewed from behind. The neck and head should be normally set on the body, neither excessively high nor low. There should be a slight arch from the withers to the ears, but not excessive. The line of the lower part of the neck should be about straight from the chest to the throat latch. When the under side of the neck is convex the upper crest especially near the withers is usually concave. This is known as ewe-neck, or sometimes the neck is said to be on up side down. Note the lips and ears. The lips should be firm and well set, the ears well set and active. Avoid animals with lopped ears and flaccid drooping lips. All animals that roll the tongue outside the mouth are invariably ill-bred, logy and without nerve and staying qualities. It is often an indication of dumbness or the disease known as immobility. The lower line of the barrel from the brisket to the flank should be rather decending than ascending. This is found to be the case in short backed, tight made animals as opposed to the long backed, narrow, slab-sided type so often shown.

Reject animals narrow through the loins and flanks, badly tucked up in the flanks and with too great a space between the last floating rib and point of haunch bone. These animals are usually weak in the back, will not carry weight well and are difficult to keep even in normal flesh. Observe the set of the front legs as to whether it appears to stand too far to the front or too far back under the animal. Notice whether or not the animal stands firmly on all four legs and does not ease up one; for example, pointing a toe or cocking an ankle. Both positions in regard to the front as well as the hind legs are abnormal and faulty. Now observe the hind legs for conformation, whether or not very curved at the hocks, making what is known as a sickle or saber hocked leg. This makes the angle at the hock less or more acute than it should be and the appearance of the hind leg as viewed from the side is crooked. When such is the case, the leg is usually cut out under the hocks and has not sufficient cannon bone. Frequently such a hock is curved outwardly just below the point of the hock forming a curb.

In the normal hind leg when the animal is standing naturally the cannon bone is almost vertical, slightly inclined to the front. The hock should be well developed, large, lean, wide and broad. The hind pastern the same as the front except a little straighter about fifty-five to sixty degrees with the horizontal. Next the footman raises the front leg and the veterinarian examines the leg and foot for soundness and any signs of defects such as splints, side bone, ring bone, contracted heels, laminitis, quittor, etc. The best foot or hoof is of dark horn, only slightly oval in shape in the horse, but more oval in the mule, medium in size, smooth and of fine texture; sole moderately concave, heels wide and frog large, firm elastic and healthy.

At this time the veterinarian should take a diagonal view of both hocks. The legs should be examined for interfering marks. If from this examination it is evident that the parts are thickened or enlarged from this cause it is sufficient to reject the animal. However, slight abrasions may be caused by bad shoeing and the animal is really not at fault. Upon approaching the animal for the above examination the veterinarian first examines the poll, under the jaw, withers and neck of the animal as well as the shoulders for sweeny or other abnormalities. A sweenyed shoulder is sometimes blown up with air to deceive the inspector. This is easily detected by placing hand on the shoulder and if blown up with air a crackling like paper under the skin will be readily observed. During this examination the flank and sides of the animal should be observed to note any indication of heaves, which is indicated by a jerky motion of the muscles of the flanks and sides, especially upon exhalation. As a rule the hind leg is not handled unless it is evident to the eye that such is necessary, which should always be done if there is anything whatever to indicate unsoundness. The veterinarian examines for proper castration and ascertains whether or not the animal is a ridgling.

Next the inspector and veterinarian view the animal from the rear, observing the conformation of the hind quarters, whether muscular with thick thighs and well developed. The hips should be symmetrical. Sometimes the point of the hip has been knocked off or the animal may have a hip down caused by a fracture of the ilium. The symmetry of the hocks should

be carefully observed from this position and whether or not the animal is cut up behind between the legs. Tight made animals and especially animals that are well muscled and easy keepers are invariably built close behind. The inspector and veterinarian will then pass to the right or off side of the animal and the same process gone through as on the near side. In doubtful cases let the contractor keep the animal. It is very important, in fact essential that animals should have good, normal, sound legs, properly set under them and of good conformation. No animals that do not fulfill these conditions should be considered. It is a matter of experience in the service that only animals with good legs and sufficient bone will stand hard work of any kind. No animal with cannon bone that measures less than seven and one-half inches under the knee should be accepted for any purpose. In fact the normal, minimum measurement of the fore cannon bone just below the knee is seven and five-eighth inches and the normal girth measures not less than sixty-eight inches. These measurements can be taken as a minimum.

The animal, mule or horse, for any purpose whatever required by the government can be described in few words: 1. Sound; 2. Tight made; 3. Of good quality and breeding; 4. Good legs, properly set with plenty of bone. The method of ascertaining proper conformation is a difficult matter. It must be known upon sight when seen. This requires ability, capacity theoretical education under competent instructors, and much practical experience. The weight is obtained on the scales, height by the measuring stick.

The age is ascertained by the veterinarian upon proper examination of the teeth. Milk or temporary teeth are whiter than permanent teeth, narrow at the gums and not so securely attached; smooth outside and grooved inside; the opposite being the case in permanent teeth; the gums in young animals are fresh and plump, the interior angle of the jaws formed by contact of superior and inferior incisors is obtuse and the incisors are directly opposed. At two years of age the animal will have a full set of temporary incisors or milk teeth. Animals of this age have been passed for five years old, but this error is only pardonable for the inexperienced as the general

appearance of the animal, the character of its mane and tail, etc., will readily indicate the youth of the animal. From two years past to five the age is determined by the shedding of the temporary and the eruption of the permanent incisors. From two and one-half to three the temporary centers or nippers are shed and the permanents erupted. At three the permanent nippers are up and in wear. At three and one-half to four the temporary intermediates are displaced by the permanents and at four the permanent intermediates are up and in wear. From four and one-half to five the corner temporary or milk teeth are shed and at five the permanents are up. At five the centers or pincers are pretty near leveled, the canines or tushes are completely cut and the corners are in wear on their interior borders. The animal is now said to have a full mouth.

Six years old the pincers are leveled and beginning to assume an oval form, the intermediates are beginning to fill. Corners wearing on interior and posterior borders.

Seven years old. The teeth are whiter due to wearing away of external cement covering. Nippers and intermediates leveled, nippers oval, intermediates becoming so. Notch appears on corner incisor.

Eight years old. The pincer and intermediate teeth are leveled and oval. Cup in corners becoming more shallow and table of teeth becoming oval. Change in direction of superior and inferior incisors in now observed and they are opposed more obliquely.

Old horses have a distinctive appearance especially about the head, the eyes and the withers are indicative of more or less age. It is a well known fact that as animals grow older, especially after ten or twelve years of age the cavity above the eye becomes deeper and more marked. Many horses have a more or less aged look about the head, which is difficult to describe, but is readily known by those of experience. They even become more or less gray. The withers become prominent and the muscles on either side more or less atrophied. Frequently the back becomes low or sunken. As a result of age probably connected with hard usage, road puffs appear about the ankles. In short, they become "*roady*" in appearance about the legs, knees and hocks.

Age is also frequently indicated in an animal's gait and actions. At nine years of age a well defined dent appears in the corner teeth, especially the uppers at the center next to the gums. This appears at nine years of age and extends down the teeth farther and farther as an animal grows older. The teeth when looked at from the front become longer and more separated at the gums and the interior angle when closed against the lower teeth becomes more and more acute as the animal grows older. As is well known the cups in all of the lower teeth disappear from nine to ten years and the animal becomes what is known as "*smooth mouthed.*" The shape of the teeth in the young animal is wide laterally from side to side of the animal's mouth, but as the animal grows older, and especially from about seven years of age, the teeth lose this lateral, oval appearance gradually and become wider from front to rear instead of from side to side. At nine years the center or pincers and laterals are becoming somewhat rounded, the corners still are oval and show some traces of a cup; in the superior centers the cups are about leveled and the notch of superior corners which appears at about seven years has about disappeared. From ten to twelve years the centrals, intermediates and laterals are more rounded, the cups in the corners disappear entirely and they are becoming more rounded. At ten the gums of the central uppers drop at point of connection with the teeth and are somewhat lower than the gums of the intermediates and laterals. In very old animals the incisors become triangular or rounded in shape and the interior angle of the jaw becomes quite acute.

If it is necessary to examine an animal's eyes in dark or stormy weather or at night it has been found that a hand electric flashlight is very good. If the inspection in the open thus far has been satisfactory, the animal is then twisted around both to the right and left with the front feet as a pivot. The animal is then backed several feet sharply and driven forward promptly with the whip. This should disclose stringhalt, weakness in the hocks, loins or stiffness in the back. It has been my experience that animals with limber, limp tails lack nerve and energy. Occasionally animals with dead or paralized tails are found. The animal can be tested for this by a

light tap or tickling of the whip or pricking with a pin in the region of the flank. During the inspection of animals the floor clerk makes record of the complete description of the animal and makes note of any peculiarities called to him by the inspector or veterinarian.

The method of inspecting mules differs somewhat from that of horses. As a rule mules in any quantity are handled in small bunches and herded instead of being handled singly on the halter like horses. The most convenient method which is nearly always found possible in mule barns is to have an alley 15 feet to 20 feet wide and 100 to 200 feet in length with pens on either side closed by gates opening into the alley. Twenty-five to thirty head of mules are herded in one end of the alley and the inspector and veterinarian place themselves three or four rods from the mules on the near side of the alley on the left side of mules. The mules are then trotted by the inspector, one at a time in order that their general type, fitness and gaits may be observed, as well as lameness detected. Mules that are lame, of unsuitable gaits or otherwise unsatisfactory are at once rejected and turned into a pen selected for that purpose. All other mules are passed into a different pen for further inspection. These mules having passed the preliminary inspection are then haltered and brought before the inspector and the inspection from that time on is similar to that of horses.

After this preliminary inspection in the open the horse or mule is then sent immediately to the scales and weighed by the messenger. The weight and number to be assigned this animal is recorded in a book provided the messenger for this purpose which is afterwards transferred to the record book of the floor clerk or called to him if near enough. In case an animal is under the prescribed weight the messenger reports the fact to the inspector before tagging the animal. If accepted to this point the proper number is placed on a linen tag and the mesenger sees that the tag is wired into the manes of horses and the tails of mules. The animal is then immediately turned over to the Quartermaster Agent and his veterinarian to be ridden under the saddle or worked in harness according to class. It is the duty of the Quartermaster Agent and his veterinarian to keep a close watch on the animals especially in regard to gaits,

disposition and manner of handling under the saddle or in harness. If satisfactory the animal is then winded and if found all right accepted. In case of doubt, or if the animal is found to be windy or heavey, the tag is pulled and returned at once to the floor clerk and the facts reported to the Inspector. In case of doubt only the animal should be resubmitted to the Inspector for a decision, but where there is no question about the unsoundness of the animal for any cause whatever, he is rejected at this point. The animal that passes these tests is now finished so far as the inspection in concerned and is immediately passed on to the branding clerk to be branded. After being branded and having his diagram description completed the animal is sent to the vaccinating chute where he is vaccinated. It is very important that the hair and skin of the animal on the neck at the point of vaccination should be thoroughly cleansed antiseptically by scrubbing with a small stiff bristle brush with a solution of creolin, creosol or carbolic acid. When once the inspection of an animal begins, he is constantly kept under the eye and in charge of some member of the board. The animal should not be put aside, but go directly and immediately from one part of the inspection to the next until finally branded and placed in his proper class to await shipment. The animal is then sent to the stable, corral or pens to await shipment.

RECORDS MADE AT INSPECTIONS.

The floor clerk shou d be provided with a small book in which is recorded in pencil a descriptive list of each animal. A book four inches wide and ten inches long and three-fourth inches thick with blank pages has been found very convenient. At the head of each page or beginning the day's work, upon or changing from one contractor to another, or changing from one class of animal to another, should be noted the name of the contractor, the date, the place and the class of animals. In this book is noted a complete record of each animal made by the floor clerk at the point of inspection. To this book the weights of animals must also be carried from the scales. The record of weights and the number of each animal is noted in a note book at the scales and at the first opportunity these weights should be transferred to the record book of the floor

clerk. This really furnishes the only record of purchases made kept by the Inspector and should be filed away with his records. At the point of branding the diagram clerk places on the diagrams of the descriptive card all spots, and special markings found on the animals at the time of branding. This card which carries the proper number of animal as shown by the tag and with which the animal is branded on the hoof is then completed at the first opportunity, usually the same evening from the notes in the record book of the floor clerk and submitted to the Inspector for his signature. The use of the regular descriptive cards by the floor clerk has been tried and proved unsatisfactory. *First*, because he has not time to properly and accurately fill in all required and has no place to enter remarks for the record of each animal to be kept by the Inspector for future reference. *Second*, the cards are greatly solied and spolied in inclement weather. *Third*, the Inspector has no other record except this book unless a duplicate card is made to be retained, a waste of time and work and wholly unnecessary. *Fourth*, a comparison of the floor clerk's record with that of the diagram clerk when they together complete the descriptive cards gives a real check on each others work.

METHOD OF BRANDING ANIMALS, EQUIPMENT NECESSARY THEREFOR, AND LABOR INVOLVED.

Animals are branded U. S. on the left shoulder for the Regular Army above the forearm about opposite the point of the shoulder. For the National Guard animals are branded on the right shoulder. The letters U. S. are block letters, clearly defined, each letter about two inches high and one inch wide with an iron handle about three feet long. The numbers and letters for branding the hoof should be three-fourth inch numbers and letters. This office has found that a composition of copper makes the best branding iron, in that it holds the heat better. The numbers required are cipher to nine with such letters as are necessary. Some method is necessary that upon taking hold of the iron the person branding can immediately recognize when it is right side up so that it will not be necessary to look at the letter or figure before applying the brand. A slight downward turn or curvature at the base of the handle is the

method used by this office. Cipher to 999 can be used for the first 1,000 animals or 0 to 9999 may be used for branding 10,000 animals. Rather than to use many numbers on the hoof this office makes use of letters in addition to numbers, as for example: The first 1,000 should have the No. 0 to 999, the next 1,000 $\frac{0}{A}$ to $\frac{999}{A}$, and the next 1,000 $\frac{0}{B}$ to $\frac{999}{B}$ etc., using all the letters of the alphabet, except Q which too closely resembles O. It is evident by using the first three figures that you provide for 25,000 each of horses and mules and with four figures and letters 250,000. The same numbers and letters may be used for both horses and mules, since there would be no danger of mistaking a horse for a mule or vice versa. The numbers and letters above referred to are placed on the right front hoof, about the middle of the hoof. Care should be taken not to brand animals too near the coronary band nor too near the toe. In the first instance, especially if the brand is deep, it might injure the hoof. In the second case, the hoof soon grows out and the numbers are lost upon reshoeing. The letter "C" for cavalry; "A" for artillery; "M. C." for minimum cavalry or "M.A." for minimum artillery may be used to designate the particular class to which the animal belongs. In the same way for mules, "P" for pack; "W" for wheel and "L" for load may be used. These letters are conveniently placed on the outside of the left fore near the quarter where they can be readily seen. A brand may be used to indicate the Zone from which the animals come, such as K. C. for the middle-west Zone. This brand is put on the inside of the left fore and can readily be seen when the number of the animal on the right fore is being observed. This method of branding leaves the front of the left fore for use of organization brands. When the hair is coarse and long a pair of clippers should be used to clip the hair before branding U. S. A small pan containing bacon grease or lard is which to dip the hot U. S. before branding is found to be as good as it cleans the U. S. and makes a better, clearrer brand. The U. S. brand should be carefully made. The edge forming the letter should be quite thin of about one-sixteenth of an inch in width and with at least one-half inch open space from the edges of the letter back to the solid block. It is found that this kind of a brand will give a clear, distinct,

U. S. without injuring or burning the parts of the animal in between. Where animals are being purchased in large numbers, hair brands on the left hip are convenient in sorting and cutting animals at the corrals, as for example: "C" for cavalry, "M. C," minimum cavalry, "A" artillery, etc. The men who actually do the branding should be furnished by the contractor. For efficient service the same men should be kept continually on the same kind of work.

CARE OF ANIMALS AFTER ACCEPTANCE, INOCULATION, FORAGING, STABLING, ETC.

After animals are accepted and branded they should be shipped to destination as soon as possible. In case it is necessary to keep them one or more days it is customary for the contractor to shelter and care for the animals until date of shipment at the expense of the United States. During the summer months they should be put in open pens, preferably covered, or pastures if available. In cold or stormy weather they should be put in well ventilated stables or covered, sheltered pens. The next thing to see is that animals have plenty of ventilation, clean, disinfected pens or stables, plenty of fresh water, free from contamination and good forage. Since the animals are not at work the forage should consist principally of hay, with a small amount of grain, preferably good, clean oats. The best hay is good, clean, bright timothy with not to exceed twenty per cent. clover. Since it is not practicable to exercise large numbers of animals they should have plenty of room to move about in pens, corrals or pastures. It is hardly ever necessary to keep animals on hand for more than one to three days.

VACCINATION OR INOCULATION.

In my opinion vaccinating animals with the present antitoxins against shipping fever is expensive, useless and does more harm than good, especially when applied just before shipment, therefore, I recommend that it be discontinued at least until the arrival of animals at destination. It is a well known fact that the germ or bacteria is unknown or at least has never been isolated. The best authorities agree that at present there is no preventative or no specific remedy. Care

and sanitation is therefore of the most importance. There should be as little delay as possible in assembling aniamls for inspection; when ready they should be inspected at once and shipped to destination on fast trains as expeditiously as possible and receive the best of care upon arrival at destination. When they arrive at destination they should be unloaded an watered at once, quarantined for at least two weeks and given the best care and attention under the supervision of a competent veterinarian; should be sheltered from extremes of weather, either hot or cold, but should have plenty of ventilation, good fresh water, good hay with little or no grain until they get into normal condition. Where possible turn into a good pasture with good water and shade.

METHOD OF LOADING AND SHIPPING ANIMALS.

Loading. At all the large markets animals are loaded from a platform usually furnished with chutes or gates leading to the car door. At small towns animals are usually loaded through chutes. The cars commonly used are the common stock cars, thirty-six and forty feet long. The thirty-six foot car will hold twenty regulation artillery and twenty-two cavalry. The forty foot car holds twenty-two artillery and twenty-five cavalry. Animals should be led into the car as gently as possible and there should be one man in each end of the car to receive and place the animals. Alternate animals should face in opposite directions. The common stock car should be loaded snug, without crowding. In extremely hot weather slightly more room must be given in the common stock car. However, it is found that the animals will ride better if the car is full and the animals snug. Commercial shippers run or herd the animals into common stock card and let the animals arrange themselves without regard to the direction in which each animal faces, the idea being that animals will not remain as placed. The above is the common practice throughout the live stock shipping world and seems to work as well as the army method. The Arms Palace car is a stall car, equipped for feeding and watering horses in the car. These stalls are crosswise and the cars are designed to hold eighteen animals. In an emergency one or even two animals can be placed in the center

opposite the door. This space however is usually left vacant for forage and the attendant. The express car is a three compartment car without stalls and holds twenty-eight head of animals. The contractor, or more usually the stock yard authorities load the cars. Common stock cars are disinfected and sanded by the railroad authorities at the expense of the shipper, as shown by the tariff schedules. The A. P. H. cars are disinfected and the stalls sanded at the expense of the A. P. H. Company. The disinfectant used is that prescribed by the Bureau of Animal Industry. A veterinarian belonging to the board should inspect the cars before shipment to see that they have been properly cleaned, disinfected, sanded and that proper forage is provided. Forage for the A. P. H. cars should be obtained before departure from the contractor or stock yards where the animals are inspected and the water tanks filled. Unless the shipment is unusually long this will be sufficient, but if necessary forage and water will be obtained enroute. Usually only hay is fed enroute, but in winter and on long trips a half ration of good oats per day should be fed. Hay is furnished and estimated at fifteen pounds per animal per day while enroute.

When shipping in common stock cars, it is necessary to stop at the best available places enroute for water and feed. These stops should be made every twenty-eight to thirty-six hours to comply with the law and are usually made at division points where proper facilities are found. The forage is obtained from the stock yards and orders and receipts in triplicate are made out and signed by the attendant in charge of the shipment. The shipping railroad pays for the forage. One copy follows the bill of lading and two are returned to central office by attendant. One of these goes with the memorandum bill of lading to the settling officer and one is retained in the office for file and reference. The A. P. H. car is provided with forage and water in the car and therefore the animals should not be unloaded enroute except on long journeys. Whether or not animals in A. P. H. cars require unloading enroute depends to a great extent upon their condition. Under ordinary circumstances shipments from three to five days need not be unloaded enroute. If animals shipped in these cars show signs of sickness or great fatigue they should be unloaded about every three days. When shipping in the common stock cars, according to law, animals must be unloaded for feed, water and rest every twenty-eight hours, unless a release is signed by the shipper, in which case, they may go thirty-six hours. It frequently occurs that it is necessary to unload animals enroute in pens where conditions are bad, without proper shelter, poor water and forage. These conditions as far as possible should be regulated by the railroads and be subject to inspection by government officials. Upon investigation it is found that commerical shippers, especially for long distances invariably ship animals by express. This of course is done at greater expense, but it is evident that the shipper considers it a great saving in the end. The animals are a much shorter time enroute, arriving in better ondition, and are not nearly so liable to sickness. It is very desirable that animals be inspected as early as possible after being assembled at the rendezvous and that they be shipped immediately thereafter, preferably in train load lots. In this way the railroads will give better and faster service, in fact, special service. It is the opinion of this office after considering all facts in the case that the A. P. H. car is the best for army use.

NUMBER OF CARS AN ATTENDANT CAN CARE FOR, AND DUTIES OF ADDENDANT.

With common stock cars there should be one attendant with every four cars or fraction thereof. With A. P. H. cars one attendant to every two cars or fraction thereof, but in train load lots there should be one selected man placed in charge of the entire shipment to look after duties of attendants in general, loading and unloading of cars, feeding, watering and paper work connected therewith. Each attendant should be supplied with a lantren and bucket and it is his duty to see that the animals are cared for, properly loaded and unloaded. fed and watered while enroute, to see that the cars are kept in good condition and prevent the animals from becoming injured. In the common stock cars animals should be shipped without halters. The halters should be taken off when loaded and placed in charge of the attendant for use at destination.

In A. P. H. cars the halter shanks are tied in front and side chains attached to the stalls are snapped into the halters on either side. Attendants assigned to A. P. H. cars are required to ride in the car. Those in charge of the common stock cars necessarily ride in the caboose but should go forward and inspect the cars at each stop.

RECORDS TO ACCOMPANY SHIPMENT TO DESTINATION, AND RECORDS FOLLOWING SHIPMENT.

One copy of instructions to attendant, sufficient number of blank feed order receipts, a blank form for receipt of animals at destination, a list showing the number of animals, the class in which they belong and hoof number. These papers should all be put in the hands of the attendant in charge. If necessary to complete car load, the last car may contain one or more different classes of animals. The list referred to above should be turned over to the receiving officer to enable him to readily check the animals. The descriptive cards, bill of lading and invoices should be mailed the receiving officer from the central office so as to arrive before the receipt of animals.

DETAILS AT ATTEMPTS AT DECEPTIONS BY CONTRACTORS.

In the first place before contracts are let the general character, trustworthiness, and financial responsibility of contractors should be investigated by the officer letting the bids. Past experience has shown that contracts have been let to unworthy, irresponsible men of doubtful standing and financial responsibility in their localities. It will be found as a rule that this class of contractors bid unusually low, below the real value of animals and depend upon forcing poor animals upon the Inspector that do not fulfill the specifications. Men of this character will use every deception almost to the point of threats and violence to have their worthless and cheap animals accepted by the Inspector at the price of contract, which will be found to be exhorbiant for the kind of animals submitted for inspection. This generally ends in the Inspector being "*wheedled*" into the acceptance of inferior animals or if the contractor is properly held to the specifications he will be unable to furnish the animals and trouble ensues and the contract will either have to be

cancelled or filled otherwise. It is therefore recommended that instructions be issued to all officers letting contracts under authority of the War Department, to fully investigate the character and responsibility of would-be contractors. The fact that the would-be contractor is able to buy a bond, as required by the War Department, does not fully meet the requirements.

DECEPTIONS ATTEMPTED BY CONTRACTORS.

Old animals sometimes have their mouths "*Bishoped*," by this operation very long teeth are sometimes shortened and artificial cups are made in the incisor teeth in an attempt to deceive the Inspector in regard to the true age of the animal. The shape of the teeth, however, cannot be altered. Any Inspector or veterianarian with experience will be able to detect such a mouth. Blowing up a sweenyed shoulder is quite common. This is readily detected by placing the hand on the shoulder and the air under the skin will sound like the crackling of paper under the hand. Some animals may be "*doped*" with stramonium, lobelia, arsenic or heroin to prevent the detection of heaves, and sometimes the nostrils are plugged with small sponges or lemons to prevent noise made by roarers or whistlers. Ordinarily however, by the system of inspection previously given a heavey animal will be detected before finally accepted. If there is any doubt, the animal should be freely watered and put on dry feed over night and again tested. It is a practice among horse dealers to ship animals found heavy back to the owner. It should be a provision of the contract made by the Government that heavey animals will be shipped back to the contractor at his expense. It is a common practice among horse sharps to use cocaine, gasoline or other "*dope*" for side bone, ring bone, bone spavin or curb. However, the effects soon wear off and if lame the fact should be detected by the time ridden or worked. Covering or filling toe and quarter cracks so that the defect is not readily seen is common. Closely trimming the hair over splints, spavins, curbs, etc., is a means to reduce their apparent size. Causing a fresh injury or swelling to cover up a real defect such as a side bone, enlarged knee or hock is sometimes practiced. Filling the cavities above the

eyes with air is occasionally done because these cavaties sink and become very evident in old horses and mules. Freezing a bad joint with cholroform, particularly where the trouble is deep seated, no lesion appearing externally, as in blind spavin is not uncommon. Evidence of pin and line firing on tendons and for ring and side bones and spavins should be noted. Look for results of operations for roaring and acute diseases of the larynx (traceotomy) and healed fractures of the cartilagenous rings of the trachea; for fistula scars about the withers; rasping of the hoofs to eradicate rings due to some previous inflammatory condition such as lamnitis. It is necessary to distinguish between this condition and "grass rings" found especially on the hoofs of colts running in low, marshy, wet pastures which is not considered a defect or unsoundness. Notice whether or not the soles, especially of the fore feet have dropped or the white line is irregular at the toe indicating a previous attack of laminitis or founder. A rag wet with ammonia or similar preparation is sometimes pulled between the hind legs of an animal to force him to go wide especialy where the animal travels very close and brushes or interferes. The measuring standard has been known to be shortened in order to deceive the Inspector. Only the measuring standards belonging to the Inspecting Officer should be used and the messenger should be required to take charge of these standards when not in use. The scales upon which animals are weighed should be frequently tested in order that they may not be manipulated to show incorrect weights. Precaution should be taken so that one animal cannot possibly be substituted for another, during the course of inspection and before being branded. There is one case in particular reported where a beautiful animal of good type and conformation was shown to an Inspector several times and in each case the animal was promptly accepted, but during the remainder of the inspection and test a plug was substituted for this animal and branded for the use of the government. It is essential that animals should be constantly under the eyes of some member of the board and it is best that they be promptly inspected, weighed, winded and branded before getting out of control of the board.

"It is the desire of this office to go into details in such a manner that an absolutely inexperienced board can by carefully reading the manual perform all the duties required of it in an efficient manner."

This is too much to expect and cannot be accomplished in an efficient manner by an inexperienced board, but proper and full instructions of course will help. Both officers and veterinarians should be selected and educates in theory and practice for this important work. The best way to accomplish this is to arrange for a department of *Inspection and Purchase of Animals for the United States Government* at *The Mounted Service Schools at Fort Riley, Kansas*, where every officer taking that course will receive this instruction. From among these the best can be selected for the inspection and purchase of animals for the government. In my opinion the entire Remount Service and Remount Depots should have a head in the person of an officer of rank subject only to the orders of the Quartermaster General. He should have at least the rank of Major and be an officer of well known education and practical experience in this line of work. He should have the best veterinarian in the service, the one best fitted by education and practical experience, for his assistant. He not only should have entire charge of the Remount Service, Depots, Inspectors, etc., but also should be the traveling inspector for the same and report to and be under the immediate direction of the Quartermaster General. He should direct and coördinate the work of the entire Remount Service. I believe the above method to be the only one that can and will put the Remount Service on a proper, efficient and solid basis and therefore urge that it be adopted.

The Inspecting and Purchasing Officers at Remount Depots should be relieved of direct and personal charge of farming operations and a graduate farmer from an agricultural school should be put in charge under the direction of the senior officer at each depot. This man if possible should also be a pratical farmer and could be obtained for about $100.00 per month.

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EXPERIMENT WITH "REDUCED" OR "MINIMUM" TYPE OF HORSES.

By Captain FRANK L. CASE, U. S. Cavalry.

IN the October Cavalry Journal, a sketch was given, showing some of the work done in connection with Remounts in the Southern Department, up to last June. Shortly after that article was written, a very different condition was brought about by the movement of most of the National Guard organizations of the country to the Mexican border. On June 28th and 29th, contracts were entered into for the supply of about 77,000 horses and mules for the army. Measures taken in the Southern Department made provision for the care and distribution of these animals, but many were of the opinion that the supply would be difficult to obtain.

On account of the heavy shipment to foreign armies, there was naturally grave doubt on the subject of supply. In the operations of the purchasing boards previously sent out by the Southern Department, frequent informal reports were made to the effect that a large number of excellent horses could be secured if specifications were slightly reduced as to height. The opinion prevailed quite generally that a suitable horse of the 14—2 type could be secured, where there would be a scarcity of specification animals.

The first authorization with reference to a reduction in specifications was contained in telegram of May 9th, from the Quartermaster General, as follows:

"Advertise for 614 mature cavalry horses and 605 mature artillery horses for prompt delivery, horses to conform to approved specifications except artillery horses, being of minimum height 15—1, compact and stocky, and cavalry horses having minimum height of 14—2, weight depending on height, will be accepted.

On May 10th the following was received from the Adjutant General:

"In purchasing horses and mules for militia organizations, Arizona, New Mexico and Texas ordered into service United States for duty on Mexican border, Quartermaster General has been autohrized to accept cavalry horses having minimum height of 14--2, artillery horses having miminum height 15--1, compact and stocky, weight depending on height, otherwise to conform to present specifications for animals, this authorized for reason that horses of this height can be procured in Southern Department and bought for less money than larger horses, will be acclimated and will be more suitable for use on border than larger animals shipped from middle west."

In pursuance of the above authority, contracts were at once entered into, and in so far as numbers were concerned, no difficulty was found in purchasing 1,219 horses awarded thereunder. The price for most of these animals was $110.00 for cavalry and $129.00 for artillery horses. The surprising point in the matter also was that probably less than twenty-five per cent of the animals were of reduced height. Experience indicated, however, that there were many horses of the 14—2 type in Texas that had not been presented for sale, owing to the fact that it was not generally understood that the smaller type would be accepted. The conclusion was also reached that the larger horses could not be secured in large numbers, in case of a hurried call.

In view of this situation, the Department Quartermaster recommended to the Quartermaster General as follows:

"In case of organization of two additional cavalry regiments, you are advised that there are plenty of horses similar to those now being purchased for the militia at $110.00 which will be perfectly suitable for these new regiments, and I strongly recommend the use of that character of horse for many reasons, the principal one being the low price and the fact that these horses are practically ready for immediate use and acclimated. General Funston fully concurs in this recommendation."

No recommendation was made with reference to reduction in specifications as to artillery horses.

June 10th, instructions were received from the Quartermaster General to advertise for 26,550 mature cavalry horses, 15,900 mature artillery horses, 192 light draft horses, 8,100 draft mules wheel, 8,100 draft mules lead, and 4,000 pack mules, to conform to approved specifications, also to invite alternate bids for artillery horses having minimum height of 15—1, compact and stocky, cavalry horses having minimum height 14—2, weight depending on height, otherwise to conform to approved specifications. One June 23d, instructions were received to increase the call by 7,000 artillery horses.

On account of animals allotted in the above calls, contracts were let for 23,596 cavalry and 17,148 artillery horses of the reduced or minimum specifications. The sudden call for such a large number of animals caused a big jump in prices; for small cavalry horses $125.00 to $145.00 was asked for in most bids, instead of $110.00, and as high as $179.00 was allowed on some small contracts for cavalry horses. Artillery horses of reduced specifications were alloted as high as $195.00 each. It became pretty nearly a case of pay what the bidders asked, in order to fill entire call. Had more horses of the specification type been contracted for, the cost would have been much greater. The avergage prices of horses for the fiscal year 1916 jumped from $141.20 to $149.53.

One question at issue was quickly settled, so far as the number of animals called for was concerned. All the contracts let were readily filled within the time prescribed by their terms. One contractor stated that it appeared that every horse in the country was for sale; in fact, owing to return to home station of many National Guard Organizations before arrival in the Southern Department of some of the others, it was found that there would be an excess of animals on hand, and the Department exercised the privilege of reducing a number of unfilled contracts by twenty per cent. After this reduction, there was left in the El Paso and Fort Sam Houston Depots a supply of about 11,000 animals of all kinds from which to fill requisitions on account of losses, condemnations, and increase of allowances. As high as 900 animals per day were received at Aviation, the station of the Fort Sam Houston Remount Depot. As high as 800 animals were shipped from that Depot in one

day. It was, of course, impossible to issue all of the horses and mules required by 40,000 to 50,000 troops in even a few weeks. Not only did influenza and pneumonia and other diseases interfere, but the receipt and issue of the animals required in itself a tremendous amount of paper work.

It being found that there was a sufficient supply of horses, the question arose as to how satisfactory the animals supplied would prove to be. While the reduction in size was more or less an experiment in our service, it may be observed that in the French service, for example, even a smaller type is used for some branches of the cavalry. There was undoubtedly more or less objection raised to many of the animals supplied. The question arose as to whether these complaints were due to the fault in the type of animals issued, in pursuance of the specifications, to failure of purchasing officers to secure the types specified, to condition of the animals when issued, or to ignorance of troops in handling same. In order to secure some basis on which to arrive at a correct opinion in the matter, a report was called for from the mounted service, to whom the horses of reduced type were issued. Answers to the following questions were requested:

Do the horses of the minimum type issued to you perform the work required of them as satisfactory as those of the larger type?

Do the horses issued to you of reduced specifications comply with the reduced specifications as above indicated?

Which class of horse, according to your experience, performs the work in a more satisfactory manner?

This latter question being asked as one of a general nature to cover an assumption that both types perfectly answering the requirements of the specifications should be considered.

In considering the replies to the above questions, it may be noted that many more favorable answers were received with reference to the cavalry than to the artillery type. In fifteen cavalry reports, six officers held that the horses of the regular specification type issued to them performed the work best, while nine were in favor of the reduced type. As a matter of general principle, however, in answer to the third question, fourteen officers favored the specification horse and thirteen

favored the reduced type. Two of the officers favored the reduced type, so far as the work of those issued to them was concerned, and gave this opinion, notwithstanding the fact that they also reported that the horses issued did not fully comply with the specifications.

In considering the artillery, however, seventeen officers reported favorable to the regular type, while six favored the reduced type. Of this latter, one stated that about twenty per cent of his horses did not comply with the specifications, while nine of those who favored the regular type stated that their issues did not fully comply with the regular specifications. These reports would indicate what was an undoubted fact, that a number of the purchasing officers did not place sufficient stress on the requirements of the specifications that artillery horses should be of compact and stocky build.

A glance at some of the reports is of considerable interest. The First Pennsylvania Cavalry received 531 horses of specification type, 410 conformed to the reduced specifications, 105 too light for same, and six of not sufficient height. Of officers reporting, eight favored the small type of horse, five the standard type, while two others inclined toward the standard type. The following comment by Major Dockery on horses issued to the California Cavalry appears very pertinent:

"The horses of the minimum type issued perform the work required as satisfactory as do those of the larger type when the former are of excellent conformation; but if both types are only of mediocre conformation, the larger is much more satisfactory."

Major Williams of the Utah Squadron says that horses of less than 900 pounds weight should not be purchased for cavalry, and that these should be of the stocky build. Major Long of the Texas Squadron, a graduate of the Mounted Service Schools, reports that the smaller horse performs the work required in that squadron as well as the larger, particularly in the hilly country of the Big Bend. He gives his opinion that they are a better type for that kind of country than the specification horse. Colonel DeBevoise of the First New York Cavalry states that the work of the small horse has been good, but states that the 15-hands horse performs the best service. A Missouri Captain of cavalry reports the smaller

type preferable as follows: "My opinion is based on close observation covering the twelve weeks I have had these horses, during which time I have subjected them, not alone to hard and daily drill periods, but to really excessive outguard patrol and reconnaissance duty, and in every instance, the minimum type animal has proved its superiority over the larger type." This troop served in the Laredo District. Captain McFadden, First Philadelphia City Troop says that the larger type of horse would be more efficient, and that the regular cavalry horse easily distances them at maneuvers. A number of officers state that while the small horse performs the work required of them, they question whether they would stand much more severe work. Colonel G. H. Morgan holds that while some horses of 14—1 could do the work, such individuals are rare, and that the best horse should be about 15 hands, and weigh over 900 pounds.

When the artillery type is considered, much more evidence is found against the smaller horse. It is to be borne in mind, however, that many of the militia artillery horses purchased were not of compact and stocky build. Many complaints were preferred that the smaller horses could not be properly fitted for the harness, particularly collars as issued by the Ordnance Department.

Louisiana Artillery, Massachusetts Artillery, California Artillery, Artillery of Minnesota, New York, Iowa, the Texas Battery, the Missouri Battalion and the Illinois Artillery all report in favor of the specification horse, while some reports stated that the reduced type performs the work satisfactorily, but in these cases, the horses were used in the lead and swing teams.

The following general conclusions may be drawn from the reports; first, the smaller cavalry horse has given much better satisfaction than the artillery horse of the reduced type; second, to secure the best work, the reduced type of cavalry horse should have greater weight in proportion to height than the specification horse; third, the smaller type of artillery horse is fit only for lead teams, and possibly to some extent, in swing teams; fourth, in purchasing artillery horses of the minimum type, stress must be laid on securing an agile animal of compact and stocky build.

CAVALRY AND AUTO TRUCKS.

By Brigadier General JAMES PARKER, U. S. Army.

The pursuit of a rear guard, consisting of cavalry, by an Infantry Force in Auto Trucks.

THIS combat exercise was practiced near Brownsville on October 6, 1916. The rear of the retreating main body was represented by two army wagons, the rear guard by three troops of cavalry and one machine gun troop, all of the Third U. S. Cavalry.

The pursuing force was composed of a battalion of the Fourth U. S. Infantry mounted in motor trucks, one company of motorcyclists used as advanced guard and scouts, and two companies of Lewis machine guns mounted on Ford automobiles. A machine gun protected by a steel shield (imaginary) was mounted on each truck.

The object of this combat exercise was to determine how and to what extent infantry mounted on auto trucks can be used as an independent force in hostile country. To discover this use was made of Combat Exercise No. 11 of the "Mounted Rifleman," which was adopted for the purpose. This combat exercise was as follows:

COMBAT EXERCISE NO. 11.

The Pursuit of the Rear Guard by a Mounted Force.

The troops are divided into two equal forces; one, Cavalry Rear Guard—Blue; the other, the Pursuing Cavalry—Red. The rear of the retreating main body, which the rear guard protects, is represented by wagons moving two miles per hour. The Main Body is supposed to include infantry, artillery and a train.

The route of the retreating force is a road, or trail, selected in advance and known to both sides. With the Advance Guard

as well as with the Rear Guard, is a battery, platoon, or section of Field Artillery. When artillery is not available it is simulated by the use of flags.

The action is supposed to take place in a defile. Limits of action, one mile on each side of the road.

The conditions are such that neither commander is justified in scattering his command. He must keep it intact and together.

The depth of the retreating column is supposed to be such that it is not possible for the pursuing force to pass it and head it off.

The maximum distance between the rear guard and the wagons is limited to one mile.

2. The role of the Reds is to halt, cut off, capture, or destroy the Blues, or attack the retreating Blue's main force. (See. C. S. R., pages 256–257.)

The role of the Blues is to protect the retreat of the Blue's main force, inflicting as much damage as possible to the Reds. (See C. S. R., pages 257–258.) They should keep in touch with the Blue main body.

3. The action commences with the Reds and Blues in contact by means of scouts, the Blue force in position. Since the Commander of the Blue force is prevented by his orders from at any time being more than one mile from the wagons, it will be necessary when this distance is about to be exceeded for him to fall back, in order to take up a new position, or in order to fight a retarding action until a new position is reached. The rate of two miles an hour for wagons is maintained by having their teams halt for five minutes and walk five minutes alternately.

4. It is suggested that scouts be used in groups of three, each group under charge of an non-commissioned officer. This enables one man of each group to observe behind cover dismounted another man to hold the horses, and the third man to be used as a messenger. It will be found, ordinarily, that scouts should not exceed a distance of 600 or 800 yards from the command, if they go futher their reports when received are liable to be useless, since they may represent a state of affairs which has changed in the meantime. Further, if too far off,

they may lose touch with the movements of the main command, or be cut off. Multiplication of scouts is usually not necessary. Three to five groups composed of reliable men are sufficient. A common fault of scouts is to fail to send back reports, thinking that other scouts have done so. Another fault is to fall back to the main command and lose touch with the enemy when the enemy makes a threatening movement. Scouts who expose themselves on the skyline, or fail to take cover, should be reported and punished. The position of chief of scouts is a very important one and should be confided only to an officer.. He should at all times be in touch with the commander of his force and ready to suggest advantageous changes of position, etc. He should be an officer, with a good eye for the country and for offensive or defensive combinations. He should see that his men do not expose themselves in view of the enemy.

5. The use of artillery on both sides increases the necessity for the use of cover. When open ground cannot be avoided troops should adopt a dispersed order. When under fire of artillery or musketry mounted troops should disperse, or make a rush for cover. Common faults are leaving the led horses where they can be seen and fired on by the enemy; galloping up on a ridge to dismount instead of dismounting in rear of the ridge. Such faults as these should be severely commented upon. For a skirmisher to dismount and fire, holding horse, at an enemy capable of returning his fire is a ridiculous procedure and should not be permitted for the reason that he furnishes a target three or four times that furnished by the enemy. The horses also are liable to jerk the reins at the moment the trigger is pulled.

6. When a situation has occurred which prohibits a continuance of the movement of withdrawal on the part of the Blues the exercises should be stopped and a critique and discussion had. This completed, the Blues should be given time to take up a new position.

7. This exercise should be constantly practiced. It brings about a great number of situations common in war, and therefore is of great value. It simulates actual fighting to a remarkable degree. Many of the situations arising in this

exercise resemble those arising in Combat Exercise attack and evasion. This exercise should be studied in this connection.

The exercise was witnessed by fifty officers of the Regular Army and National Guard, General Parker acted as chief umpire. The route over which the retreating main body, protected by the cavalry rear guard, moved, was for about two and a half-miles through a mesquite thicket, and for about a mile and one-half over an open plain. The route crossed several small bridges, culverts, and a bridge over the Resaca De La Palma.

The following was the published explanation of the combat exercise as adopted for cavalry and motor trucks:

MEMORANDUM: Combat Exercise.

MOTOR TRUCK VERSUS CAVALRY.

Pursuit of the rear guard (composed of cavalry) by an infantry force in auto trucks (see Combat Exercises, No. 11, page 121 of "The Mounted Rifleman").

This exercise is made for the purpose of testing the ability of troops in motor trucks and motorcylces to protect their own advance, and by advance guard methods make themselves secure against sudden attack.

The methods employed by the cavalry rear guard are fully explained in combat exercise No. 11. The methods employed by the pursuing force in motor trucks, it would appear, would be somewhat as follows:

1. A motorcycle detachment is to act as scouts in advance and to protect the flanks. When going through a thick brushy country, it may be necessary for men to be sent on foot toward the flanks to reconnoiter in that direction, moving out by trails and branch roads in small patrols. It is also desirable that one or more motorcycles follow as a scouting party in the rear, and that similar detachments make use of parallel roads, if there are any, to protect the flanks.

2. It is very desirable that motor trucks move in such a way that the whole column will not be involved in an ambush if one takes place. Considerable distances can be maintained

between the motor trucks without danger, for the reason that they are able to close up promptly in case of an emergency.

3. For the above reasons it is desirable that the motor trucks move in sections or squads, each under the command of a competent officer. Each section should be composed of a detachable unit, as a battalion or company.

4. Scouts should not separate themselves from the column by more than a thousand yards. In a close country, as a rule, their distance should be limited to 300 to 600 yards.

Ordinarily a machine gun should be mounted on each truck, in order that when an ambush occurs, return fire can be opened at once to keep down the enemy's fire while the men are dismounting and deploying. For the same reason the men in charge of the guns should be constantly on the lookout for the enemy. A small steel shield for the protection of the machine gun men or drivers should be provided in the front compartment of the motor truck. In the present exercise it will be assumed that these shields have been provided. Removeable steel plates should be provided for this purpose.

Machine guns on auto trucks in the rear should be dismounted and brought to the front in a serious engagement, or employed where desirable.

In addition, Lewis machine guns, mounted on Ford machine gun cars will be used, their crews being carried in an extra truck provided for each company.

In the test which is to be practiced, the rear guard of the retreating force will be composed of a squadron of cavalry, to be called the "The Blues."

The pursuing force will be composed of a battalion of infantry mounted in auto trucks, with two companies of machine guns with Ford machine gun cars. Also a detachment of motrocycles with side cars. The line of retreat of the main body will be from the Virginia camp to the target range.

The exercise was conducted under the following assumed conditions:

General Situation: A Blue force of all arms is retreating from the Virginia camp toward Point Isabel, being pursued by a Red force of superior strength, but which has no cavalry.

Special Situation: Blue: The second squadron and machine gun troop, Third Cavalry, is the rear guard of the Blue column, which is retreating via the Brownsville-Point Isabel road to the bridge over the Resaca De La Plama, thence by road north of the Resaca and road running north to the Sugar Mill.

Required: Action of the Blue force to protect the main body.

NOTE: The main body must at no time be allowed to be over a mile distant from the rear guard.

Special Situation: Red: The third battalion, Fourth Infantry, with auto truck transportation, detachment motorcycle scouts, machine gun companies First and Second Virginia Infantry, each truck armed with a Benet-Mercier machine gun, constitute the advance guard of the pursuing Red forces. The orders of the advance guard are to cut off the Blue rear guard and attack and delay the march of the main body. The Blue rear guard passed the Virginia camp ten minutes prior to the arrival of the leading motorcycle scout.

Required: Conduct of the pursuit.

NOTE: The rear of the main body, Blue force, is represented by escort wagons. The column is too strong for the Red rear guard to hope to cut it off.

COMMENTS.

Cavalry vs. Infantry in motor trucks, October 6, 1916.

Blue: Second Squadron and machine gun troop, Third Cavalry.

Red: Third Battalion, Fourth Infantry.
Detachment motorcycle scouts.
(Machine gun companies,
First and Second Virginia Infantry.)
Lewis machine guns on Ford trucks.

Problem: A pursuit of the cavalry rear guard by infantry advance guard with motor transportation.

The terrain over which this problem was practiced was flat and covered with chapparal. Through the chapparal ran northward the road from Brownsville to Point Isabel. After

crossing several small bridges this road arrives at the Resaca De La Palma, fordable, it is crossed by a wooden bridge. The road then moves west along the Resaca De La Palma for half a mile to the site of the old battlefield, from whence it moves north emerging from the chapparal and crossing a bare plain a mile long, to the Sugar Mill.

The infantry in motor trucks accompanied by motorcycle scouts, and machine gun companies moved at 8:30 o'clock. After proceeding one-half a mile, a small bridge was reached which was found to be torn up, requiring ten minutes for repair. The motor trucks came to a halt and the motorcycle scouts moving on beyond to reconnoiter. In the meantime a cavalry troop of the enemy, which had laid in ambush to one side of the road where the motorcycles could not penetrate, opened fire on the men crowded in the trucks. This attack was finally repulsed with some loss, and the bridge repaired. The infantry mounted the motor trucks which again moved forward, after much delay. At 9:47, the infantry, in motor trucks, arrived at the bridge over the Resaca, which they found to be blown up, requiring fifteen minutes to repair it. At the same time, some skirmishing took place with the enemy, which delayed the repair and forward movement, so that it was nearly 10:30 o'clock before the infantry in motor trucks arrived at the point one-half mile beyond the bridge where the road enters the Sugar Mill plain. The road crossing this plain was commanded by cavalry machine guns at the further end. This road was the only means of crossing the plain for the motor trucks on account of the muddiness of the field. It, therefore, became necessary for the infantry to dismount and for a direct attack to be made. At 11:30 this had not been completed and the problem came to an end.

In this problem the rate of march of the motor trucks was about one mile per hour.

The following are further comments on this problem made by Major L. F. Kilbourne, Infantry:

Commander should ride where his whereabouts will always be known to all of his command. This was not done by Blue commander at all times. Motorcycle scouts carried ball ammunition in their belts.

Red commander at first rode on truck—should have provided more mobile transportation, this done later by using motorcycle.

Motorcycle scouts kept to main road with no attempt to reconnoiter to flanks or even to observe, hence passed a troop of cavalry lying in ambush not twenty yards from road.

The machine gun companies followed the motorcycle scouts at a considerable distance, but were ambushed by the same troop that let the scouts pass. Some infantry should always proceed machine guns on the march. Machine guns and artillery in column of route are helpless if attacked, hence, some infantry or cavalry must always precede them for their protection.

Whenever the head of a column of trucks is attacked, strong parties should be at once sent forward to clear away the resistance and trucks should wait *under cover* until this is accomplished. This was not done notably when the machine guns were ambushed, and at the time of repairing the Resaca bridge about 9:47 A. M.

Before moving trucks up the road, troops on foot should have been pushed forward through the brush to clear out the resistance. In this case they should have been endeavored to press the dismounted cavalry hard enough to hamper their mounting, and the opportunity to gain time by use of the motor trucks been utilized.

One Blue troop was widely separated from the rest of the squadron and should have been completely cut off. The troop however, made it's way back to it's command by skillful maneuvering, assisted by the disabling of the bridge, which prevented the Red crossing the Resaca.

When it was discovered that the Resaca bridge was disabled, information was very slow to reach the Red Commander.

Cycle scouts were used entirely too much as fighting force. Their duty is reconnaissance. When fired on, the cycles should have at once been placed under cover and reconnaissance continued on foot—unless roads or trails leading to the flanks gave opportunity for the use of the cycles. Mortorcycles were unjustifiably exposed while men were engaged in firing.

Word that bridge needed repair was sent to Red Commander at 9:40 A. M. Condition had been known at least 15 minutes prior to that time, men sent to repair bridge arrived at 9:47, came in a truck exposed to hostile fire.

Blue troops were badly divided at this stage, about 9:45 A.M., as mentioned above, one troop being south-west of the bridge, the remainder of the squadron proceeding toward the Sugar Mill.

As commented on, some excellent opportunities were lost at the bridge by both sides. The Blue force had an opportunity to fire on the Red force repairing the bridge and prevent it's repair, also to keep back the Red scouts and fire on the loaded trucks.

The Red force should have sent a party to protect it's working party repairing the bridge. The Resaca was fordable. This was not done. Also, a party should have been sent via a road south of the Resaca to cross the causeway further west. This was done a little too late, a company had crossed and was reconnoitering some houses and woods. The Blue force, except one troop cut off, was then at 10:15 A. M., nearing the Sugar Mill about two miles distant.

In attacking the Blue position on Sugar Mill Canal, a truck loaded with men attempted go up the road and was sent back. Some skirmishers and machine guns were in front of this truck but furnished no cover.

The enemy had a machine gun troop whose first duty would be to shift it's fire to this excellent target. "Opportunity to fire on supports coming up to the firing line should be always taken advantage of." The Red truck certainly furnished the Blue machine guns this advantage, also a company marched in column of squads up this road afterwards splitting into platoon columns. It was about 1,500 yards from the hostile position, but should have marched to the side of the road—also line of platoon columns would have been a better disposition. Line of columns is a convenient method of advance as it keeps troops well in hand and less valuable to fire coming from a generally frontal direction. The narrower the columns the better. "Eames Rifle in War." The following general comments were heard from different sources. Trucks never parked nor did

they keep well to the right side of the road. An officer should be detailed to have charge of the general handling of the trucks. The commander of the troops can give but general instructions.

This officer should have a light car or motorcycle, or failing these, should ride in the leading truck of the main body, or the most advanced truck which is to remain in the column. In case this truck is detached his post changes to the next most advanced. His primary duty is to see that at each halt the trucks are parked under the best cover availabe. Trucks should move into or out of park at his instructions only. In this exercise trucks looked for instructions to their immediate commander only. The officer in charge of the trucks should not be the battalion adjutant, or the adjutant of the command.

Slowness in conveying information to the battalion commander has been commented upon. It is reported that some umpires interfered with messengers going to the rear. This may have been so, and may or may not have been justified according to the circumstances.

Officers did not make much use of field glasses.

No scouts were sent to climb trees for purposes of observation, nor were roofs of houses, several of which were available, utilized.

The captain who crossed the westernmost causeway sent one scout to reconnoiter a group of buildings. This scout was walking back with the information that they were unoccupied. A chain of four or five connecting files could have conveyed this information almost instantly, and saved the time lost by this man's walking about half a mile.

Machine guns and motorcycles too much exposed when cover was readily available. Commented on above.

The pursuit was not vigorous enough. Details commented upon.

Evidently not enough study of maps of the vicinity.

The advance was too cautious in some respects, and too reckless in exposing men in trucks.

The test was not conclusive as to whether infantry in trucks can successfully pursue cavalry. One reason for this was that the Blue cavalry was acting under conditions to which it had

been long accustomed, whereas the infantry was acting under new conditions. Much practice and experience is necessary before the question can be decided, one thing is certain, however, unarmored trucks are not fighting machines even when supplied with twenty-five or thirty men armed with rifles. At first hostile fire men in trucks must debark and advance on foot. Debarkation should be made under cover if possible and in any event the trucks should be placed under cover as close up as conditions permit, and he beld in readiness to proceed at a minutes notice to pick up the men.

To what extent motorcycle scouts can replace cavalry is also a question still to be decided. In wooded country or cultivated country with few roads, their use would of necessity be very limited. All motor vehicles require hard roads for their successful operation. Motorcycles are very moisy and can be heard at great distances. Bicycles are cheaper, and less noisy than even horses. For close in reconnaissances, they have many advantages over motorcycles. They are subject to the same limitations as to soft ground and woods as are motor vehicles.

CONCLUSIONS.

(By General Parker.)

While many of the errors committed on both sides might have been avoided, enough has been shown to come to the following conclusion:

Infantry in auto trucks may be able to travel without hindrance in a friendly country over 100 miles a day. If in a hostile country, and its progress is not impeded, it may travel at the same rate, although it would be incurring considerable risk to do so. If opposed by hostile troops it must travel slowly.

Motorcycles can seldom take the place of cavalry as advance guards or scouts. They are obliged to keep to the road. While the men which they carry are able at times to scout to the right or left of the road, it must usually be on foot, causing great delays.

The motor truck train, as far as giving it security is concerned, resembles a wagon train. It's speed will not protect

it. If hostile troops, cavalry or infantry, no matter how small their numbers, are liable to be enountered, the trail will require an advance guard, flankers, scouts, and rear guard, of cavalry, otherwise it would be continually held up by obstacles placed in the road, the wrecking of culverts and bridges, and by ambushes.

The fact that auto trucks carry machine guns does not prevent this. The machine guns must be used mainly defensively. Every time the auto trucks are halted to repair bridges etc., they are exposed to ambush and attack. This makes it necessary, whenever a halt occurs, to send out to the flanks, detachments of infantry, adding to the delay.

It is very evident then that infantry in auto trucks cannot act independently; that a train of auto trucks like a train of mule-drawn wagons, requires a strong escort of cavalry; that motorcycles replace cavalry only to a small extent. It is evident also, that a force of infantry in auto trucks, even if it has an uninterrupted passage through the enemy's country, to the point of contact with the enemy's troops, will require, when it arrives at that point, cavalry for reconnaissance.

The question then arises—How can this be affected and still maintain a fairly rapid rate of movement for infantry? It is, also of course, possible to transport horses on auto trucks in special padded stalls made for this purpose, but in this case the horses would be only available at the end of the march, and would not be available to scout along the line of march. It is believed that a rate of fifty miles a day for say 200 miles, might be accomplished without injury to the horses of the cavalry in some such manner as the following:

Assuming that a squadron of four troops of cavalry escort a truck train, in each troop have one-fourth act as advance guard and flankers, let one-fourth on the men act as horse leaders, each trooper riding his own horse and leading two other horses, and let one-half of the men ride in auto trucks. In this way with a day's march of fifty miles, each horse will travel twenty-five miles carrying his rider, and travel twenty-five miles without a load. Each trooper will ride twenty-five miles on horseback and twenty-five miles in auto trucks, the horses, of course, could be given more than full forage to compensate for the

extra effort. The order of the march must be: cavalry advance guard, cavalry led horses, cavalry in auto trucks, infantry in auto trucks.

It is easy to see that the auto truck would greatly aid the efficiency of the cavalry for long marches or raids, since they can keep up with any rate of speed, and can carry complete supply of food and possibly water for the horses. This is a thing that cannot be done by ordinary wagon trains. It is evident then, that auto trucks and motorcycles, although far from taking the place of cavalry, greatly increase the efficiency and the use of cavalry.

A REPORT ON A TWO HUNDRED MILE EXPERIMENTAL CAVALRY MARCH.

ON November 2, 1916, Brigadier General James Parker, commanding the Brownsville District, Brownsville, Texas, ordered an experimental march of 200 miles for one troop of cavalry with the assistance of motor trucks. It was to be shown that, with the help of motor trucks, cavalry commands could be transported great distances in a short space of time without undue fatigue to horses or men, and without undue impairment of fighting efficiency.

The command for this march consisted of Troop "F," Third Cavalry, composed of one officer and sixty men, under command of First Lieutenant Edward C. McGuire. The plan for the march, which was carefully followed, was to travel fifty miles a day for four days. Three five-ton Peerless motor trucks were used. One truck was loaded with the equipment "A" prescribed, the squad rolls (containing blankets), the necessary rations, and kitchen equipment; and the shelter half rolls containing each man's rope and pins for picthing camp, underwear, toilet articles, sweater and slicker. On top of this load were placed the saddles and saddle blankets of those men who at the time were riding in the trucks. The second truck carried thirty men and with their arms for approximately half the day's march, when they relieved the other thirty who were riding their horses and leading the others. In this truck seats, consiting of planks with cleats one each end and resting on the sides of the truck, were provided. The third truck carried the necessary forage.

The command left Fort Brown, Texas, at 6:30 A. M., November 4, 1916. An advance guard of one non-commissioned officer and eight men preceded the troop by about 200 yards. This made it necessary for twenty men to lead two horses, while ten men rode only their own horses, and one cook

rode on the truck with the remaining thirty men. The three trucks followed in rear of the main part of the troop well closed up. It was found that they were geared so low that they could easily follow close upon the troop even at a walk. Harlingen, Texas, was reached at 11:50 A. M., distance twenty-seven miles. Here the command halted for one and a half hours and dinner was had. All horses were groomed and watered during this time, but were not fed. The march was resumed at 1:30 P. M., with the fresh men riding the horses that had been led in the morning. At 6:10 P. M., the command reached Donna, Texas, distance fifty miles. Actual time on the road eleven hours and fifty minutes. Camp was immediately pitched, all fatigue work being done by the men who had ridden on the trucks. The horses were groomed and their legs hand-rubbed thoroughly, after which they received a heavy feed of both grain and hay.

Camp was broken at 6:30 A. M., November 5, 1916, and the command proceeded back to Brownsville, Texas. San Benite, Texas, was reached at 12:30 P. M., distance thirty miles. A halt was made here of one and a half hours, similar in every respect to that at noon of the first day. At 2:00 P. M., the march was resumed, and Brownsville was reached at 6:30 P. M., distance fifty miles. Actual time spent on the road twelve hours. On the third and fourth days the ground covered was identical to that covered the first and second days, with the exception that the actual time spent on the road the fourth day was thirteen hours instead of approximately twelve hours, the time consumed on the other three days.

COMMENTS.

One horse died about 9:00 A. M., on the morning of the second day. This horse was left behind at Mercedes, Texas, suffering from heat exhaustion and thumps. The horse had been foundered before and was not equal to the strain. Two other horses were found to be foundered; one on the morning of the third day, and one after reaching Brownsville on the fourth day. In both these cases the recoveries were almost complete within twenty-four hours, while the other horses stood

the test admirably, as is shown by the certificate of the veterinarian attached hereto.

In handling the led horses watering bridles were used, but in spite of this many led horses tired themselves very much by "jogging" continuously. It is thought, however, that the snaffle bits did away with a lot of this.

The cavalry equipment, model of 1912, was used and gave excellent service. There were no sore backs in the troop in spite of the hot weather.

The temperature during the march was as high as 112degrees at noon, and the work was trying at times; but not a man had to be excused from his duties.

The seats provided for the men riding on the trucks were too high and did not permit the men to get feet down on the floor. This could be remedied by removing the seats and replacing them by the bedding rolls for the men to sit on.

Every opportunity was taken to water the horses on the road, and this, together with the lack of feed in the middle of the day did much to make the horses come in in such good shape.

On the last day dismounting and leading the horses was resorted to to keep up the rate of speed. A regular plan of dismounting and leading five minutes, mounting and walking five minutes, and trotting five minutes, work admirably.

It is the opinion of the undersigned that the experiment was a real success, and that cavalry commands could be moved long distances in this way without tiring the men unduly, owing to a good nights sleep every night, and without injury to the majority of the horses.

EDWARD C. MCGUIRE,
First Lieutenant Third Cavalry.

FIRST ENDORSEMENT.

Headquarters Brownsville District, Brownsville, Texas, December 5, 1916. To Commanding General, Southern Department, Fort Sam Houston, Texas.

1. In the above experiment, one-half the men of the command rode their horses and the other half rode the trucks.

Leaving out the horse leaders, there were available for advance guard duty, scouting and reconnoitering, one-fourth of the troop. The weather was very hot, but the horses suffered practically no more injury than would be encountered in an ordinary march. The rate of fifty miles per day was equal to the average rate of the auto trucks which carry supplies in the Pershing expedition.

2. Previous experiment demonstrated that a train of auto trucks requires cavalry escort and protection. This experiment showed that cavalry is avialable for this protection with trucks traveling fifty miles per day for a distance of 200 miles. Had the weather been more favorable, there is no doubt but what the cavalry sould have kept up this escort duty at the same rate for a much longer distance.

3. A difficulty arises in the fact that some trucks are not geared low enough to keep behind cavalry traveling at an average rate of six miles per hour, the rate sometimes falling to four miles and sometimes increasing to eight miles. This difficulty can be overcome by having the cavalry escort keep a depth in the road of about three miles, by means of small detachments and connecting files and by having the point of advance guard attain a lead in this way of three miles before the trucks start. The trucks can then travel at the rate of eight miles an hour, the cavalry moving at the rate of five miles an hour. At the end of the first hour the trucks will have reached a point near the point of the advance guard, when they can halt until the rear element of the cavalry has passed, and again take up the eight-mile gait.

4. It would appear that trains of auto trucks need the protection of cavalry. By their ability to carry forage at cavalry gaits (which wagon trains can not do) auto trucks add greatly to the efficiency of the cavalry, as was shown in Pershing's command in Mexico, where supplies were carried by auto trucks to cavalry operating 300 or more miles from the border.

JAMES PARKER,
Brigadier General U. S. Army, Commanding.

CAVALRY DRILL REGULATIONS, 1916.

BY COLONEL W. D. BEACH, (D. O. L.), CAVALRY.

THE new drill book bearing the above title is the result of an order dated September 9, 1915, directing a board composed of Colonel W. D. Beach, Major S. H. Elliott and Captain F. Le. J. Parker to meet on November 1st for the purpose of revising and bringing up to date the Cavalry Drill and Service Regulations.

The purpose of this article is to give an outline of the work of the board and the final conclusions at which it arrived.

During the first month (November, 1915) the board devoted its entire attention to reading and digesting the reports which were submitted by cavalry officers in June, 1915, in compliance with instructions of the War Department. Although in no way hampered by instructions and not required to be guided by the views expressed by cavalry officers in their reports, nevertheless the great unanimity of opinion expressed on certain points appealed strongly to the board and undoubtedly led its members to shape their individual views so as to meet those of the arm.

The views of officers upon which there was very great unanimity were:

(*a*) The return to the single rank as the normal mounted formation.

(*b*) The retention of the *leading* principle.

(*c*) The column of fours instead of the column of platoons as the habitual march and maneuver formation.

(*d*) In respect to weapons that greater relative prominence be given the rifle and pistol as compared with the saber.

(*e*) Greater attention to details in description of ceremonies.

(*f*) The statutory cavalry organization in preference to the provisional one.

With these principles always before it, the board in October, 1916, completed and submitted its work; this has since been considered by the General Staff, approved by the Chief of Staff, and ordered published.

The drill regulations of cavalry must from the nature of the case differ radically from those of infantry and field artillery. The present drill book of the infantry is a model in respect to brevity and accuracy as well as in the omission of non-essentials; the artillery drill book is now being republished in provisional form by "Parts" which are devoted to particular subjects and which will eventually cover the entire field very fully and at considerable length (it is noted that the last paragraph in Part IV is numbered 1860). The new cavalry drill book is about the same size as the present book, is much more detailed in the parts devoted to the trooper, dismounted and mounted, and to the squad and platoon and to ceremonies but omits entirely *Part II Campaign Employment of Cavalry* since it was felt that sufficient reliable data was not yet at hand on which to base its revision.

Soon after the board entered upon its work, two facts were strongly impressed upon it: the first was that there was no existing single rank cavalry drill involving the principle of "leading" and the other was that single rank offered immense advantages over double rank in mobility and accuracy in maneuvering to a flank without loss of order, a condition so essential to quick formations in fighting on foot. The 1914 drill permits movements to the flank or rear by fours for short distances, but does not contemplate the line or column thus formed being *led*, for the reason that it is not then in order and (barring the charge) cannot execute any evolution except a return to its previous formation without further loss of order and resulting confusion.

The reason is apparent; a horseman occupies eight feet in depth and one yard in width, so that, if in column of fours with a distance of four feet from head to croup, each set of fours covers a square having sides of four yards; this fact permits line to be formed to a flank by a simultaneous wheel by fours. In double rank it takes two sets of fours to cover a square, for which reason the set of eights is the smallest unit that can be

moved to the flank or rear in a simultaneous movement, without a mix-up.

A system of mounted drill the basis of which is double rank cannot be adapted to single rank except as a makeshift; neither can one the basis of which is single rank be adapted to formations in double rank except for exceptional and specific purposes and when those purposes are accomplished the unit should return to its normal formation with which the men are familiar. For the simpler formations in line and in column a single rank formation lends itself more readily to changing to double rank than does a normal double rank system to changing to single rank, for the reasons above stated relating to fours. This advantage in favor of single rank would, however, disappear if we were accustomed to wheeling by eights instead of by fours but, as one of the critics of the 1914 drill in his report to the Adjutant General remarked, "God made the horse eight feet long in order that he might wheel by fours." The officer in question did not give his source of information but as his remark goes into the archives undisputed, it appears to have certain elements of unverified probability.

While on the subject of double rank, its treatment in the new book will be explained. Whether the unit be a regiment, squadron, troop or platoon, double rank is always formed by platoon and in but two ways:

1st. Toward the direction of march from single rank line.

2d. To the flank from double column.

Conversely, a platoon in double rank executes but three changes of formation, viz.: single rank and foragers executed toward the direction of march and double column formed to a flank.

The platoon in double rank executes by the same commands and methods as in single rank, all movements (e. g. changes of direction) that do not involve *a change of formation.*

Being in line, single rank, to form double rank the command is 1. *Double Rank*, 2. *March.* The right section (half platoon) moves forward, and the left section when cleared obliques to the right and follows the right section at a horse length. To again take single rank the command is 1. *Single*

Rank, 2. *March* at which the front rank moves forward and the rear rank obliques to the left till uncovered then moves to the front and takes its normal position as the left section of the platoon.

Being in double column to form double rank the command is 1. *Fours Right* (*Left*), 2. *March*. Troop, squadron and regimental commanders may maneuver their units in double rank by the same methods as in single rank except that the only changes of *platoon* formation permitted are to take *double column* or *foragers* or return to single rank. It will be noted that there is no loss of *order* in any of such changes of formation and hence no confusion in case *order* is essential, as in maneuvering and in dismounting to fight on foot.

From the foregoing, it may be surmised that the sole purpose of double rank is to permit a heavy charging formation when the commander deems such preferable to a succession of lines in single rank with leaders (as in *platoon mass*).

Double rank is admittedly contrary to the theory upon which the new drill was formulated and for this reason cannot be adapted to the various evolutions in single rank permitting rapid movements to the flank and rear. Line in double rank can however be readily taken to the front by troop, squadron or regiment from column of platoons in either single or double rank; or, it may be taken to a flank from double column but, as stated before, no evolution is authorized while in double rank which requires a platoon to change its formation otherwise than to return to single rank by commanding 1. *Single Rank* 2. *March*, or to deploy as *foragers* or to form *double column* by wheeling to the flank by fours, (*double column* and *foragers* being single rank formations).

Returning to the second item of the foundation upon which the drill was built, viz: the *leading* principle—it is believed that this idea was the most popular in the entire 1914 manual since it represents the true cavalry cult, the spirit of leadership, the inspiring idea of a commander being "onto his job" and *leading* to the effect that a commander when leading cannot see his command and correct mistakes is met in two ways:

First. He may designate a *temporary leader* who must be senior to all whom he commands and who leads and conducts the drill as commander subject of course to such instructions as the real commander may give him.

Second. The commander may simply signal *Disregard* which is an order to the leader of the base (who normally follows in trace of the commander) to continue the gait and direction regardless of the movements of his chief, the latter then going wherever necessary in order to observe: the substitute in this case is called the *directing leader* or if in ranks the *directing guide* and need not be senior to the others.

The third principle upon which the drill is based, viz: the column of fours instead of the column of platoons as the habitual march and maneuver formation follows naturally from the adoption of single rank which permits maneuvering by fours, as already explained.

The fourth, the matter of greater relative prominence being given the rifle and pistol as compared with the saber is one about which cavalry officers will never be of one mind. Without doubt a great majority of our cavalrymen believe in saber *and* pistol and a greater majority in a rifle identical with that carried by infantry unless something equally effective in the way of a light automatic loader, can be produced. The great advantage possessed by a horseman in being able to carry a supply of extra ammunition gives him a decided advantage in a fire fight with an equal number of foot troops. The *pistol* attack has come to the front during the past year in the experience of our own troops in a way that rivals its best traditions by the fact that the saber has not been so used in no way signifies its abandonment.

The following quoted from "Combat" in the platoon is suggestive of the methods which appealed most strongly to the board.

"578. The saber charge and pistol attack are the characteristic features of mounted combat. The rifle is the habitual weapon of dismounted combat. In exceptional cases the pistol, in addition to its use for individual protection, may be employed in the charge or in dismounted combat; for example, in a dismounted rush at close quarters made by cavalry not armed with the bayonet. Rifle firing mounted may also be exception-

ally employed by small groups of specially trained men and horses.

"579. *The question as to which weapon shall be used is one of tactics.* Each weapon has its own function for which it is best suited and for which it should be employed. Nothing except a knowledge of the general principles that govern the use of each, experience, and sound judgment can indicate the weapon to be selected in any particular case.

"For a mounted attack made against an equally well-trained and well-mounted enemy, under conditions that offer no special advantage to either side up to the moment of contact, and over ground favorable to its use, the close-order charge with the saber may prove more effective than the pistol attack.

"For an attack made when exposed to an effective fire of any kind the normal formation (foragers) for the pistol attack is much less vulnerable than the normal formation (line) for the saber charge. The pistol attack can also be delivered in many cases where the nature of the ground or the existence of obstacles will make an effective saber charge impossible. Where the terrain does not favor the advance at high speed of a close-order line, where the enemy is in a dispersed formation (as foragers or skirmishers), and under any conditions in which actual contact can be avoided by the enemy if he so desire, the pistol is apt to prove more effective than the saber.

"Where so outnumbered as to render defensive tactics necessary, where the terrain does not permit of successful mounted action, where opportunities occur for suddenly surprising with fire an enemy in close order, and in other similar cases, dismounted action may be advisable.

"580. Commanders of small isolated groups should be particularly careful not to resort to dismounted action unless the advantages of such a course are clear; and, when such action is called for, should be on the alert for the first favorable opportunity to resume mounted action. The commander of such a group will very rarely be justified in resorting to dismounted action if a reasonable prospect for successful mounted action is presented, or if dismounted action involves the material separation of the horses from the dismounted line, thus dividing the command. A separation of the dismounted line

and horses not only sacrifices mobility and weakens the firing line to provide horse holders and guards, but, in the presence of an alert enemy, may easily lead to disaster.

"581. The commands and formations for each type of action are those appearing in the corresponding portions of the drill (pars. 562–576).

"Once facility in the use of weapons, familiarity with the mechanism of the movements, and skill in horsemanship have been acquired, the best peace training for combat is constant practice in field exercises."

The fire attack was compiled from Balck, Infantry Drill Regulations, Notes on a Course of Instruction in the School of Musketry conducted at Fort William McKinley, Philippine Islands, in 1914 by Colonel McIver and from other sources.

The fifth and sixth principles, i. e., greater detail in the description of ceremonies and the statutory organization for the regiment need no comment.

The book is divided into seven parts or chapters as follows:

I. Individual Instruction.
II. Elementary Collective Instruction.
III. General Principles of the Drill.
IV. The Troop and its Subdivisions.
V. The Squadron and Higher Units.
VI. Ceremonies, Inspections and Muster.
VII. Miscellaneous.

Individual instruction is more in detail than either the 1911 or the 1914 manual; that for the trooper mounted having been prepared at the Mounted Service School and adopted by the board with but few changes.

Part II, Elementary Collective Instruction is more in detail than subsequent portions of the book for the reason that it must be suitable for untrained officers and men and in addition the details of movements in later portions of the manual are not repeated but by numerous references the reader's attention is directed to paragraphs in the Schools of the Squad and of the Platoon in which the movements are explained.

It begins with a discussion of the basic principles of the drill which apply to the School of the Squad and to all sub-

sequent drill and includes *leading*, *changes of direction*, and *rules for gaits*.

Instruction in the School of the Squad is intended primarily to teach the recruits the elementary principles upon which the entire drill is based, the first collective instruction is therefore in conforming to the march of a leader followed by formations, in *line*, in *columns of two and fours* and in *extended order*. In the School of the Squad are also explained methods of *forming*, of *assembling*, of *rallying*, of forming *foragers*, of controlled mounted attack, of dismounting to *fight on foot*, and of changing from one formation to another. It also includes a table showing at a glance all commands used in the School of the Squad with a reference to the paragraph explaining each movement and its corresponding arm signal.

The manner of dismounting to fight on foot differs from previous methods in that only Nos. 1 and 4 dismount at the command "*To Fight on Foot:*" this they do instantly and with their rifles run to the leader's position without waiting to link horses, the reins of their horses being seized by Nos. 2 and 3. Nos. 2 are subsequently dismounted and join the leader, the idea being that fifty per cent. of the men are thus able to open dismounted fire at once and that later an additional twenty-five per cent. joined followed by the others if necessary. The methods of *linking head* and *tail* and of *circling* horses are similar to previous methods.

Part IV, *The Troop and its Subdivisions*, carries the trooper through the essentials of the drill mounted and the methods of dismounted combat. The troop is divided by its captain into permanent platoons each under a permanently assigned leader, a lieutenant when practicable, otherwise a sergeant. The number of platoons in a troop may vary from two to four; each platoon has two sections which may vary in strength from four to sixteen men. The non-commissioned officer of each platoon next in rank to the platoon leader is called the platoon file closer; he assists the platoon leader and takes his place in the event that the platoon leader is disabled or absent, in which case another file closer is designated.

The section is composed of a chief (sergeant) a substitute chief (corporal) both in the rank and habitually of not less than

six or more than fourteen troopers. When the troop is at or near full strength each section may be divided into two squads but the section is the smallest unit in which an effort is made to maintin a permanent personnel.

The Platoon. The original formation of a platoon for any mounted duty is in *double column* (i. e., each section in column of fours with two yards interval.) In all movements in line the guide of the platoon (the corporal on the left of the right section) follows the platoon leader at three yards' distance and the file closer follows the guide at the same distance.

Platoon drill and maneuver formations consist only of *column of fours*, *twos* or *troopers*, *line*, *double column*, *foragers*, the *assembly* and the *rally*.

Two methods of forming column of fours to the front are laid down: the first, the old "right (left) forward fours right (left)" needs no explanation; the other, "right (left) by fours" is habitually used in the platoon throughout the entire system to form column of fours to the front. At the command: 1. *Column*, 2. *March*, the right section of the platoon (without other command) executes *left by fours* and the left section *right by fours*. The movement consists, in the right section, for example, of its left four moving straight to the front and the other fours taking their places in column by a left oblique. The left section executes a corresponding movement, on its right four.

Column of fours is formed from *double column*, by the right section moving to the front followed (without distance except the usual four feet between fours) by the left section.

The Troop. The troop is habitually formed for mounted duty by its first sergeant in line of double columns; thereafter if the troop is properly instructed, troop drill will consist practically in the leading and handling of the platoons by their respective leaders in accordance with the captain's will.

Troop formations for march maneuver and combat are (*a*) *Line* (single or double rank); (*b*) *line of double columns* (platoons being abreast, each in double column with intervals sufficient to deploy into line to the direction of march); (*c*) *line of platoon columns* (each platoon in column of fours, heads on same line with intervals as above); (*d*) *column of platoons* (single rank

only); (*e*) *double column*; (*f*) *column of fours, twos, or troopers* and (*g*) *route order*. In (*e*) and (*f*) the distance between platoons is the same as in column (i. e. four feet).

The *line of platoons* and *foragers* in extended order corresponds to platoon drill.

In the drill, stress is laid upon *order* for the reason that *order* is essential for rapid maneuvering, especially so when dismounted combat is anticipated. A troop divided into platoons is said to be in order when its component platoons are united in any of the formations prescribed for the troop and each platoon is in order. A platoon divided into sections is in order when its two component sections are united in any one of the formations prescribed for the platoon and each section is in order. In column of twos or troopers a further essential to order in the platoon is that the leading section shall be left in front and the rear section right in front. This last condition results automatically if the column of twos or troopers is formed and maneuvered as prescribed in platoon drill. It is not essential to order in the platoon that sergeants and corporals have the positions indicated for them.

The troop forms column of fours or of platoons from line by the base (center, right center or if there are but two—the right) platoon moving out and being followed alternately by the others beginning with the one on its left. The troop forms line from column fanwise, by the second platoon forming on the left of the leading (base) platoon, the third on the right and so on.

These methods of forming column from line and line from column—whether as in the troop the column be one of fours, platoons or double columns, or the line be one of platoon columns, of double columns, or (as in the squadron and regiment) of masses or of platoon masses, always leave the axis of leading unchanged.

Suggested methods of conducting a mounted attack with the saber and also with the pistol are explained in the troop as well as measure to be taken in passing from mounted to dismounted action, followed by a description, in detail, of the fire attack based, as before stated, on accepted and familiar methods.

Part V. *The Squadron and Higher Units*, covers formations, commands and signals, the mounted attack and dismounted action in the squadron and regiment together with a few brief paragraphs on the brigade and the division.

The Squadron. Three changes in the names of formations were deemed necessary as being more descriptive of the formations and in order to adapt simpler signals to them. Thus the old 1911 *line of platoon columns*, a mass formation is called *platoon mass* and has a simple distinctive arm signal. A *platoon column* is a platoon in column of fours, a *troop column* is a troop in column of fours; so that the old *line of fours* is now called a *line of troop columns* and the corresponding line by platoons is called a *line of platoon columns*.

To form the squadron the major commands *Form Squadron*, at which the troops are led in succession to their places in *mass* (the normal formation), the captain of the base troop halting twelve yards directly in rear of the major. For ceremonies or for special purposes the squadron may be formed in line or otherwise by adding to the command the name of the formation desired.

Squadron formations are enumerated and described as follows:

LINE FORMATIONS.

679. *Close Order:*

(*a*) *Line:* The troops are in line with their base platoons abreast of each other. The interval between troops is eight yards.

(*b*) *Line of troop columns.*

(*c*) *Line of platoon columns.*

(*d*) *Mass.*

In line of troop columns and mass, the troops are in column of fours. In line of platoon columns, the platoons are in column of fours. In each case the columns are parallel, with their heads abreast of each other. In line of troop columns the interval between troops is troop front and four yards. In line of platoon columns the interval between troops is platoon front and four yards. In mass the interval between troops is eight yards.

(*e*) *Platoon Mass:* The troops are in column of platoons, with their leading platoons abreast of each other. The interval between troops is eight yards.

(*f*) *Double rank:* The troops are in double rank line, with their base platoons abreast of each other. The interval between troops is eight yards.

COLUMN FORMATIONS.

(*g*) *Column of fours.*

(*h*) *Column of platoons.*

(*i*) *Double column.*

In these formations the troops are in column of fours, column of platoons, and double column, respectively. The troops are arranged one behind the other and, in marching, the rear troops follow in the trace of the leading troop. In column of fours and double column the distance between troops is nine yards. In column of platoons the distance between troops is platoon front and five yards.

(*j*) *Column of troops:* The troops are in line, and are arranged one behind the other. Column of troops is taken for the purpose of inspection (par. 883) or for camping, and will result when a line of troop columns is marched to a flank by a movement of fours. Its use is exceptional for march or maneuver. The distance between troops is troop front and five yards.

ORDER IN ECHELON.

(*k*) *Echelon:* The leading element is a flank troop of the squadron. The troops are so arranged that each is less advanced than the troop next toward the leading flank and is unmasked by the troops which proceed it. In whatever formation the troops may be, such intervals and distances are maintained as will permit the troops to form line to the front or to a flank and retain echelon formation without overlapping or undue extension. While neither a line nor a column, echelon has certain characteristics of both.

Extended order. The squadron takes extended order for the purpose of maneuver only. Extended order formations by formal command are confined to units not larger than the troop.

The Regiment. The normal formation of the regiment is in line of masses, the squadrons, at adjutant's call followed by regimental call being led by their majors in succession to their postions in line, the leader of the base squadron halting it when twenty-four yards in rear of the colonel.

Regimental formations and evolutions correspond to those of the squadron; the command for the regiment to pass to the direction of march from any close order formation to any other such information consists of the name of the formation desired followed by the command of execution. This rule applies also to the squadron, troop and platoon.

Intervals and distances throughout are made as uniform as possible: thus intervals between troops of the squadron in line, in mass and in platoon mass are each eight yards, and between squadrons in regiment sixteen yards. Distances from the guide in ranks to the platoon leader, from the latter to the captain, from the captain to the major, and from the last to the colonel are three, six, twelve and twenty-four yards respectively.

Part VI, relating to ceremonies, etc., was made as brief as was believed possible and, at the same time, have sufficient detail to obviate the necessity for additional instruction being given at the time of the ceremony.

Part VII includes new *Honors and Salutes* which many will receive with disfavor since it involves a return to the custom of standing at the salute during the playing of the National Anthem, as the Star Spangled Banner is, in the future, to be called. The matter in the book merely anticipates a change in Army Regulations which has already been approved with a view to making Army customs correspond to those of the Navy and of foreign services.

The change involves parades and reviews to the extent that whenever the "National Anthem" is played or "To the Standard" sounded, officers remain at *present saber* until the last note

then complete the salute and afterward bring their commands to carry saber.

Arm signals are nearly identical with the excellent set in the 1914 drill book and are grouped with whistle, bugle and semaphore signals. Each regiment has a bugle call and space is left for those of the eight regiments to come.

A CHAPTER FROM THE DONIPHAN EXPEDITION OF 1847.

[In view of the events of the past few months on the Mexican border and especially the Punitive Expedition in Northern Mexico, under Major General Pershing, the following description of the remarkable expedition under Colonel Alexander William Doniphan, First Missouri Cavalry, against the city of Chihuahua, is of more than ordinary interest, especially to officers of our cavalry.

The description is taken from a rare old book, now out of print, written in the year 1847, by John T. Hughes, A. B., of Liberty, Missouri, who was a trooper in Doniphan's command, and was wounded at the Battle of Sacramento, which won for our troops the city of Chihuahua.

It is most interesting to note what tremenduous changes in armament, equipment, transportation, and means of communication, have taken place during the sixty-nine years which have elapsed between the Doniphan and Pershing Expeditions. Only one constituent element of the political and military situation as Doniphan found it appears to have stood still during this period; and this element is the Mexican people themselves, whose characteristics, habits, and civilization have undergone little change during a cycle which had witnessed in our own country, the most remarkable development in the history of the world.—RHODES.]

COLONEL Doniphan delayed at El Paso forty-two days,* awaiting the arrival of the artillery under Major Clark and Captain Weighman, which he had ordered Colonel Price to forward him on the route to Chihuahua, immediately upon

*Colonel Doiphan left Santa Fe, N. M., October 26, 1846, and after operating in the Navajo country with three columns of troops, reunited his command at Socorro and Valverde, early in December. On December 25th, he met and defeated the Mexicans at Temascalitos, eight leagues above El Paso, and occupied the latter town on December 27.—*Editor.*

his return from the Indian campaign. Colonel Price, having his mind turned on quelling the conspiracy which had been plotted by General Archulette, and fearing if he should send the artillery away, that it would weaken his force and embolden the conspirators, hesitated several weeks, before he would comply with the order. At length, however, he dispatched Major Clark with one hundred and seventeen men and six pieces of cannon, four six pounders, and two twelve pound howitzers; which, after indefatigable exertion and incestant toiling through the heavy snows, arrived in El Paso on the 1st of February.*

On the 8th, the whole army, the merchant, baggage, commissary, hospital, sutler, and ammunition trains, and all the stragglers, amateurs, and gentlemen of leisure, under flying colors, presenting the most martial aspect, set out with buyoant hopes for the city of Chihuahua. There the soldiers expected to reap undying fame—to gain a glorious victory—or perish on the field of honor. Nothing certain could be learned of the movements of General Wool's column, which, at first, was destined to operate against Chihuahua. Colonel Doniphan's orders were merely to *report* to General Wool at that place—not to *invade* the State. Vague and uncertain information had been obtained through the Mexicans, that General Wool's advance had, at one time, reached Parras; but that the whole column had suddenly deflected to the left, for some cause to them and us unknown. Thus was Colonel Doniphan circumstanced. With an army less than one thousand strong, he was on his march, leading through inhospitable, sandy wastes, against a powerful city, which had been deemed of so much importance, by the government, that General Wool with three thousand five hundred men, and a heavy park of artillery, has been directed thither to effect its subjugation. What, then, must have been the feelings of Colonel Doniphan and his men, when they saw the States of Chihuahua and Durango in arms to receive them, not the remotest prospect of succor from General

*1847.—*Editor.*

Wool,* and intervening, an unpeopled desert precluding the possibility of successful retreat? "*Victory or death*" were the two alternatives. Yet there was no faltering—no pale faces, no dismayed hearts. At this crisis, had Colonel Doniphan inquired of his men what was to be done, the response would have been unanimously given, *lead us on.* But he needed not to make the inquiry, for he saw depicted in every countenance, the fixed resolve "*to do or die.*" Colonel Doniphan's responsibility was therefore very great. The undertaking was stupenduous. His success was brilliant and unparalleled. Who then will deny him the just need of applause?

A deep gloom enshrouded the State of Missouri. Being apprised of General Wool's movements, the people of the State were enabled to appreciate the full extent of the danger which threatened to overwhelm us. They saw our imminently perilous situation. They felt for the unsuccored army. The executive, himself, was moved with sympathy, and fearful apprehension for its safety. But neither he nor the people could avert the coming storm, or convey timely warning to the commander of this forlorn hope. He had therefore to rely upon *steel* and the *courage* of his men. The event is known.

The colonel took with him Ramond Ortiz, Pino, and three other influential men of the malcontents, as hostages for the future good behavior of the inhabitants of El Paso. (By this means the safety of traitors, and all other persons passing up and down the country, was guaranteed; for they were forewarned that if any depredations were committed upon citizens of the United States at El Paso, they would be put to death.)

Since that time no outrage had been perpetrated at El Paso upon any American citizen. It was at El Paso that two American soldiers conceived for two fair young Mexican girls, an affection so strong and ardent that they did not choose to march

*General Wool assembled his commond at San Antonio, Texas, and entered Mexico by the Presidio-Santa Rosa-Monclova-Parras route, leaving San Antonio September 28, 1846. Although the main object of his expedition was like Doniphan's the capture of Chihuahua, Wool's army was deflected from Parras to Agua Nueva and Saltillo, under a call for reinforcements by General Worth; and was able to materially assist General Taylor at the battle of Buena Vista, February 22, 23, 1847. When Doniphan entered the city of Chihuahua, March 1, 1847, Wool and his command were at Saltillo.—*Editor.*

any further with the army. Having marched with their companies one or two days, they deserted camp at night, and returned to those they loved, and in a short time married them.

On the evening of the 12th the column reached a point on the Del Norte, about fifty miles below El Paso, where the road, turning to the right, strikes off at right angles with the river across the Jornado of sixty-five miles in extent, running through deep sand drifts, nearly the whole way. On this desert track there is not one drop of water. Here, therefore, the command came to a halt, and tarried one day, that the men might prepare victuals, and such a supply of water, as they had means of conveying along with them, for the desert journey.

Colonel Doniphan now called upon the merchant caravan to meet and organize themselves into companies, and elect officers to command them. This he did that he might avail himself of their services, in the event that the troops, should not prove sufficiently strong to cope with the enemy at Chihuahua. The merchants and the teamsters in their employ were quickly organized into two effective companies under Captains Skillman and Glasgow, forming a battalion commanded by Samuel C. Owens, of Independence, whom they elected major.

This was a very effective corps, for both the merchants and the teamsters were well armed, and were very brave men. Besides, having a large capital invested in merchandise, they had the double incentive to fight bravely, first for their property, and then for their lives. These numbered about one hundred and fifty well armed men. Here all the Mexican powder and other munitions of war, which the colonel had taken at El Paso, and for which he had not the means of transportation, were destroyed. The powder was burnt, and the canister shot and arms thrown into the river.

A few days previous to this, Cufford and Gentry, a strong firm, the former an Englishman and the latter an American, both traveling with British passports, secretly and dishonorably abandoned the merchant caravan, and contrary to their promise to Colonel Doniphan, slipped off at night with forty-five wagons, and hastened on to Chichuahua, and from thence to Zacatecas.

Now, Harmony, a Spaniard, and Porus, a Mexican, fearing lest Doniphan might be defeated at Chihuahua, were loth to proceed with their wagons any farther, and desired to turn back to El Paso, and there make sale of their merchandise. This could not be permitted without endangering the safety of all; for the only safety was in union. Therefore Lieut. Col. Mitchell, Captain Reid and Lieutenant Choteau, with sixteen men, went back several miles to compel these men to bring up their trains. At first they pretended that the Apaches had stolen all their mules, wherefore they could not move their wagons. But being threatened, they soon brought their animals from a place where they had purposely concealed them, that they might be permitted to remain. In a short time they were brought up, and forbid to leave the army again.

While at this place, the author held a conversation with Ortez, the curate, in regard to the project of M. Guizot, to preserve the balance of power by placing the son of Louis Philippe or some other monarch on the throne of Mexico. The curate observed: "Such an idea is too preposterous to deserve a serious consideration. The Mexicans and especially those in the northern states, would treat the proposition, if made to them seriously, with the indignation and contempt which it richly merits. Mexicans not less than Americans, love liberty. Mexico would rather be conquered by a sister republic—rather lose her national existence, than submit to be governed by a foreign prince."

Having buried two brave men, Maxwell and Wills, on the 14th the army bade adieu to the Great River of the North, and commenced its march upon the dreadful desert. Some of the men, having no canteens or other means of carrying water, filled the sheaths of their sabers, and swung the naked blades jingling at their sides. C. F. Hughes, quartermaster sergeant, had terrible work to force the trains along through the heavy sand drifts. Oftentimes he was compelled to double teams, and have a dozen or more men rolling at the wheels to induce the wagons to move at all. The mules were weak and sunk up to their knees in the sand; the wagons stood almost buried to the hubs. Thus they were embarassed. The teams could not move them. The soldiers and teamsters would often leap down

from their horses and mules, and roll the wagons along with their hands until they got where the sand was lighter. Thus it was all through the desert. After an arduous march of twenty miles, the army encamped upon the plain without wood or water. On the next day towards sunset the army passed through a gap or cañon in a range of mountains which traverses the desert from north to south. This mountain shoots up abruptly from the plain into an innumerable set of knobs and rocky peaks consisting of dark, iron-colored masses of basalt and pudding-stone, and in some cases of volcanic cinders. At this Lieutenant Gordon and Collins, interpreter, with twelve other men, fell in company with Kirker's scouting party, which had been in advance several days. Kirker's party consisted of eight men. The whole, now being twenty-three in number under Lieutenant Gordon, proceeded far in advance of the army by direction from the Colonel, for the purpose of making a reconnaissance at Carrizal,* where they had understood a body of Mexicans were posted. This place is on the other side of the desert. Before their arrival there, however, the Mexican soldiery abandoned the place. Therefore they entered it an took military possession in the name of the United States Government. The Alcalde, without offering the slightest resistance, giving a written certificate of submission, in which he claimed the Colonel's clemency and threw himself on the generosity of the American army. He was not disappointed in receiving the amplest protection. By this time there was not a drop of water in the canteens, and all were suffering extremely with thirst. At this hour one of the artillerymen came up from Santa Fe, having in his possession the United States mail, the only one of consequence which had been received for six months. Though at this crisis nothing could have been so refreshing to the body as cool water, yet newspapers and letters from home had a wonderful and talismanic effect on the mind. Not a word, however, could be learned of the movements of the army of General Wool.

*The same Carrizal which has so recently been the scene of the tragic death of Captain Boyd, Lieutenant Adair, and troopers of the Tenth Cavalry.—*Editor.*

After a toilsome march of twenty-four miles, about midnight the column halted to allow the men and animals a little rest. But they had no refreshment; for the men again were obliged to spend the night without their suppers and without water. The animals were nearly perishing of thirst. It was now still twenty-one miles to water over a sandy road, and the teams were already become feeble and broken down. Ortiz the benevolent curate, although a prisoner and under strict guard, generously gave many of the soldiers a draught of water, which he had provided to be brought from the Del Norte in a water vessel. For this and other instances of kindness towards the author, he now makes grateful acknowledgments.

The next morning by day-dawn the army was on the march. The mules and horses were neighing and crying piteously for water. Some of them were too weak to proceed farther. They were abandoned. Notwithstanding the eagerness of the men to get to water, a strong rear and front guard were detailed as usual, to prevent surprise by the enemy.

Towards night, when the column had arrived within five miles of the Laguna de los Patos, the men could no longer be restrained in the lines, but in the greatest impatience hurried on in groups to quench their burning thirst. The commander seeing this, and knowing how his men suffered (for he suffered equally with them), did not attempt to prevent it, but taking his whole force hastened on to the lake as quick as possible that all might be satisfied—having left an order for Captain Parsons who commanded the rear guard that day to leave the trains that his men might have water and rest. It was near sunset. Meanwhile the quartermaster-sergeant and the resolute hardy teamsters, had the task of a Hercules before them, in bring up the trains through the deep and heavy sand drifts. Having arrived within about ten miles of the Laguna, they found it impossible to advance farther. The rear guard had left them with the view of getting water and then returning. They were sometimes compelled to quadruple the teams to move a wagon through the deep sand. The animals were dying of thirst and fatigue. Thirty-six yoke of oxen had been turned loose. Two wagons were abandoned admist the sand hills. Eight thousand pounds of flour and several barrels of salt

had been thrown out upon the ground. Also, some of the sutlers threw away their heavy commodities which they could not transport. The trains never could have proceeded ten miles farther. But the God who made the fountain leap from the rock to quench the thirst of the Israelitish army in the desert, now sent a cloud which hung upon the summits of the mountains to the right, and such a copious shower of rain descended that the mountain torrents came rushing and foaming down from the rocks and spread out upon the plains in such quantities that both the men and the animals were filled. Therefore they stayed all night at this place where the God-send had blessed them, and being much refreshed next morning passed out of the desert.

All were now at Laguna de los Patos, where they stayed one day to recruit and gain strength. This is a beautiful lake of fresh water. It was here that W. Tolley, a volunteer, who as it is said, left a charming young bride at home, drank so excessively of the cool, refreshing element after so many days of toil on the desert, that he soon died. He was buried near the margin of the lake. Thus the army passed the desert, sixty-five miles in extent.

On the morning of the 18th, the column and trains were again in motion. C. F. Hughes, in consideration of the service he had rendered in passing the desert, was now relieved from further duty by Mr. Harrison. To the right, at the distance of several miles from the Laguna, rises a stupenduous, pyramidal rock, many thousand feet high. The existence of such abrupt, detached masses of mountains, shows that the earth by some wonderful agency had been convulsed and upheaved. Who will say that the flood, which inundated the Old World, may not have been produced by the sudden upheavement and emergence of the Western Continent from the ocean by some all-powerful agency? A march of eighteen miles brought the army to Carrizal, where there was much cool and delightful water, and where forage was obtained in abundance.

At meridian on Sunday the 21st, the command reached the celebrated Ojo Caliente or Warm Spring, where the men were again permitted to rest a few hours and make preparations for crossing another desert, forty-five miles wide without water.

From this place Captain Skillman with twelve volunteers, was dispatched to the Laguna de Encenillas, to keep up a close espionage on the movements of the emeny; for it was now anticipated that he would give battle at that place. The Ojo Caliente is at the base of a ledge of rocky hills, and furnishes a vast volume of water, about blood-warm, which runs off in the direction of the Patos, the basin of the spring is about one hundred and twenty feet long and seventy-five wide with an average depth of four feet. The bottom consists of sparkling, white sand, and the water is perfectly transparent. No effort by disturbing the sand, was sufficient to becloud or muddy the crystal water.* Colonel Doniphan and many of his officers and men now enjoyed the luxurious and rejuvinescent bathing. Thus refreshed, the march was commenced upon the desert. Having advanced twelve miles, the men were encamped on the plain without wood or water, indispensable requisites for comfort in a military camp after a hard day's march.

Continuing the march the next day, a cañon was passed in a high and craggy range of mountains, traversing the desert. These huge masses of basalt, which rise in many places two thousand feet almost perpendicularly, were capped with snow. Having completed twenty-five miles, the men halted for the night on a rocky, flinty spot of earth, where there was neither wood, water nor grass. Nor was it possible for the men to have the least comfort, for it was extremely cold. They tethered the animals, and wrapping themselves up in their blankets, ay down on the earth without their suppers.

The next day we marched twelve miles and came to the Guyagas Springs. These issue in leaping, gushing, cool streamlets, out from the western base of a system of rocky bluffs, and refresh the neighboring plain. Here the men and animals slaked their burning thirst. Under the jetting rocks and archways of this mountain range, were seen dependent spar, crystals or quartz, and the most brilliant stalactites. Here a drove of twelve or thirteen antelopes, which had been feeding on the sides of the cliffs, seeing the men marching and the

*This Ojo Caliente was formerly the seat of a princely hacienda belonging to Porus, a Spanish nabob, who at one time had grazing on his pastures, more than thirty-six thousand head of cattle and sheep.

banners and guidions fluttering, were afrighted at the unusual sight, and came bounding down from the rocks as though they would break through the ranks; but as they neared the lines, the men fired upon them and killed them all while bounding along. This evidence of markmanship struck the Mexican prisoners with astonishment, and caused them more than ever to dread the American rifles. Here in a narrow valley, with lofty, rocky ridges on either hand, the men were dismounted and allowed to rest for the night; during which, M. Robards, a good soldier, died and was buried.

From thence they marched the next day fifteen miles, and again encamped on the plain without wood or water. Here part of the spies returned and reported that there were seven hundred Mexicans at Encenillas with artillery. Early the following morning (which was the 25th), Colonel Doniphan drew up his forces in order of battle, and marched over to the north margin of the lake. Here he allowed his men a short respite and some refreshment. This lake is about twenty miles long and three miles wide, and at the point where the army first encamped there were near the margin white efflorescence of soda on the surface of the ground. Either this efflorescent soda or the water of the lake, when put in flour, will quickly cause it to rise or leaven. It was used instead of saleratus.

While nooning, the fire from some of the tents caught into the tall, dry grass, and by a high wind was furiously driven over the plain, threatening destruction to everything before it. In a short time the fire which had broken out in a similar manner from the camp at Guyagas Springs, having almost kept pace with the army, came bursting and sweeping terribly over the summits of the mountains, and descending into the valley, united with the fire on the margin of the lake. The conflagration, now roaring and crackling, irresistibly swept along. The flame rose in dashing, bursting waves, twenty feet high, and threatened to devour the whole train. The army was now put upon the march, and the trains endeavored to advance before the flames; but in vain. The wind blew steadily and powerfully in the direction the army was marching. The conflagration, gaining new strength from every puff of the wind, came raging and sweeping like a wave. The column of flame, displaying a

front of many miles, steadily advanced along the margin of the lake. This was a more terrible foe than an "army with banners." The fire now gained upon the trains. The ammunition wagons narrowly escaped. The artillery was run into the lake. Some of the wagons still passed onward.

The road runs parallel to the lake and about two hundred yards from it. Colonel Doniphan and his men endeavored to trample down the grass from the road to the lake in a narrow list, by riding frequently over the same ground. They also rode their horses into the water and then quickly turned them upon the place where the grass was trodden down, that they might moisten it and thereby stop the progress of the fire, but still the flames passed over and heedlessly swept along. Captain Reid with the "Horse Guards" adopting a different plan upon the suggestion of a private, ordered his men to dismount about two miles in advance of the trains and with their sabers hew and chop down the grass from the road to the lake, on a space thirty feet broad, and throw the cut grass out leeward. This was done. Fire was now set to the grass standing next to the wind, which burned slowly until it met the advancing conflagration. Thus the fire was checked on one side of the road.

On the other side, the volume of flame increasing as the gale rose, rolled along the plain and over the mountains, roaring and crackling, and careering in its resistless course, until the fuel which fed it was exhausted. The men spent the night on the bare and blackened earth, and the animals stood to their tethers without forage.

On the south-western side of this lake and near its margin, stands the princely hacienda of Don Angel Trias, Governor of Chihuahua. On this estate immense herds of cattle and flocks of sheep are produced. But the Mexican soldiers, seven hundred of whom on the morning of the 25th had been seen at the hacienda, had driven them all off to prevent the Americans subsisting upon them. On the night of the 25th, and before it was known that the soldiery had evacuated the post, Captain Reid with twenty-five of the Horse Guards volunteered to make a reconnaissance of the enemy and report his position and strength. As, in the event the enemy was still occupying his

position at the hacienda, strong guards would most probably be posted near the roads leading into the place from above and below the lake, the scout, to prevent falling upon the guards and to take the enemy by surprise if it should be deemed advisable to attack him, crossed the lake which was nearly three miles wide and both deep and boggy, and hitherto considered impassable.

Reaching the opposite shore they saw no sentinel. Therefore they approached nearer. Still they saw no sentry. Cautiously and with light footsteps and in almost breathless silence, without a whisper or the jingling of a saber, and under covering of the dark, they advanced a little. They heard the sound of music and at intervals the trampling of horses. Perhaps it was the military patrol. None knew.

They now rode round the hacienda. But the high walls precluded the possibility of seeing within. No satisfactory reconnaissance could therefore be made. Not wishing to return to camp without effecting their object, the captain and his men like McDonald and his madcaps at Georgetown, made a sweeping dash with drawn sabers and clattering arms into the hacienda, to the infinite alarm of the inhabitants. They now had possession. To seven hundred soldiers had started about an hour previous, to Sacramento. This was a bold and hazardous exploit. Then they quartered in the place which contains several hundred inhabitants, and were sumptuously entertained by the *Administrator del Hacienda*.* The next moring they rejoined the army, then on the march, having with them several wild Mexican cattle. The whole force now moved on to a fort called Sanz, on a creek discharging into the Laguna de Encenillas. Here they encamped.

The next day the army and trains, including the merchant wagons, were drawn up in order of battle, ready to maneuver expeditiously in the event if a sudden attack. The enemy was

*These fearless men were Captains Reid, C. Human, F. C. Hughes, W. Russell, J. Cooper, T. Bradford, Todd, I. Walker, L. A. MacLean, C. Clarkin, Long, T. Forsyth, Tungitt, Brown, W. McDaniel, J. P. Campbell, T. Waugh, J. Vaughan, Boyce, Stewart, Antwine, and A. Henderson and J. Kirker, interpreters, and one or two others.

known to be at no great distance.* Thus the march was continued until night, over a level, beautiful valley, with a high range of mountains running along on the left, and at a greater distance also on the right. A short time before sunset Lieut.-Col. Mitchell, Lieutenants Winston and Sproule, Corporal Goodfellow, the author, and one other volunteer, having proceeded about nine miles in advance of the column, and within five miles of the enemy's fortified position at Sacramento, ascended a high, rocky peak of the mountain, and with good telescopes enjoyed a fair view of the whole Mexican encampment.

The enemy's whole line of field-works was distinctly viewed; the position of his batteries ascertained; and his probable numbers estimated. The result of this reconnaissance was duly reported to Colonel Doniphan, whereupon he immediately called a council of officers and matured a plan for the conduct of the march on the following day. This night, also, the army encamped on a tributary of the lake of Encenillas.

On Sunday the 28th of February, a bright and auspicious day, the American army under Colonel Doniphan, arrived in sight of the Mexican encampment at Sacramento, which could be distinctly seen at the distance of four miles. His command consisted of the following corps and detachments of troops:

The 1st Regiment,† Colonel Doniphan, numbering about eight hundred men; Lieut.-Col. Micthell's escort, ninety-seven men; artillery battalion, Major Clark and Captain Weightman, one hundred and seventeen men, with a light field battery of six pieces of cannon; and two companies of teamsters under Captains Skillman and Glasgow, forming an extra battalion of about one hundred and fifty men, commanded by Major Owens, of Independence, making an aggregate force of one thousand, one hundred and sixty-four men, all Missouri volunteers. The march of the day was conducted in the following order: the wagons, near four hundred in all, were thrown into four parallel files, with spaces of thirty feet between each. In the center space marched the artilley battalion; in the space

*Captain Skillman this day pursued one of the enemy's spies into the mountains so closely that he captured his horse; but the Mexican leaping off, escaped on foot among the rocks.

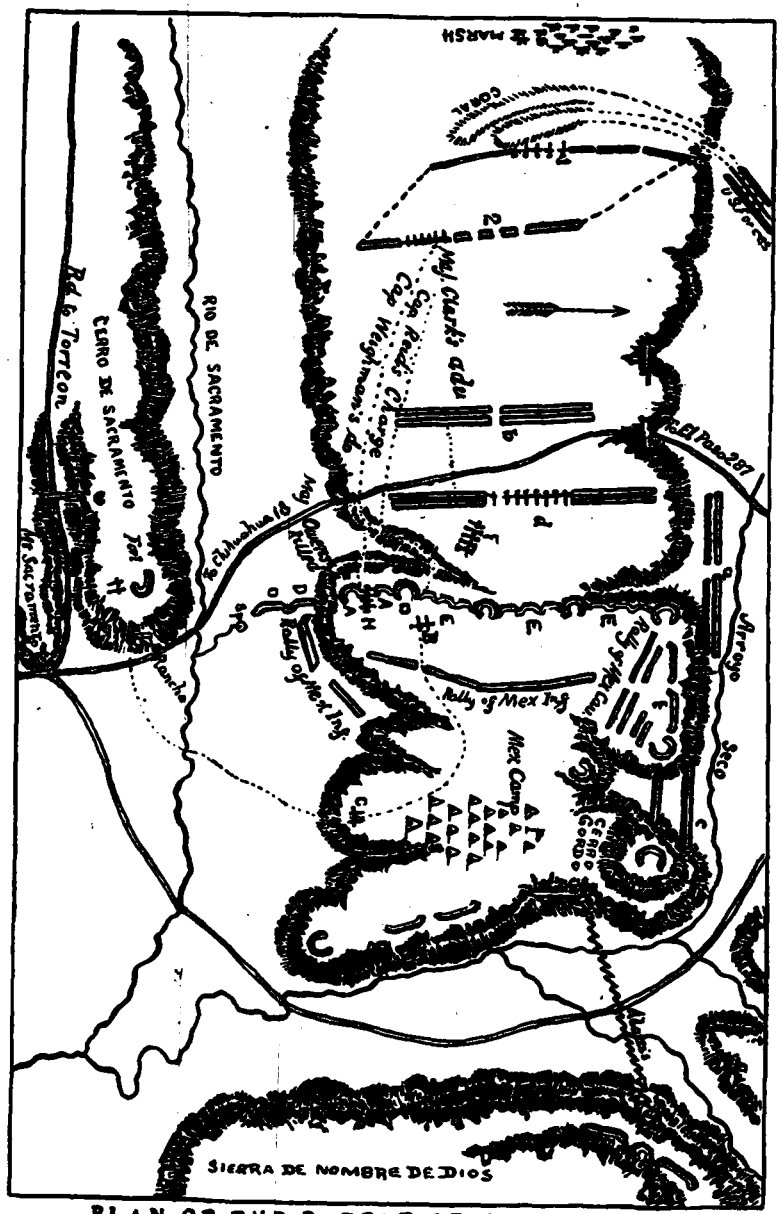
†1st Regiment of Missouri Cavalry.—*Ed.*

to the right, the 1st Battalion, and in the space to the left the 2d Battalion. Masking these in front marched the three companies intended to act as cavalry, the Missouri horse guards under Captain Reid on the right, the Missouri dragoons under Captain Parsons on the left, and the Chihuahua rangers under Captain Hudson in the center. Thus arranged, they approached the scene of action.*

The enemy had occupied the brow of a rocky eminence rising upon a plateau between the river Sacramento and the Arroya Seca, and near the Sacramento fort, eighteen miles from Chihuahua; and fortified it's approaches by a line of field works consisting of twenty-eight strong redoubts and intrenchments. Here, in this apparently secure position, the Mexicans had determined to make a bold stand, for this pass was the key to the Capital. So certain of victory were the Mexicans that they had prepared strings and hand-cuffs in which they meant to drive us, prisoners, to the city of Mexico, as they did the Texans in 1841. Thus fortified and intrenched, the Mexican army consisting, according to a consolidated report of the Adjutant-General which came into Colonel Doniphan's possession after the battle, of four thousand two hundred and twenty men, commanded by Major General José A. Heredia, aided by General Garcia Condé, former minister of war in Mexico, as commander of cavalry; General Mauricia Ugarte, commander of infantry; General Justiniani, commander of artillery; and Governor Angel Trias, Brigadier General, commanding the Chihuahua volunteers, awaited the approach of the Americans.

When Colonel Doniphan arrived within one mile and a half of the enemy's fortifications (a reconnaissance of his position having been made by Major Clark), leaving the main road which passed within range of his batteries, he suddenly deflected to the right, crossed the rocky Arroya, expeditiously gained the high plateau beyond, successfully deployed his men into line upon the highland, causing the enemy to change his first position, and made the assault from the west. This was the best

*An eagle, sometimes soaring aloft and sometimes swooping down amongst the fluttering banners, followed along the lines all day, and seemed to herald the news of victory. The men regarded the omen as good.



PLAN OF THE BATTLE OF SACRAMENTO

1. First Position, U. S. Forces.
2. Second Position, U. S. Forces.
a. First Position, Mexican cavalry.
b. Second Position, Mexican Cavalry.
c. First Position, Mexican infantry.
d. Second Position, Mexican Cavalry and Infantry.
AA. Redoubts and intrenchments stormed by Captain Reid's Horse Guards.
B. First Position of Howitzers on hill.
C. Second Position of Howitzers on hill.
DDD. Redoubts and intrenchments taken by the 1st battalion.
EEE. Redoubts and intrenchments taken by the 2d battalion, and the Missouri Dragoons.
F. Major Clark's battery dispersing the rally of Mexican Cavalry.
H. Fourth position Major Clark's battery; from which he silenced the fort on Sacramento Hill.

point of attack that could possibly have been selected. The event of the day proves how well it was chosen.

In passing the Arroya, the caravan and baggage trains followed close upon the rear of the army. Nothing could exceed in point of solemnity and grandeur the rumbling of the artillery, the firm moving of the caravan, the dashing to and fro of horsemen, and the waving of banners and gay fluttering guidons as both armies advanced to the attack on the rocky plain. For at this crisis General Condé with a select body of twelve hundred cavalry, dashed down from the fortified heights to commence the engagement. When within nine hundred and fifty yards of our alignment, Major Clark's battery of six pounders and Weightman's section of howitzers, opened upon them a well-directed and most destructive fire, producing fearful execution in their ranks. In some disorder they fell back a short distance, unmasking a battery of cannon which immediately commenced its fire upon us. A brisk cannonading was now kept up on both sides for the space of fifty minutes, during which time the enemy suffered great loss, our battery discharging twenty-four rounds to the minute. The balls from the enemy's cannon whistled through our ranks in quick succession. Many horses and other animals were killed, and the wagons much shattered. Sergeant A. Hughes of the Missouri dragoons, had both his legs broken by a cannon ball. In this action the enemy, who were drawn up in columns, four deep, close order, lost about twenty-five killed, besides a great number of horses. The Americans who stood dismounted in two ranks, open order, suffered but slight injury.

General Condé with considerable disorder, now fell back and rallied his men behind the intrenchments and redoubts. Colonel Donpihan immediately ordered the buglers to sound the advance. Thereupon, the American army moved forward in the following manner to storm the enemy's breastworks:

The artillery battalion, Major Clark, in the center, firing occasionally on the advance; the 1st battalion, commanded by Lieut-.Cols. Jackson and Mitchell, composing the right wing; the two select companies of cavalry under Captains Reid and Parsons and Captain Hudson's mounted company, immediately on the left of the artillery; and the 2d battalion on the

extreme left, commanded by Major Gilpin. The caravan and baggage trains under command of Major Owens, followed close in the rear. Colonel Doniphan and his aids, Captain Thompson, United States Army* Adjutant De Courcy, and Sergeant Major Crenshaw acted between the battalions.

At this crisis a body of three hundred lancers and *lazadors* were discovered advancing upon our rear. These were exclusive of Heredia's main force, and were said to be criminals turned loose from the Chihuahua prisons, that by some gallant exploit they might expurgate themselves of crime. To this end they were posted in rear to cut off stragglers, prevent retreat, and capture and plunder the merchant wagons. The battalions of teamsters kept these at bay. Besides this force there were a thousand spectators, women and children, rancheros, perched on the summits of the adjacent mountains and hills, watching the event of the day.

As we neared the enemy's redoubts, still inclining to the right, a heavy fire was opened upon us from his different batteries, consisting in all of sixteen pieces of cannon. But owing to the facility with which our movements were performed, and to the fact that the Mexicans were compelled to fire *plungingly* upon our lines (their position being considerably elevated above the plateau, and particularly the battery placed on the brow of the Sacramento mountain with the design of enfilading our column), we sustained but little damage.

When our column had approached within about four hundred yards of the enemy's line of field works, the three cavalry companies under Captains Reid, Parsons and Hudson, and Weightman's section of howitzers, were ordered to carry the main center battery which had considerably annoyed our lines and which was protected by a strong bastion. The charge was not made simultaneously as intended by the colonel. For this troop having spurred forward a little way, was halted for a moment under a heavy cross-fire from the enemy, by the

*It is interesting to note that, according to Wilcox, the reconnaissance of the Mexican position was made by Captain Philip R. Thompson, First Dragoons, who appears to have been the only regular officer with the Doniphan expedition. Captain Thompson was brevetted major for his part in the battle of Sacramento, and died June 24, 1857, on the Gulf of Mexico.—*Editor.*

adjutant's misapprehending the order. However, Captain Reid either not hearing or disregarding the adjutant's order to halt, leading the way, waved his sword and rising in his stirrups, exclaimed,—"*Will my men follow me!*"

Hereupon, Lieutenants Barnett, Hinton and Moss, with about twenty-five men, bravely sprang forward, rose the hill with the captain, carried the battery, and for a moment silenced the guns. But we were too weak to hold possession of it. By the overwhelming force of the enemy, we were beaten back and many of us wounded. Here Major Samuel C. Owens, who had voluntary charged upon the redoubt, received a cannon or musket shot which instantly killed both him and his horse. Captain Reid's horse was shot under him, and a gallant young man of the same name, immediately dismounted and generously offered the captain his.

By this time the remainder of Captain Reid's company under Lieutenant Hicklin and the section of howitzers under Captain Weightman and Lieutenants Choteau and Evans, rose the hill and supported Captain Reid. A deadly volley of grape and canister shot, mingled with yager balls, quickly cleared the intrenchments and the redoubt. The battery was retaken and held. Almost at the same instant Captains Parson and Hudson with the two remaining companies of cavalry, crossed the intrenchments to Reid's left and successfully engaged with the enemy. They resolutely drove him back and held the ground.

All the companies were now pressing forward and pouring over the intrenchments and into the redoubts, eagerly vieing with each other in the noble struggle for victory. Each company as well as each soldier was ambitious to excel. Companies "A," "B," "C," and a party of Company "D," composing the right wing, all dismounted respectively under command of Captains Waldo, Walton, Moss and Lieutenant Miller, led on by Lieut.-Cols. Jackson and Mitchell, stormed a formidable line of redoubts on the enemy's left, defended by several pieces of cannon and a great number of resolute and well-armed men. A part of this wing took possession of the strong battery on Sacramento hill, which had kept up a continued cross-firing upon our right during the whole engagement.

Colonels Jackson and Mitchell and their captains, lieutenants, non-commissioned officers and men generally, behaved with commendable gallantry. Many instances of individual prowess were exhibited. But it is invidious to distinguish between men, where all performed their duty nobly.

Meanwhile the left wing also dismounted, commanded by Major Gilpin, a gallant and skillful officer, boldly scaled the heights, passed the intrenchments, cleared the redoubts, and with considerable slaughter forced the enemy to retreat from his position on the right. Company "G," under Captain Hughes, and a part of Company "F," under Lieutenant Gordon, stormed a battery of three brass four-pounders, strongly defended by embankments, and ditches, filled by resolute and well-armed Mexican infantry. Some of the artillerists were made prisoners while endeavoring to touch off the cannon. Companies "H," and "E" under Captains Rodgers and Stephenson, and a part of Hudson's company under Lieutenant Todd, on the extreme left behaved nobly and fought with great courage. They beat the Mexicans from their strong places, and chased them like blood-hounds. Major Gilpin was not behind his men in bravery; he encouraged them to fight by example.

Major Clark, with his six-pounders, and Captain Weightman, with his howitzers, during the whole action rendered the most signal and essential service, and contributed much towards the success of the day. The gallant charge led by Captain Reid and sustained by Captain Weightman in point of daring and brilliancy of execution, has not been excelled by any similar exploit during the war.

General Heredia made several unsuccessful attempts to rally his retreating forces, to infuse into their minds new courage, and to close up the breaches already made in their lines.

General Condé, with his troop of horse, also vainly endeavored to check the advance of the Missourians. They were dislodged from their strong places and forced from the hill in confusion.

The rout of the Mexican army now became general, and the slaughter continued until night put an end to the chase. The battle lasted three hours and a half. The men returned to the battlefield after dark, completely worn out and exhausted

with fatigue. The Mexicans lost three hundred and four men killed on the field, and a large number wounded—perhaps not less than five hundred; and seventy prisoners, among whom was Brig.-Gen. Cuilta,* together with a vast quantity of provisions, six thousand dollars in specie, fifty thousand head of sheep, one thousand five hundred head of cattle, one hundred mules, twenty wagons, twenty-five or thirty *caretas*, twenty-five thousand pounds of ammunition, ten pieces of cannon of different calibre, varying from four- to nine-pounders, six culverins or wall-pieces, one hundred stand of small-arms, one hundred stand of small-colors, seven fine carriages, the general's scrutorie, and many other things of less note. Our loss was Major Samuel C. Owens, killed, and eleven wounded,† three of whom have subsequently died.

Thus was the army of Central Mexico totally defeated and completely disorganized by a column of Missouri volunteers. The Mexicans retreated precipitately to Durango, and dispersed among the ranchos and villages. Their leaders were never able to rally them.

In this engagement, Colonel Doniphan was personally much exposed, and by reason of his stature was a conspicuous mark for the fire of the enemy's guns. He was all the while at the proper place, whether to dispense his oders, encourage his men, or to use his saber in thinning the enemy's ranks. His courage and gallant conduct were only equalled by his clear foresight and great judgment. His effective force actually engaged was about nine hundred and fifty men, including a considerable number of *amateur fighters*, among whom, James L. Collins, James Kirker, Messers Henderson and Anderson, interperters, Major Campbell and James Stewart, deserve to be favorably mentioned. They fought bravely. It was impossible for Captains Skillman and Glasgow to bring their companies of teamsters into the action. They deserve great honor for their gallantry in defending the trains. The soldiers encamped on the battlefield within the enemy's entrenchments, and feasted sumptuously upon his viands, wines and pound-cakes. There they rested.

*General Cuilta was captured on the 4th of March by Lieut.-Colonel Jackson and Captain Hughes, while officer of the day.

†*Wounded.*—In Captain Reid's mounted company: A. A. Kirkpatrick, mortally; J. L. MacGruder, mortally; J. Barnes, arm broken; L. A. MacLean, severely; J. Sullivan, slightly; J. T. Hughes, slightly. In Captain Parsons' mounted company: W. Henkey, mortally; W. Gordon, severely; Sergeant A. Hughes, both legs broken; J. B. Fleming, severely. In Hudson's mounted company, J. Wolf, slightly.

Colonel Doniphan, not like Hannibal loitering on the plains of Italy, after the battle of Cannae, when he might have entered Rome in triumph, immediately followed up his success and improved the advantage which his victory gave him.

Early the next morning (March 1st), he dispatched Lieut.-Col. Mitchell with one hundred and fifty men under command of Captains Reid and Weightman, and a section of artillery, to take formal possession of the Capital in the name of his government. This detachment, before arriving in the city, was met by several American gentlemen, escaping from confinement, who represented that the Mexicans had left the place undefended, and fled with the utmost precipitation to Durango. The Spanish consul also, came out with a flag of his country, to salute and acknowledge the conqueror. This small body of troops entered and took possession of Chihuahua, without the slightest resistance, and the following night occupied the cuartel near Hidalgo's monument which stands in the Alameda.

Meanwhile, Colonel Doniphan and his men collected the booty, tended the captured animals, refitted the trains, remounted those who had lost their steeds in action, arranged the preliminaries of a procession, and having marched a few miles, encamped for the night. On the morning of the second day of March, Colonel Doniphan with all his military trains, the merchant caravan, gay, fluttering colors, and the whole *spolia opima*, triumphantly entered the city to the tunes of "Yankee Doodle," and "Hail Columbia," and fired in the public square a national salute of twenty-eight guns. This was a proud moment for the American troops. The battle of Sacramento gave them the Capital, and now the stars and stripes and serpent-eagle of the *model republic*, were streaming victoriously over the stronghold of Central Mexico.

UNIFORM OF THE COLUMBIAN ARMY.

By Captain C. C. Smith, U. S. Cavalry.

IN the "Memorial del Estador Mayor del Ejercito de Colombia," for May, 1916, I note your remarks on the advisability of making certain utilitarian changes in the uniform, of your army. I was much interested as I've always given this matter (and to equipment also) considerable attention.

In nature (among animals and birds) protective coloration is evident on all sides, and is for two purposes, to protect from natural enemies, and to keep off heat or cold when necessary to the health or the comfort of the animal. The application of this principle to the uniform of the soldier is reasonable, wise and natufal.

The advantages of protective coloration are at once apparent when it is noted that the zebra with his stripes of black and buff is hard to see at a distance on the sandy deserts of Africa by day, and equally difficult to distinguish by moon-light at night; that the rattlesnake of Western United States is mottled and the color of the ground, dried grass and stones of the country he lives in; that the parrot is green; and, so on, *ad infinitum*.

But most convincing of all, that protective coloration is the scheme of nature, is the fact that, as a rule, all wild animals, which need to be protected from the sight of their enemies, are the same color, while all those animals which have been domesticated, and have man as a friend and guardian have attained mixed colors, as horses, cattle, chickens, dogs, etc. Where would one find this variety of color among deer, monkeys, elephants, giraffes, etc., etc.?

Being convinced that protective coloration is essential in the soldier's uniform, our next task is to ascertain the best color, and the most ultitarian material, having in view the climate of the country in which the soldier is serving.

In our army this matter has been a study for some years, and whilst we do not lay claim to *know it all*, we have made some progress as I shall show in the next few paragraphs.

The change from the temperate climate of the United States to the tropical climate of Cuba in 1898 (and the subsequent occupation of Cuba) made it necessary to cast off the blue woolen uniforms then used at home, and don the cotton of the tropics, and as this change was made it was decided to include in the cotton, protective coloration, so the earth-color of the uniform of the British Army in India was adopted. About a year after the adoption of this uniform it was found in the faraway Philippines that olive drab was better than khaki or earth-color for campaigning in, as it blended better with the green landscape, khaki being for an open sun-beaten, sandy, or dry-grass country. It was also found from actual campaigning experience that a very light woolen (white) undershirt over which was worn an olive drab wool shirt was far more comfortable than a cotton undershirt, cotton shirt, and cotton blouse. The explanation is simple—the former absorbs perspiration and water, and any drafts or breezes are agreeable, while the latter once wet, are clammy and disagreeable. And after woolen shirts are dried they may be slept in with comfort, while the cotton shirt after being dried is not comfortable in the chilly nights which sometimes occur in the tropics.

We found in the campaigns of the Philippines, which is in the same tropical world belt as your country, the following to be a good serviceable campaign uniform:

Drab felt hat.
Olive drab wool shirt.
White light woolen undershirt.
Cotton olive drab trousers.
White cotton short drawers.
Light gray wool socks.
Russet leather shoes.
Olive drab puttee leggins.

Looking back on my experience in the Philippines I believe that a brown felt hat would be better than a drab one because deer, monkeys and other animals of the Islands are brown, and

blend in better with the background where they are than if they were of a lighter or drab color. The helmet (khaki color) was given a long trial in the Philippines. It is very military and soldierly in appearance, and looks well in garrison or on the streets of a city, but for the field, and in the jungle it is no good. The cap, like the helmet, is no good under the burning tropical rays of the sun. It might be used in garrison—khaki or olive drab in day time, and white in the evening—but never in the field. The khaki or olive drab cap should have russet leather visor with dark green under surface to shade the eyes. It would seem to be immaterial whether the white cap had a white or a black visor, in our service it is black. I should think your Panama hat with its removable oil-cloth covering, so universally worn by Columbians who live in the country districts, would be about the thing for your field head-gear. It has an additional virtue of being a home product, and easily and relatively cheaply replaced when worn out or lost. Soldiers need not be ashamed of adopting utilitarian principles or articles from those engaged in other occupations. We have taken our russet leather saddle equipment from the "cowboy" of the plains, giving up an abominable black leather equipment which required much time and care in being kept clean, and, in spite of its being clean, always soiled ones clothes. This never happens with russet leather. We have also discarded, in the cavalry, a gun boot or scabbard that was a dangerous trap for the rider for the very useful, safe and simple gun-boot of the plainsman. In fact, I believe the hat came from the "cowboy" too. We have also taken his lariat and picket-pin. Personally it has always been my motto to adopt anything good if it fits the soldier business no matter what other trade claims it.

In very hot lowlands the olive drab woolen shirt can be made more endurable by cutting off the sleeves at the elbow, and wearing it open at the throat. The sleeves of the white wool undershirt should be very short. In campaign infantry should always be in trousers, never breeches. Trousers are more comfortable in every way, and when the leggin is removed it makes them more presentable than breeches; nor do they require so much repairing as breeches with the extra

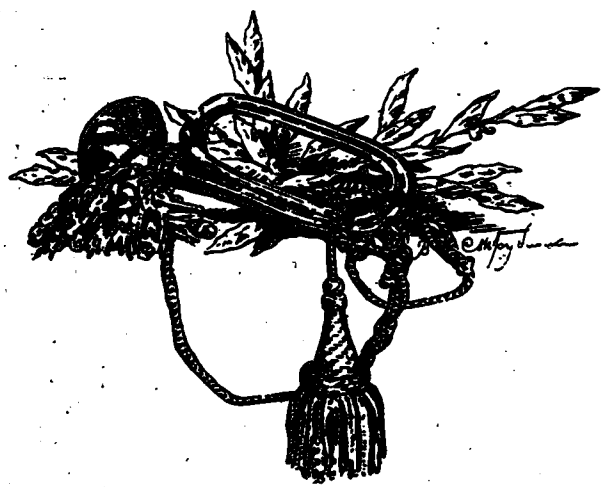
"trimming" of slit and buttons on the sides. Short drawers are very desirable in campaign for they are less liable to get muddy and dirty, when wading, or marching in muddy weather, and are cooler and thus more comfortable. In the Quartermaster's Department of the United States Army both the cotton and light wool sock is kept for issue and sale to the men in the tropics—yearly returns show eighty-five percent. light wool socks are used to fifteen per cent. cotton. This argument ought to prove the superiority of the wool sock. A russet leather lace shoe with bellows tongue is the best, the bellows tongue keeping out mud, water and leeches, which in the Philippines get at one's feet through the eyelet holes of the shoes without bellows tongues. With Filipino scouts I have had experience with alpargatas, and for work where silence in marching is required they are unsurpassed, and they are useful in and about the barracks. The leggin which we found gave the best results was the Indian olive drab woolen puttee—it outlasted the canvas or leather leggin, protects the trousers from mud, and allows no insects or twigs to get in between the leggin and trousers and drawers, is easily kept clean by washing immediately on arrival in camp, and, in fine, is superior in every way to other leggins.

In this I have only touched on the service of field uniform, and for the tropics, but by a few changes and the addition of a few other articles it could be made useful for any tropical country, even where there were high cold uplands.

The field uniform which I have described could be made serviceable for the uplands paramos by changing the cotton drawers and trousers to similar garments of wool, and by adding a woolen "*ruana*" of the proper color, or a short fleece-lined canvas overcoat, say of a drab, dark green, or brown color. The overcoat should be short so as not to impede free leg action in mountainous and rugged regions; and for cavalry this is obviously better than a long overcoat.

On uniforms to be used in the field there should be no brass buttons or other ornaments that would shine in the sun, in our service these buttons and ornaments are of bronze. Similarly our bayonets and saber scabbards are bronzed so as not to shine in the sunlight or moonlight.

With respect to the equipment, invisibility at a distance, freedom from rattling or other noises, durability, adaptability to several uses without prejudice to the main or original use, and reasonable cost, are prime considerations. For these reasons the Mills Woven Web equipment is far superior to anything of leather, rawhide, or canvas.



THE CAVALRY FIGHT AT OJOS AZULES.

By First Lieutenant S. M. Williams, Eleventh Cavalry.

THE afternoon of May 4, 1916, a report was received in San Antonio, a town on the *Noroeste de Mexico*, abut three hundred miles south of Columbus, and at that time the advance base of Punitive Expedition, that a band of about two hundred Villistas headed by Cruz Dominguez, Julio Acosta and Antonio Angel, all well known bandits, were then engaged with a force of Carranzistas in the vicinity of Cusihuiriachic, a mining town fifteen miles to the south.

About 6:00 o'clock in the evening orders were received in the Eleventh Cavalry camp to the effect that Major Robert L. Howze, with six troops of forty men each and the machine gun troop, should proceed south immediately, to investigate the report and to disperse the Villistas, if found. The troops were designated and were ordered to be ready to leave at 8:15 with three days rations and forage, a pack train being order to accompany the force.

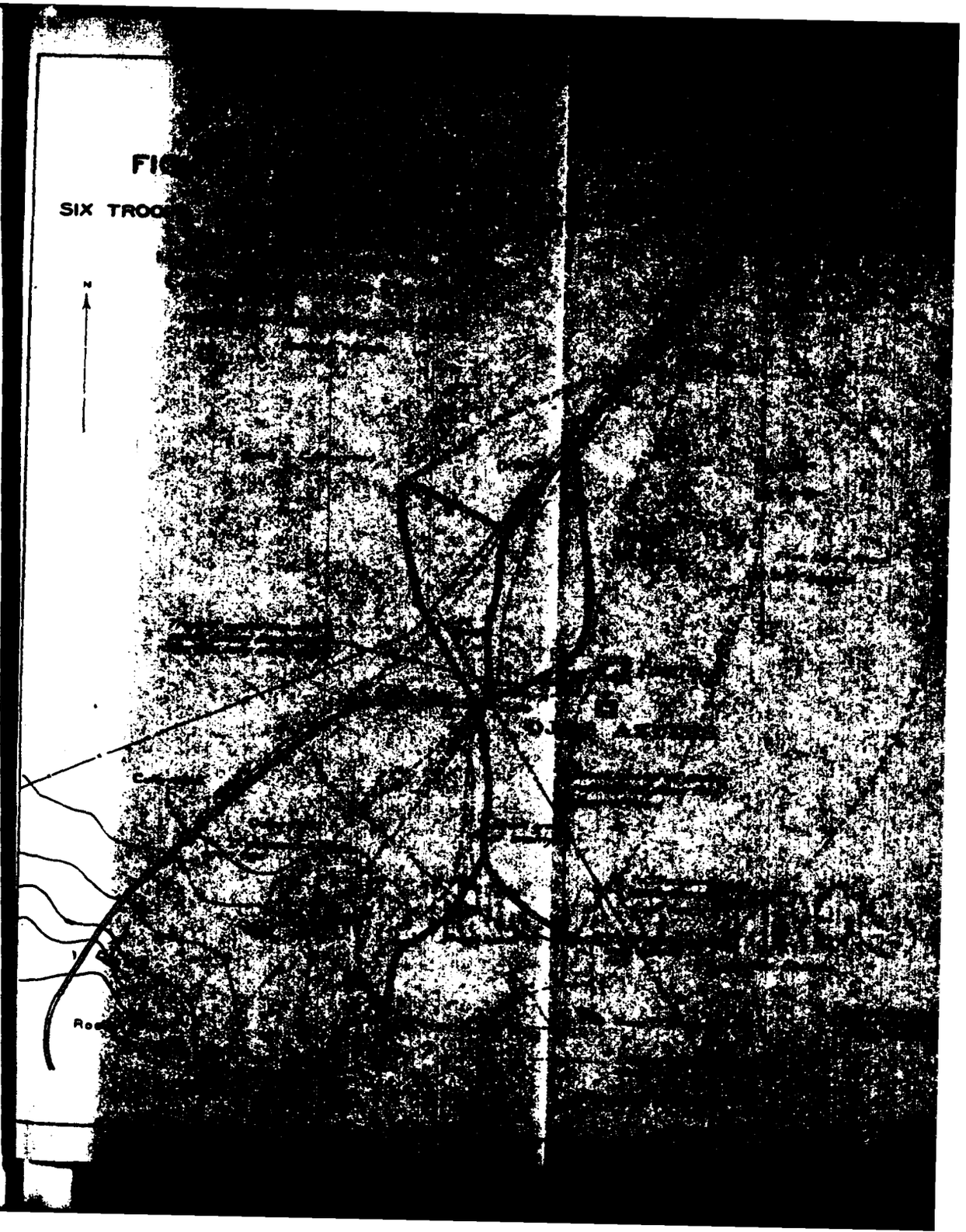
At 8:15 P. M., the provisional squadron moved out in the following order: Detachment of twenty Apache Indians, First Lieutenant James A. Shannon, Eleventh Cavalry, Commanding; Troop "A," First Lieutenant A. M. Graham and Second Lieutenant Kenneth P. Lord; Troop "C," First Lieutenant C. McH. Eby; Troop "D," First Lieutenant John A. Pearson; Troop "E," First Lieutenant Emil P. Laurson and Second Lieutenant Stafford LeR. Irwin; Troop "F," Captain Guy Cushman; Troop "G," Captain William B. Renziehausen; Machine Gun Troop, First Lieutenant Carl H. Müller; First Lieutenant S. M. Williams, Adjutant and Quartermaster; Captain Geo. B. Lake, M. C.; Second Lieutenant Joseph W. Viner, assistant to the quartermaster, in charge of pack train.

It was an exceptionally dark night, but the road was good and the troops arrived within one mile of Cusihuiriachic about midnight. Here the Carranzista force was encountered, in a more or less intoxicated condition, and from them an account of the Villistas and of the days battle was obtained. It appears that they fought desperately, all day, with an hour for luncheon and had both retired in good order at nightfall, casualties zero for both sides.

Inasmuch as the Villistas had moved back to the Ojos Azules ranch, the location of which was not known, especially in view of the darkness, there was a delay of nearly three hours here while the guides were obtained from Cusihuiriachic. The Carranzista force flatly refused to furnish any guides. At 3:00 o'clock the squadron started out again, and moving at a fast trot the greater part of the time, and without any halts, arrived in sight of the Ojos Azules ranch at about 6:00 A. M., distance twenty miles. The advance guard, which included the Indian scouts, observing great activity at the ranch, took up a fast gallop and when within a thousand yards of the ranch deployed and advanced as skirmishers.

Major Howze had previously given orders for the attack, the general plan being for the leading troop to push ahead, while the troops in rear went alternately to the right and left to cut off the enemy's retreat, the plan being based on the well established fact that the Mexicans will not stand where their line of retreat is endangered. Unfortunately a barbed wire range fence on the right of the road prevented the rapid accomplishment of this formation, and resulted in a different deployment at the instances of the troop commanders themselves.

The Mexicans had sent the greater part of their horses some distance to the south of the ranch for grazing, and they now swarmed out of the ranch, and fled up the slopes of the hills to the southwest, a few mounted, but the greater part on foot. A force of about thirty remained on top of one of the ranch buildings and poured a heavy, but inaccurate fire on our leading troops, while another force was in position behind a stone wall on a hilltop on our left flank.



As soon as the advance guard took up the gallop, the troops in rear followed their example, and when firing commenced the gait was increased to the extended gallop. Troop "A," the leading troop, dashed through the ranch under fire from the men on the roof-top, and catching up with the last of the Mexicans, commenced a pistol fight which lasted for several minutes and resulted in the killing of five or six of the enemy. The formation in the attack was with the troop in column of fours, deployment being impossible under the circumstances.

After advancing about three hundred yards, a deep arroyo was struck, causing a delay in the pursuit. By that time Troop "C," had come up on the right and was immediately deployed in the arroyo, fire being opened on the retreating Mexicans at about five hundred yards. Troops "D" and "E" had gone to the left, in the meantime, occupying a shallow ditch that ran south from the ranch. Troop "F" a little later came up on the left of Troop "A," while Troop "G" was held in reserve. The machine gun troop was still far in rear, having lost much distance due to the exhaustion of the pack animals and inability to keep up with the troops at a gallop. All troops opened fire then, the three left troops being under the fire of the party on the hill. After about five minutes firing, the troops were mounted again and the pursuit resumed. Troop "E" moving directly in pursuit while the other troops moved around the flanks of the hill. The subsequent movements can be seen best from the map.

Troop "A," moving around the right of the hill kept up the pursuit for several miles, capturing several of the enemy, while the troops that went around the south end of the hill, catching the dismounted men coming down the reverse slope, killed quite a number of them.

The machine gun troop got into the action late and was able to fire at the extreme ranges only.

By about 9:30 all the troops had abandoned the pursuit and had returned to the ranch, which was searched for arms and concealed Villistas, resulting in the finding of a few rifles and antiquated pistols, which were destroyed. The men found on the ranch were lined up, but, as it was impossible to differentiate between the pacificos and the enemy, they were finally

all released. Among these men were four Carranzista prisoners who, it appeared were to have been executed that same morning, and who were, therefore, overjoyed at their esscape, one even offering to personally execute the Villista prisoners if someone would lend him a pistol, a kindly offer which was, however refused.

This terminated the fight at Ojos Azules, which though of small importance, was nevertheless a very typical cavalry action on a small scale, characterized by a good deal of mounted work and showing the mobility of the cavalry to the best advantage. The rapid deployment of the troops from column, made a very pretty sight and the first part of the action at least gave some idea of the effectiveness of the automatic pistol in mounted work.

Under the circumstances it was remarkable that there were no casualties on our side. Although the clothing of several of our men was hit, not a single man was wounded. We lost four horses.

The official report showed that the Villistas lost forty-four killed, while it was impossible to learn anything about the number wounded, though it must have been relatively large.

As First Sergeant Chicken of the Apache Scouts said, when asked for his opinion, "Huli! Damfine fight."

Mounted Service Section

NATIONAL SERVICE.

THE almost complete failure of the present militia system to justify the hopes of its progenitors, has become apparent even to those who had heretofore clung to the chimerical opinion that the country could rely as heretofore, on some voluntary system of national defense.

Statements made with the greatest frankness by officers and men of the returning militia, indicate that a large proportion of the officers will resign their commissions; and that very few of the enlisted personnel will be willing to take the federal oath for six years service. Many are outspoken in saying that the next time they take the field, they wish to be better prepared in equipment, in their own training, and in the training of the officers appointed over them; and that they realize now, as they never did before, that patriotically volunteering to fight their country's battles when ninety per cent. of their contemporaries are holding down good jobs at home, is about the most undemocratic system for a democratic country that ever could have been devised.

Too little credit has been given by the country at large to these officers and enlisted men who have sacrificed their time, energy, health and business, to loyally carrying out their conscientious ideals and the requirements of their sacred oaths of enlistment. Some of these sacrifices in their relation to domestic conditions at home, have been most pathetic, and in many instances the families of married soldiers have been quite as

devoted soldiers of this antiquated system of national defense, as the men who took the field.

So that more than ever before, is the country turning to some sane, reasonable plan for universal training and service, a plan which while providing an adequate number of trained citizens for the country's defense, will be so safe-guarded in its provisions, as not to seriously hamper or disturb the educational progress of our youth or disrupt the business life of the nation.

It has been said that King Albert of Belgium sent his fourteen year old boy into the trenches—"*To teach him what a serious thing it is to be a citizen.*" That is where our teaching of citizenship has heretofore failed. The youth of our country have taken citizenship, with all its sacred obligations and privileges, too much as a matter of course; our business men have looked too much upon citizenship as merely a means to an end, that end being better business; while that portion of our population who have most revered and sought the hallowing grace of citizenship, have perhaps been those poor emigrants from foreign shores, whose utopia has been the friendly protection of our laws.

But difficult as it has been to educate our people up to the belief that national citizenship likewise involved national service, it has been the steadfast conviction of those who have had intelligent experience in the military development of American youth, that once the proper system was inaugurated, its surpassing physical, mental and moral stimulus to both the nation and the individual, would be so marked that we would never be willing to part with it. And there can be no possible doubt that in building up habits of subordination and obedience to law, in developing physique, and mental alertness, and in teaching that rarest of present-day virtues—*reliability*, the ideal system would automatically gain supporters from every walk of life.

Our country is the melting pot for the nations of the world. After the termination of the Great War, it will become more so. The time is therefore additionally ripe for the adoption of some system of universal training and service, which will serve to weld all classes into a homogeneous mass; which, in its application, will turn out better citizens; and which will inculcate in the

minds of the future rulers of the country, a greater reverence for the obligations which citizenship carries.

It is therefore gratifying to record the widespread interest which is being taken in legislation having for its object the accomplishment of this purpose. In another part of this JOURNAL will be found a brief description of the bill for national training and service, framed by an officer of our cavalry, which has received most favorable comment from press and legislators. Its provisions as to the age at which compulsory training shall take place; the moderate period during which the young man, be he rich or poor, becomes an enlisted soldier of his country; the credits allowed for more extensive training; the penalties prescribed for failure to comply with the law; and the wise provision for disciplinary training of the morally unfit—must all appeal to those who have the best interests of our country at heart.

The passing of legislation which will place our national defense on a solid foundation, surely cannot longer be delayed.

POMP AND PANOPLY.

THIS is a plea, *not* for the pomp and panoply of war, but for the pomp and panoply of peace. True, the time may seem inappropriate, when the larger part of our army is in the field doing their day's work in khaki breeches and olive drab shirts, and fitting harmoniously enough in the color scheme of the dobe architecture, sandy wastes, and unwashed humanity, which at present forms the stage setting for our military operations on and beyond the border.

But though many honest men may disagree with us, we affirm that this abnormal state of affairs cannot last forever and that someday the regimental bands will once more inspiringly play— "When Johnnie Comes Marching Home," and awe-struck children will look wonderingly at bewhiskered parents, whom they have not seen since ante-bellum days.

Time was, we must confess, that in a spirit of rank materialism, we bitterly condemned blue uniforms, gold lace, brass buttons, dress parades, reviews, and ceremonies of all kinds. Our plea was for *utilitarianism*, first, last, and all the time. We were working men, and needed working clothes to prove it (the dirter the better)! War exercises were the thing, and time devoted to close order work and the monotonous movements of the barrack-yard, was time thrown away! After all, machine made movements were intolerable to the initiative of free-born Americans, and as a practical people, all frills, whether in uniforms or maneuvers, were a superfluous part of the dead past!

Thus we preached, and thus our uniforms became plainer and plainer, and our post and regimental commanders more and more tolerant of storing away in camphor and moth-balls, the few remaining articles of traditional blue uniform, saved from the wreck. Parades were held once or twice a year; reviews, semi-occasionally; guard-mount became an informal gathering together of sentinels at the guard-house, about retreat.

Perhaps we came by these reforms honestly. Possibly we rushed to extremes, as a protest and healthy reaction against many of the unpractical, illogical, useless customs, which amazed even our own boyish inexperience, when we joined the colors a quarter of a century ago. For we can vividly recall the interminable *dismounted* parades of one cavalry regiment, when the very cavalry horse neighed from their stables in protest; the dismounted close-order drills on cold winter mornings, when the captain slept late or had a touch of sciatica; the absurd morning-stables when the sun was barely over the hills, which stimulated sales at the post trader's store and hastened early retirements. And then there was the dear old, blue, bell-bottom, long trousers, which caused even the most docile horse to shy; the little old French forage-cap, which invited baldness, and the plumed helmet, which produced headache; and the astounding variety of foot-wear provided for its soldiers by a well-meaning quartermaster's department, Wellington boot which covered the knees, short boots with brass nails, barrack shoes, shoes to be worn with canvas leggings, and shoes to be worn with bell-bottom trousers. Soldiers paid their money and took their choice. The result was gruesome.

No wonder that the Spanish War and the Philippine Insurrection brought us to our senses, and made us realize how the most practical people on earth in every-day affairs, had become the most unpractical in its efforts to cling to some of the cheap imitations of the pomp and panoply of war.

But the thought must now come to the thoughtful officer: Has not the pendulum swung too far in the direction of Puritan simplicity in dress, and of loose-jointed informality in the relations of officer and soldier. If not actually slovenly in appearance, our soldiers are conspicuous by the plainess of their attire. The fact that it is hailed as a working garment serves as an excuse for wearing soiled, torn, and ill-fitting khaki.

Unless, as in the marine corps, we constitute each soldier a pressing-club, the khaki clad trooper can never appear smart.

The soldier can have little personal pride in a uniform which is ugly in color, uncomfortable in the neck, and a reminder of old-guard fatigue. It cannot be denied that a blouse with gracefully rolling collar, and broad lapels, would vastly improve

both the appearance and comfort of both the officer's and soldier's blouse, and enable a blouse to be worn over the olive-drab shirt, with a neat black tie. It would do wonders with the khaki uniform, but it would not disabuse the soldier's mind of a subconscious thought that khaki and overalls are much the same in utility and appearance!

No! When the long-suffering lads in khaki return to the comforts of garrison life, there must also be a return to a more general use of the traditional blue uniform which our forebears honored with their life-blood and which their descendants still cling to; and a rejuvenation of those ceremonial occasions, including honors to the national and regimental colors, which in all lands and under all skies make for discipline, and which inculcate habits of self-respect in the individual and pride in the organization.

THE SOLDIER AT SCHOOL.

UNDER the above caption, Mr. Joseph Edgar Chamberlain essays in *McClure's* for December, to learnedly advocate academic or vocational training for the soldier, in connection with military training; the writer's idea being to utilize the mornings for the nation, and the afternoons for the individual. He would make the course a real college of four years or more duration. "The boys would jump at it!"

Theoretically, perhaps, the idea was practicable as applied to the army of the past, but as applied to the future, such subterfuges of real military training as our National Guard, superficial courses of military training in colleges, and intensive training in socalled citizen encampments, are compromises with our bounden duty, and should be rejected without serious consideration, except as paving the way for something better.

Mr. Chamberlain's article is therefore hardly deserving of attention, were it not for the fact that his ideas are so common among our people as to require contradiction, and because, in the present case, the writer's statements betray such cross ignorance of the complex and highly specialized work of the present-day army, such a preconceived conviction that peace soldiering is non-constructive if not destructive in character, such a lack of appreciation of the tangible benefits to the nation and the individual of the military profession, as to justify a reply. His article, moreover indicates such a mischievous prejudice against the entire question, and some of his remarks (which will be quoted) are so insulting to the Regular Army and the uniform which they wear, as to merit an indignant rejoinder.

In the first place, the writer fails to grasp the fact that the present-day military profession, is a profession in itself, demanding from the enlisted man as well as the officer all the industry,

mental application, and powers of concentration, demanded by the other learned professions.

While his ignorance of his subject is not unnatural in one who has apparently gained knowledge of the army and army training from books only, his reading of the events of the last great wars should have convinced him that the soldier of today cannot master his military task with the left hand, while with the right he constructs a steam-engine or plans an officer building or prepares a thesis on the Greek verb.

Though not cognizant of Mr. Chamberlain's past history, it is rather safe to say that he would not, he could not have penned the article in question, if he had participated in a Plattsburg encampment. Nor would he have so gibly reeled off the suggestion: "Train him to a soldier's duty until 11:30 every morning; then, in the afternoon, put him regularly to school."

But some index of the writer's attitude towards the entire question of military preparedness, may be gained from the following reference to the Regular Army and the Country's uniform:

"It is contrary to the best American character and genius to be a parasite on anyone—even on the government. That is the main reason why mere soldiering and nothing else is poorly thought of in this country. The American nation will never take into its head the idea that there should be a large class of exclusive soldiers here. A soldier, yes; but what does he do meanwhile? The militiaman we understand. He may lead a useful career as a clerk in a dry-goods store. He Works. The Sacred Uniform, symbol of military graft, is inconceivable."

Mr. Chamberlain belongs to that class of writers of today, who have the gift of expressing their thoughts most entertainingly upon almost any subject of current interest. Given an encyclopedia and a statistical almanac, and they will write as an expert on most of the arts and sciences. For that very quality of pen-facility they are capable of doing infinite harm because their premises are rarely founded on fact; they are, beneath the veneer of knowledge of their subject, not only uncertain as to the practical application of what they are expounding but absolutely *misinforming* to a large number of readers who accept the writer's statements as the truth.

The student who patiently and thoroughly studies the past and future character of our military policy, will realize that in the next move for preparedness, there must be no half-way measures, no temporizing with the cold facts, no subtle appeals to sentiment or patriotism or education or what not.

Every able-bodied citizen of the republic owes all of his services — even to the giving up of life itself, to the country of his birth or adoption; services that will render him a capable defender of its faith and traditions in the hour of peril. Whether the period of his instruction be six months, a year, or even more, is merely a question for the national legislature to decide; but during its continuance, nothing should be permitted to interfere or distract. Let the training be intensive and concentrative while it lasts; and then let the citizen-soldier go forth to his life-work, of infinitely greater value to himself, to his employer and to his colleagues. In physical fitness, subordination, morality, self-control, patriotism, poise, reliability, respect for authority, and strength of character, he will be a distinct asset to the community in which he lives, and this, in a country notorious for its unpunished criminals, its lawlessness, and the unreliability of the great mass of its middle-class employees, is certainly constructive citizenship of the most practical character.

Our country is in danger of being swallowed up in the maelstrom of materialism. Prosperity has decentralized our thoughts from consideration of the greatest good to the country to the greatest good to the individual. Where the soldier is from the people, of the people, and by the people; where the Congress holds the purse-strings in a tenacious grasp; and where all the checks and balances of constitutional government are in full operation, the bogie of militarism can find no place.

Universal service applied impartially to all classes and conditions of society, will serve to bring us back to an appreciation of the debt we owe our country, and will prove the only satisfactory safeguard to the preservation of the Fatherland.

THE LIGHT CAVALRY OF ITALY.

IN these days of strenuous discussion of the best organization, equipment and training of cavalry, as affected by the Great War abroad, it is interesting to know that in many respects the light cavalry regiment of Italy resembles our own. This is of special interest just now, when an equipment board and a drill regulation board, are striving to secure the very best equipment and instruction for our cavalry, without having to undo or modify its work after the European War is over.

The regiment is armed with the saber and carbine, the former carried on the near, and the latter on the off cantle. The non-commissioned officers carry revolvers, and the officers automatic pistols. The troopers cartridge belts are slung diagonally over the left shoulder. Everybody wears a steel helmet, and carries the full pack in campaign, including one day's forage ration.

The horses are of good conformation, well-gaited, and tractable. Due no doubt to the great demand for horses in this war, and the difficulty of securing them, the Italian cavalry does not adhere to one color in their regiments; many gray and off-colored animals are utilized in ranks.

The Italian drill is marked by excellent squadron and platoon leading, and there is much maneuvering in line of platoon columns, to secure cover when under fire. No verbal commands are given in the lower units. A mounted squadron has a strength of 146 troopers, but if designated for dismounted duty, it is filled up with reservists to a strength of 250 men, the same as a company of infantry, and during this period of dismounted work, the horses are turned over to territorial troops, who feed, groom and exercise them. It is said that this seriously affects the efficiency of the regiment for mounted work, as neither troopers nor horses are entirely fit, after this break in their regular mounted training.

The regiments of Italian cavalry have apparently adopted the lessons of our Civil War, so far as the extensive use of dismounted action is concerned; and in their drill instruction, great stress is laid upon foot work with the carbine. In dismounting to fight on foot, there is a horse-holder to every eight horses, who holds the animals by the reins in a circle about him.

In its mounted work, the Italian squadron does considerable jumping of obstacles (principally four-foot brush hedges) in squads of eight troopers; and form lines of squads and foragers in a very similar manner to our own drill. A spectacular exercise is the execution of calisthenics similar in character to those in Butts' Manual, standing in crossed stirrups, like the Cossacks. They also do what our troopers do—dismounting and mounting at a gallop, and the low reaches picking up small pennants attached to iron pins, stuck in the ground. All this is done with the full equipment.

There is great coördination in the mounted and dismounted work, and a similarity of execution which makes it easy to learn and remember. This is probably more necessary with recruits obtained from peasantry than from our voluntary enlistments, but will be something to be considered, in case the United States adopts universal training and service.

The machine gun detachment of the light cavalry regiment, has four guns of the Fiat-Revelli type, a modification of the Maxim. The guns are packed on horses, with one ammunition caisson accompanying. The small number of guns does not accord with our present belief in the great value of machine guns to the cavalry. Oftentimes as a mobile infantry support to mounted action or dismounted flank attacks.

An innovation which might well be adopted in our cavalry in order to simplify the interminable and oftentimes demoralizing "mounted orderly duty" in our service, is the bicycle detachment of twelve men to each squadron, or a total of sixty to a regiment. This detachment is also a real aggressive unit, riding rapidly to the front or flanks, dismounting and dropping their wheels in a convenient spot, and rapidly going into action with carbine fire. Even with our comparatively poor but improving roads, few troops or squadron commanders but have

often wished for some bicycles for special missions along paths or roads, saving the mounted troopers for work across country, where the bicycle would be useless.

The Italian cavalry officers are better mounted than are our officers, taken as a class; and when the regiments maneuver across country, taking all obstacles, the commander of the cavalry brigade and his staff also take the obstacles in fine style—a procedure which we shall come, sooner or later, if the policies of our Mounted Service School continue to improve the horsemanship and quality of mounts throughout the service.

NATIONAL LIABILITY FOR TRAINING AND SERVICE.*

By COLONEL GEO. VAN HORN MOSELEY, PENNSYLVANIA NATIONAL GUARD, (CAPTAIN U. S. CAVALRY).

THE difficulties attending the mobilization of the military forces of the United States, as we have them organized now, are greatly increased by the fact that the personnel thereof is not homogeneous as to the age of the men engaging to serve or their practical availability for service. Thus we find men engaging whose duties in official life would not permit them to serve, men who could accept service only for a limited time or in a certain locality and, finally married men who if they served must turn the cares and burdens of their families over to the government. We train these citizens and think we will depend upon them when we know that in the event of mobilization many will be unable to serve; that the government will be flooded with requests for their relief, while thousands of strong, able-bodied young men who are fully available for service are wholly untrained and unprepared to serve.

The drafting of a bill for National training, involving the training of men after they become of age, is greatly complicated due to the numerous esxception which must be provided for, but this difficulty passes when we provide for the training of the young man just before he enters his life work, and in the general case, before he has assumed any of the responsibilities of life which make others dependent upon him in any great measure.

*While the general provisions of Colonel Moseley's bill for national training and service, are familiar to most readers of the JOURNAL, its details are perhaps not so well known. This short description of the *fundamentals* of the bill has therefore been furnished the JOURNAL at the express invitation of the Editor. Prepared before the recent mobilization of the militia took place, it would seem to have been remarkably accurate in predicting some of the difficulties which would inevitably follow in the wake of compulsory service on the part of a comparatively few patriotic citizens.—*Editor.*

The bill of which an epitome will be found at the end of this article, provides a system whereby able-bodied young men of the country are liable to be trained for a period of six months during the calendar year in which they become nineteen years of age. Each young man takes his training in one dose and is done with it. The course of training is long enough to make a qualified soldier out of the average young man. It is so arranged as to interfere to a minimum degree with this schooling. The young man belongs to the class of the year in which he is trained, and after being so trained he is free, except that in the event of war, or imminent danger thereof, he may be called for service, but these calls for service are made by yearly classes, the youngest first. So in the event of war an older man who has been trained to do his full duty in both peace and war would know that he would not be called for service until all younger trained men had been so called.

Each year after the registration is completed the President would decide how many men would be trained for the army and how many for the navy. This would be adjusted to the needs of both services.

For the purpose of stimulating military instruction in the schools and colleges and enabling the government to reap the benefits from this instruction so given, a system of credits is devised which may be applied against the six months' service training prescribed in the bill. Thus, for each year any young man satisfactorily completes a standard course of military instruction at any school or college recognized by the War Department and under government supervision, one month's credit may be allowed. This credit may be applied against the six months training prescribed, but credit in excess of four months cannot be earned, and each young man is required to train not less than two months actually with the colors. Credits when earned, would be applied at the beginning of a man's enlistment.

The young man actually enlists for the period required to train. This period, as explained above, may vary from a maximum of six months to minimum of two months.

It is made the duty of the President to organize the class undergoing training into such tactical organizations as may

be necessary to secure its prompt mobilization in the event it is later mobilized for service. Officers for the training *cadres* and for leadership in the event of mobilization are provided by detailing officers and non-commissioned officers from the Regular Army, the Regular Army reserve and the Officers Reserve Corps. Many reserve officers would also develop from the men undergoing training.

With the existence of such a system as this bill provides, it will not be necessary to keep all units of the Regular Army at home enlisted to full strength, except such tactical units as may be necessary to perform police work, or for an expeditionary force to meet situations falling short of actual war. Therefore, it is provided in the bill that the President may suspend the organization of units of the Regular Army, when the public safety so permits, employing the officers and non-commissioned officers thus made available, for duty in the training *cadres* and for leaders in the event of mobilization.

The law is made operative, in fact, almost automatic, by the means which are prescribed requiring every young man to qualify under it before he can become fully qualified a citizen. If nineteen years of age, he cannot become a wage earner in any sense and reap any of the rewards which this country offers to its citizens, unless he qualifies to perform his full duty to his country. He can not be employed until he has earned his certificate of service or received his certificate of exemption thereform. If he leaves the contry to avoid service, the disabilities attach upon his return and they are not removed until the law has been fully complied with.

But in dealing with thousands of young men here and there we will encounter unruly characters—young men who will wish to give us trouble, who will need discipline and reform. The law enable us to take these young men in hand, to segregate them from the others and train them in disciplinary organizations, making good men of them. The government is given ample powers to handle every case that may arise, but stress is laid on the fact that the young man is brought to his training by means which do not entail fines or prison sentences. Even the unruly individual would be given every opportunity to amend his ways and thus enter upon his life work at the end of his train-

ing period a good citizen. Such a system will have far reaching benefits whether we believe we need it for strictly military preparedness or not.

To further protect the young men while undergoing training, the bill prohibits the sale of intoxicating or spiritous liquors to any member of the military forces of the United States while in uniform, and no liquors could be sold or supplied or be in the possession of any person at any training camp or post.

The adoption of the system proposed would mean preparedness in the broadest sense, most beneficial to the nation in both peace and war. With such a system in existence we could economize in the enlisted strength of a large part of the Regular Army at home. With proper administration we could finance the system in a large measure by savings on our present military establishment which now requires large continuing appropriations and affords only a small amount of practical preparedness.

FUNDAMENTALS OF THE BILL.

Liability for six months training service during the calendar year the candidate becomes 19 years of age.

- All able-bodied male inhabitants of the United States who are citizens or have declared their intention to become citizens.
- Exceptions:
  - Physically unfit.
  - Morally unfit.
  - Members of permanent military and naval forces.

Credits

- For each year any young man satisfactorily completes a standard course of military instruction at any school or college recognized by the War Department and under government supervision, one months' credit may be allowed. Credits may be applied against the training prescribed but no credits can be earned in excess of four months and each young man must train not less than two months actually with the colors. Credits when earned, would be applied at the beginning of an enlistment for training.

Training and Service

- A young man *enlists* for the period he is required to train. Upon completion of the period of training he is discharged. In the event of war, men are called *for service* by yearly classes, the youngest first.

Organization

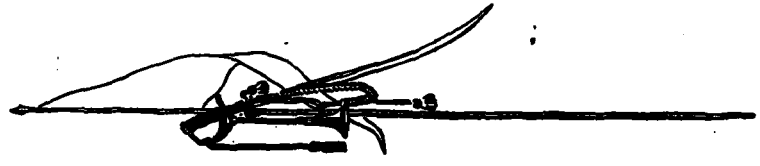
- It is made the duty of the President to provide for the tactical organization of the classes. He may employ regular officers, reserve officers and enlisted men, and non-commissioned officers from the Regular Army for the purpose. He may suspend the organization of units of the Regular Army to provide additional officers and non-commissioned officers for the training *cadres*.

Penalties for non-compliance

- Any corporation, employer, or individual hiring or employing any person who being of the age to have completed his training shall not have received his certificate of service or his certificate of discharge or exemption therefrom, shall be punished by a fine or imprisonment or both.
- Any person leaving the United States to avoid training shall suffer all the disabilities of the act upon his return.
- Any person not complying with the provisions of the act becomes ineligible to hold any position under the Federal Government.
- Unruly characters may be taken in hand and trained in disciplinary organizations.

Pay and Allowances

- While the young man is undergoing *training* all his expenses are paid by the government but he receives no pay. If called *for service* he receives the pay and allowances prescribed for the Regular Army.



CAVALRY WORK OF THE PUNITIVE EXPEDITION.

By First Lieutenant GEORGE S. PATTON, Jr., Tenth Cavalry.

"CAVALRY can fight anywhere except at sea and only the fact that the horse is not web-footed restricts its prowess even there."

The limitation of a field library prevents an exact quotation, but something like the above is the goal toward which American Cavalry has ever aspired.

Yet in spite of this glorious ideal, years spent in garrison, and frequently squadron garrison at that, had dulled our preception of the amount of effort necessary to attain our goal. Indeed into such a state of beatific content had we settled that many of us has found his ingenuity taxed in order to occupy the meager two or three hours of daily drill with interesting and progressive instruction.

Troop, squadron and regimental drill, with some dismounting to fight on foot and with the special drills, such as signaling, messenger service, etc., performed in a perfunctory manner under the direction of non-commissioned officers, together with target practice; was about the usual limit of our carriculum. And even these drills were handicapped by the absence of numbers of men on the endless "details" which the home posts necessitate.

It is certainly not over stating it to say that a very large proportion of the younger officers had never seen a regiment even at peace strength drill or march and a still larger number had never participated in the maneuvers of brigades or larger units at either peace or war strength.

Hence, towards the end of July, 1916, we found ourselves at Dublan, with four regiments of cavalry and a war strength regiment of infantry and some artillery, all camped together in the midst of an unrestricted maneuver and hundreds of square

miles of varried terrain we had many surprises awaiting us in the line of possibilities in training.

It is the object of this paper to show that these possibilities have been fully taken advantage of and that almost *unimagined* benefits have resulted.

In the month to six weeks prior to September 1st, while the regiments and lesser units were drilling under their own commanders, we had frequent occasion to observe the infantry. This observation soon brought home to us the fact that in the matter of fire tactics, involving fire direction, control and discipline, as well as in the designation of targets, and signalling, we were woefully deficient; yet not blamely so, as we can not practice what we do not know exists.

Some officers will justly resent this statement, as many cavalry men are as well up in these matters as are the infantry, but for the majority of us the statement is just.

In order to test our previous instruction and correct the deficiencies in our dismounted work, and at the same time to verify and develop the other many and varied functions of reconnaissance, patrols, convoys, outposts, advance and rear-guard and mounted combat with pistol and saber—the Commanding General on August 31, 1916, issued an order assigning periods of work to be devoted progressively to special training.

First, was the troop and company period. During this time each troop unit in the command had work to test the application of and conformity to the Drill Regulations and the Field Service Regulations in every detail of squad, platoon and troop leading. This end was attained by the use of simple problems dealing with some one phase of an action. The problems were devised by the squadron commanders who also acted as umpires, the regimental commander being present with different units each day. Reports of each exercise were submitted by the umpires and on compiling them at Division Headquarters, the following were the errors most frequently noticed:

(*a*) Failure of advance guards to take sufficient distance.

(*b*) Failure of patrols and points to report what they saw.

(*c*) Lack of aggressive enterprise on the part of advance guards; i. e., men would frequently dismount on the mere report of the enemy's presence.

(*d*) Lack of proper use either of signals or field glasses.

(*e*) Laxity in fire control and failure of platoon and squad leaders to watch for and transmit signals.

The second was the squadron and battalion period. During this time each squadron unit in the command had work to test the application of regulations to the squadron or battalion as a battle unit.

The regimental commanders prepared the exercise, and together with other available officers, acted as umpires; exercises were conducted with both peace and war strength organizations; each squadron was accompanied by its combat wagon and the machine gun troop was attached to different units daily.

The results were highly instructive, as at the close of each phase of the problem, a critique was held by the chief umpire who summed up results. Both officers and non-commissioned officers were present at these talks.

From the compiled reports of the umpires made at Division Headquarters, the following were the points most frequently criticised:

(*a*) Lack of sufficient distance between elements of the advance guards.

(*b*) The adherence to set forms of advance or rear guards even where these did not meet the requirements of the terrain.

(*c*) Failure to keep efficient communication between units, either by connecting files or by signals.

(*d*) Failure of patrols to report promptly and accurately.

(*e*) Lack of offensive spirit on the part of advance guards; these frequently took up defensive positions dismounted, before they had cleared the situation.

(*f*) Avoidance of mounted combat even where it promised better results than dismounted action.

(*g*) Lack of efficient fire control.

(*h*) Misuse of the term "Advance Cavalry." This term was frequently used erroneously to designate the "Van-guard," of the advance guard of a cavalry force.

The third period was the regimental period. The problems were prepared by the brigade commanders and the object was

to improve the training in regiments and to test the use of regiments, squadrons, machine gun troops, trains, sanitary troops, and means of communication in all that pertains to combat and field service.

By combining the four regiments, two war strength regiments were available, and as many officers as possible were given the opportunity to command them.

The fourth and last period was the brigade period. By combining the four regiments, a war strength brigade was formed. All sorts of maneuvers were tried and different formations experimented with for crossing zones of artillery fire. Means for forming line for mounted charges and of assuming suitable formation from which to dismount for fighting on foot, were tried. As the experiments have been made the subject of an official report, they will not be commented upon here.

As previously mentioned in this paper, our deficiency in fire tactics dismounted, was so apparent that the Commanding General decided to make special efforts to improve it, while at the same time carrying on the other tactical training just outlined. To this end he prescribed on September 23d, the first of a series of musketry exercises. He had paved the way for these exercises by previously having printed and issued to the command, a number of extracts taken from the School of Musketry pamphlets on "Communication," "Conduct of Fire," and "Battle Field Reconnasisance." These extracts dilated upon the points in which we were lacking and the details and application were illustrated by exercises.

Exercise "A" held on September 26th by each troop and company in the command, was an exercise in range estimation and sight-setting. As illustrative of the need of such training it may be well to mention that while the School of Musketry considers ten seconds as ample time for all the sights of a company to be set, it took quite a few of the troops as long as two minutes.

Exercise "B" held September 28th by each troop and company in the command was an exercise in target designation, by use of the vertical or horizontal clock system or finger system or any combination of the three. Also an exercise in range estimation, assignment of sectors to platoons and fire distribution.

The results showed decided lack of perfection in use of the clock system and in distribution of fire.

Exercise "C," held October 3d, was a special exercise for all the officers of the command. It illustrated target designation, shifting of fire and fire distribution.

Exercise "D," held October 6th, by each troop and company in the command was a review of the preceding exercises.

Exercise "E," held October 10th, by each troop and company in the command was a review of the A–B–C and in addition, an exercise in the transmission of firing data to supports which filled vacancies in the line.

Exercise "F," held October 13th, by each troop and company in the command was a review and also an exercise in rates of fire. That is, the troop was ordered to fire at the rate of "N" shots to the minute, simulated fire at the enemy, at ranges varying from two hundred to twelve hundred yards. Where the number of shots would require the use of more than one clip, ten seconds were added for each re-charge. A report was submitted showing true and estimated ranges, rate of fire ordered for each range and average actual rates for each range.

Exercise "G," held October 18th, by war strength troops and companies, each regiment supplying as many as its strength allowed, was an exercise in the use of auxiliary aiming points and a review of A–B–C and D.

Exercise "H," held October 20th, by war strength troops and companies, as in "G," was an exercise in fire distribution by both the "Overlapping" and "Switch" methods.

Exercise "I," held October 25th, was a demonstration of visibility and vulnerability in attack formations by infantry. One war strength battalion of infantry made the demonstration and all officers and non-commissioned officers of the command were present as observers.

Other exercises will be held dealing with such points as the re-enforcing of the firing line, ammunition supply, etc.

To realize fully the difficulties under which we have labored in getting this instruction, it must be remembered that during all of it we never knew at what moment we might have to break

off our instruction to move to any point of the compass at the bidding of higher authority.

The greatest interest has been shown in all the exercises. The general and regimental commanders often stepped in and showed individual men points on which they did not seem clear or questioned them to bring out and impress on them certain important principles.

The results of these exercises have been very valuable, not only in the new things taught, but also in bringing out clearly how far from perfect was our former method of fighting on foot. That, as we all know, usually consisted in frantically signalling: 1. *Fight on Foot*, 2. *Action Left*, while the troop was in column at the gallop; followed by a wild scramble to see who would fire the first shot, usually from the hip, at an enemy whose location was never even mentioned.

It is true that occasions might arise for such haste but it is hardly probable. If a body of cavalry were so careless as to allow itself to be surprised in column at a range so close that no target designation was necessary, they would certainly be ambushed; that being so, the very worst thing they could do would be to dismount. The enemy would have all the advantage of having selected the ground and knowing the range, and even if they did not get all the horses killed before they could get them away, the man would probably never need the horses, they would be put on the defensive—a false position for cavalry and would be picked off at pleasure. No, in case a like the above, the thing to do would be to charge mounted if no obstacle prevented it. If the charge was impossible they should gallop off to where a proper attack, either mounted or on foot, could be inaugrated. Certainly there is bound to be enough confusion in a dismounted attack even when *quietly undertaken* without dashing into it at *the four second clip* demanded by some inspectors.

From the amount of space devoted to dismounted tactics in this paper, some may be led to the erroneous belief that our training has been more that of infantry than of cavalry. Such has most emphatically not been the case. The beautiful level country invites one to practice charging and all other mounted

work, and the invitation has been more than accepted. Certainly no better way of expressing the end towards which our training has tended can be found than to quote the remarks of the Commanding General made to the assembled officers at the close of one of our drills:

"The Cavalry Service Regulations say that 'mounted action is the principle method of fighting of cavalry.' By adopting that view and inserting it in the drill book, the cavalry has done itself irreparable harm. Such a declaration at once creates the impression that cavalry is no longer to be considered for dismounted work. Indeed, from the very slight reference in the regulations to dismounted fire action, the above theory seems to be accepted as doctrine. I do not subscribe to any such a narrow conception of the rôle of cavalry. If our cavalry is to be limited to mounted work, then it has failed to profit by the lessons of the Civil War. For open warfare, under modern conditions, it is more necessary than ever to have troops that are able to move rapidly from one place to another over any kind of country and arrive at the point of action fit for a fight. In addition to the important functions or reconnoitering and screening, and the dashing sphere of mounted combat, the cavalry must know how to fight on foot. Perfect control of the horse and expert use of the pistol or saber are demanded for successful mounted attack, while thorough training in rifle firing and mastery of the principles of fire tactics are equally essential in the dismounted fight. Our cavalry should be prepared to fulfill both these requirements in future, or it may expect to receive scant consideration either in or out of the service. If the cavalry is to maintain its important position in our military establishment, the ambition of every officer and man in the cavalry should be to have his arm become as effective in dismounted fighting as the best of infantry and to have it excel in mounted work any cavalry in the world."

The extra space devoted to musketry in this article is due to a desire to tell other cavalrymen, who have not had our advantages, what we have done in a line of work that most of us feel we have hitherto neglected. It is to let others know what is necessary to do in order to attain our ideal. To be

able to fight any where, any time, and to do it better than our opponent. So that should the Fates and Mars call on us to meet the thundering squadrons of a civilized foe, we may charge them with as headlong an ardor as ever animated the troops of Seidlitz or Murat; or, if we are required to hold the foe at bay while our citizens arm, we may do so as well as did the men of Forrest or DeWitt; or, if we are called on to pursue an enemy, as cruel and elusive as the coyote, we may be able to dislodge him from his mountain fastnesses with our perfected fire attack, and to saber and pistol him as he flees vainly seeking fresh cover.

REVERIES OF AN OLD FIELD OFFICER.

ON THE BANKS OF THE RIO GRANDE.

I WAS twelve years a captain, and can well remember that although often told that it was the pleasantest grade in which to spend the best years of one's life. I looked longingly forward to promotion to major. After being confirmed by the Senate, some six or seven weeks elapsed before I received my commission, and those weary officer-of-the-day tours during this period—which the colonel insisted on giving me, were like a night mare.

Some had said that I would be disappointed with my new grade; that I would miss the delightful sense of independence of thought and action which a troop commander ordinarily enjoys; and that the Old Man would deal so directly with the troops of my squadron, that I would virtually have little resonsibility or initiative.

In some ways I was disappointed, but taking it by and large, I found the grade of major very satisfying in responsibility, salary, and professional interest.

If I have found it a grade in which the lazy officer can have an easy job and the worthless officer work a splendid bluff, the fault has usually laid with the regimental commander, as well as the major himself. And something too, might be said of the system, which permits of regular promotion by seniority, so long as the incumbent of one of the most responsible and honorable offices within the gift of the nation, does not actually get dismissed and keeps reasonably conversant with his professional duties.

In our cavalry service it has unfortunately been the ordinary lot of most officers to reach field rank at a period in life when, though experience has given them wisdom and discretion, they are prone to allow comfort, easy, and physical

consolations to interfere with their best performance of duty, more particularly the field duty which prepares for war. Of late years, our army organization has lent itself to post, rather than tactical administration, so that we are all cognizant of worthy field officers who make excellent post adjutants and quartermasters, but who are content—nay glad, to stop short at that. I have often wondered, during my days as a captain and a major, how long such a system would last under Eruopean standards, where every field officer either makes good, or yields to the chap who can make good.

During those earlier days as a lieutenant, I often used to wonder whether I myself would, like so many of my commanders, degenerate into one of those swivel-chair field officers; and I am gratified to find that, thanks to early athletic training and temperate living, this ghost of our military service has passed over my devoted head, and left me pretty active physically, for my age and years of service. I have found the hand of time, however, touches me when called upon to crawl out of a warm bed at 2 o'clock A. M., and go hiking through mud, rain or snow. Every field officer has his price, it would seem, and this is mine.

This physical condition of our cavalry field officers is really a most important condition of our efficiency. Cramming for examination is as pernicious in physical as well as mental tests and the officer of mature years who lives on the performance of past field service, and who trusts to the first days of campaign to harden himself for the real endurance tests, will find himself back at the base hospital in the most critical period of the service of his organization.

The solution would appear to be, not only to have our field officers reach their grade at a decent age, but require such physical test of our higher officers that they will of their own volition maintain their activity after reaching the age of forty years, by such methods as the expert in any athletic game strives to maintain his standard. Any out-of-doors work or game is good, but if his life-game has to do with the horse, he should *ride*—ride every day of his life, rain or shine, in sickness or in health, for richer or poorer. He should make it a habit even if on staff duty, for the latter is precisely where the aver-

age mounted officer physically goes to seed; the swivel-chair is a most alluring panacea for that tired feeling which comes from over-eating or lack of exercise, and once yielded to, its tentacles reach out and grasp the body in a grip which cannot be broken. In addition to keeping the field officers employed in test of their endurance and vitality, it would be wise to have the senior captains similarly tested. Not alone those who are with troops—for they are compelled to keep active, but those on staff duty, militia duty, recruiting, instructors at schools, and the like.

Deride as we will the endurance and the obstacles ride of our service, and the many ingenious arguments to set these tests aside, the mounted service is far the better for their institution and maintenance. In the cavalry, these tests should not be regarded as tests at all, but as monthly pleasure rides of the colonel and his officers. The cavalry service must have physically active officers, not alone in golf or tennis or base ball or running, but in that peculiar form of physical exercise which consists of remaining on the back of a horse without undue fatigue to the horse or rider, for forty mile jaunt across country or its equivalent in negotiating difficult obstacles.

To return to our field officers: My idea is that a field officer of cavalry should not only be on his horse every day in the year for two or three hours at least, but should take such a personally active interest in the work of his squadron that every troop officer will have an instructive feeling that, on occasion, the Old Man is prepared to give them the ride of their lives from which they will be lucky if they escape without broken bones!

INITIATIVE IN SUBORDINATES.

Experience has led me to believe that the with-holding of initiative from subordinates is one of the very worst faults to be attributed to the field officers of our service. In some cavalry regiments, the colonel entirely disregards the majors in administering the regiment, and although it is not of course intended that this be carried to extremes, my experience has been that the greater initiative given the majors as to drill, instruction, discipline and equipment, the better for the regimental commander and the regiment. In one of the best disciplined regiments of my service, the colonel appointed the major commanding each squadron, the summary court officer of that squadron. In this way the squadron commander was daily brought into intimate contact with the discipline of his command; learned to judge the peculiarities and idiosyncrasies of his troop commanders; and to identify personally, the vicious and the weak of his command. In another regiment, the colonel not only did not do this, but often felt no compunction in splitting up a squadron for field duty, sending Major A. out with two troops of the first squadron and two troops of the third squadron. Such administration leads to disorganization and maladministration. Every encouragement should be given field officers to work out their own salvation, and at the proper time, there should be a heavy reckoning—an accounting for the stewardship; and the major who has been slothful or negligent or inefficient should realize it in no uncertain way.

And my experience as a captain showed me that the majors may be quite as much at fault. Many an officer who has been an excellent troop commander, makes an indifferent major, because he interferes too much with the initiative of his subordinates. Of the worst of two evils, I have often thought that I would rather a captain made a few mistakes in administration and learned his error through experience, than to be eternally badgering him with advice, or surrounding him with so many petty regulations that he lays down on the job in sheer disgust. One of the best squadron commanders within my experience, kept absolutely away from his troops and troop officers except at stated times; and then he so skillfully brought out the best that was in each one of his organizations, as well as located their faults and defects, that each troop vied good naturedly for his commendation, and there was harmonious teamwork so long as he was in command.

COMMANDING OFFICERS.

Looking back on the many commanding officers under whom I have served, the strictest were the best. In general the latter were men who took the greatest possible interest in their commands, who constantly unearthed mistakes of omission or commission, and who were not backward in bringing their subordinates to task. Although time may have unconsciously softened my remembrance of the asperities of Old Glory's administration of the affairs of the —— Cavalry, he has with a few mental reservations, been my model. Every officer felt that he had eyes in the back of his head and that if he had not these powers of observation, he at least had an uncanny way of guessing what had happened or was about to happen.

And yet, there is no uniform rule of conduct for administering discipline. I have seen the pleasantest mildest-mannered colonel command one of the very best regiments in the service. His methods, unlike Old Gory's, were conciliatory and harmonizing to the point of cleavage; and then, although never losing his temper, any further disregard his orders or regulations meant business, and his subordinates knew it. In the one case the officers obeyed through the combined elements of fear and respect; in the latter case, through personal liking as well as respect. Both officers had good regiments, each ruled by different methods, but each contributing to like results.

All of which shows that before attempting to study the best methods of commanding a regiment, the average field officer must needs study himself. The field officer of fifty years of age cannot expect to revoluntionize his own character in a hurry; and the commander who at this late day in life attempts to imitate some old commander of his youngster days, usually makes himself ridiculous. Far better to always "be himself" in his dealings with his officers; and although following those basic principles which underlie all discipline and administration, to act his part with straightforward simplicity and unostentatious and unaffected methods.

When I have sometimes attempted in my heart of hearts to analyze the short-comings of cavalry commanders of field

grade, I have classified a few who, in my opinion, should never have come into the mounted service. They have no natural love or predilection for horses, and it was apparent always to their comrades, that all their lives they had been eternally striving to reconcile their physical make-up to their cavalry enviroment. A few of my commanders have actually been afraid of a horse.

Then again, I have found others who were so averse to any kind of physical labor, either horseback or afoot, that they would make poor colonels of any arm of the service. Some of them would rather play bridge and drink high-balls all day and half the night, than play the cavalry game. Sometime such a one would, by the same methods used by a college student in cramming for examination, make a far better showing before the inspector, than a commanding officer of more solid attainments.

Then we have the physically active and mentally indolent type. They never read or study, and make a bluff of being crackerjack cavalrymen by a great show of physical activity. They have the advantage of at least not being physically lazy, although their energy is more often directed into ill-chosen channels, but their species is rare as compared with those who are both physically and mentally indolent or lazy. So that it is really refreshing nowadays, to meet a real out-of-doors field officer, even though he decries the service schools, and scoffs at the theoretical generals!

In a recent issue of *The Saturday Evening Post*, William Allen White makes this terse and forceful remark: "If a State has not the guts to quit, the prohibition law will not help much."

In looking over all the cavalry regimental and post commanders of my acquaintance, and considering the qualities which have made them great, near-great, mediocre, poor, or worthless, I find one great quality absolutely necessary to success: If they lack the "guts" to assume responsibility to take the initiative, to be disagreeably frank to officers who either ignore or defy the regulations, they might as well quit. The habit of standing-from-under or passing-the-buck will grow on them like old age, and war will find them as useless to their country as old junk.

And yet the efficient administration of a present-day army post or regiment is no sinecure. Like a baseball umpire, the Old Man catches it from all sides. Probably starting out to be a popular as well as an efficient commander, he will find that unless he has unusual tact and wise discretion, his efforts to enforce orders and regulations will become a stench in the nostrils of many of his officers.

And why? Has the army's sense of justice and fair play and a square deal changed in the past twenty years?

Yes, I am afraid so. In common with the spirit of the whole American people, the army is less law-abiding and subordinate than in the old days. It demands more comforts and luxuries, and when it is refused, it gets them by hook or by crook. Nowadays the army expects considerations at the hands of the Old Man, that were unheard of in the Indian days.

Lieutenant B. whose troop is at a small border station informs the Old Man that his wife is about to present him with a son and heir, back in Pennsylvania or New York, or somewhere east of the Alleghanies, and demands a month's leave. The Old Man cannot spare B, and has the guts to disapprove the youth's demand. Lieutenant B. gets his friend and classmate who is *aide* to the Department Commander, to speak a good word for him, while Mrs. B.'s father sends a night-letter to Senator C. Of course B. gets his leave, while the wives of the regiment's subalterns, hold a righteous indignation meeting, and call the Old Man all the bad names they can think of.

And then there is the eternal bogie of a star some day resting lightly—oh, so lightly on the Old Man's shoulder. He wants it of course, and wants to win it honorably and legitimately. And yet he knows that, even if he becomes known in the service as "a rattling good colonel," the personal enmity of one of his subalterns, might be his undoing, so far as advancement is concerned. That sounds rather pessimistic, but there is more truth than fiction in it. So that there has grown up in our service, not to any great degree but in numbers to be reckoned with, the officer-politician or the wife-of-the-officer-politician, who sometimes gets more out of the Old Man than the Johnny-on-the-spot officer, the willing-worker who asks no

favors. Youth must be served, and the Old Man can take no chances.

And now then the Old Man runs up against the medical department. Of course he doesn't know surgery and materia-medica, and therapeutics and all that, but he does now something of administration and duty well performed, and refuses to be bluffed by the bogie of technical phraseology.

So that when Captain A. has a dirty hospital at the inspection following muster, and is roundly reprimanded for it; or when Lieutenant B. sends word at 2 o'clock A. M., to the wife of Captain C. that he cannot visit her sick baby until the next morning, and the Old Man has him on the carpet; or when Major D., through lack of knowledge of x-ray work, makes Corporal S. a cripple for life, and the Old Man calls for an Inspector—the Old Man knows full well that he is laying up for himself resentments which will, like bad pennies and bread upon the waters, return to plague him after many days. He knows that the technical opinion of these officers—opinion I say and not fact, may some day decide whether or not he is physically fitted for promotion; or able to take the field in campaign when convalescing in some base hospital from a wound in line of duty; or whether he should or should not be retired from active service, some years ahead of his time. The Old Man has to take heed of these things, and take it from me it sometimes requires guts spelled with a great big "G" to do the right thing in the premises.

And these are a few of the reveries of an Old Field Officer, as he sits in a dobe shack not two hundred yards from the Rio Grande, and wonders if, after all, a cottage at Atlantic City on retired pay, would not be the happier condition. But it is only wonder and nothing more, for he sits right on and puffs away at his corncob pipe, and gets ready to indorse his disapproval on Captain X.'s application for three months leave to visit Europe.

NOTES ON CAVALRY EQUIPMENT.

DEFECTIVE SADDLES, MODEL 1912.

A LARGE number of these saddles (the hinged model) are being turned in to the Ordnance Department with the steel frames cracked. The latter appears to occur either across the portion of the frame just in rear of the stirrup-loops or across the pommel-arch, about midway up. These defects have appeared in spite of original tests at the Arsenal showing a high tensile strength in the steel, going to show that field service must either bring about some change in the structural character of the steel, or that the saddles are subjected to physical strains exceeding those of the scientifically designed testing machines.

Reports from cavalry regiments in the Southern Department provided with the 1912 Equipment, show cracked frames as follows:

1st Cavalry, 277; 3d Cavalry, 23; 5th Cavalry, 7; 8th Cavalry, 3d Squadron, 183; 11th Cavalry, 118; 13th Cavalry, 64; 14th Cavalry, 56.

In a report made by the Commanding Officer, 3d Squadron, 8th Cavalry, as to the condition of the saddles of his squadron, he remarks that a large number of the steel frames were cracked under the seat on one side about the middle; several were similarly cracked on both sides; and a few were cracked under the pommel, with one or two cracked under the cantle.

WIRE CUTTERS.

The Cavalry Equipment Board has recommended to the War Department that so-called "wire cutter carriers" (Infantry Equipment, Model 1910), be issued to all cavalry organizations, to be attached to the field belt immediately to the left of the first aid packet. Attention has been called to the

fact that for dismounted duty, the trooper has no way to carry his wire cutters except in his already over-filled pockets. The "carrier" will enable him to transfer the wire cutters from the saddle bag (near saddle pocket in the McClellan equipment, and the near pommel pocket in the 1912 Equipment), whenever the organization commander so orders. Cases will constantly arise when this will be necessary, and yet it is not considered desirable to habitually carry the wire cutters on the belt, on account of the weight, and the flapping about of the wire cutters at a gallop. In the majority of cases, too, the wire cutters will be required only when the trooper is mounted, to cut a passageway for his mount.

COMBINATION HALTER BRIDLES.

Most of the reports which have reached the Cavalry Equipment Board with respect to the combination halter bridle, have been adverse to its use. Recently however, two very favorable reports have come in from officers in Mexico.

A high-ranking cavalry officer of wide experience and progressive views, says:

"I am considerably surprised to learn that there is talk of doing away with the halter-bridle. Certainly it has been a success in Mexico, and is the one thing for which I have heard almost undivided praise, in connection with our new saddle-kit. (1912). Some one said a few days since, that if it got broken in the field, it was done for. That applies no more to a bridle than to a halter, for both can be readily sewed, tied up, or riveted. In truth, the bridle-halter is extraordinarily strong, and rarely breaks. Nothing, however, is fool-proof or horse-proof in the long run. Our present halter system is a vexatious nuissance by reason of its unsightliness, and because it wears the mane away. Just now, I leave all halters on the picket lines to give the horses a better appearance at all formations around camp, and to stop the wear and tear on their manes. I believe in the halter-bridle principle, but am sure improvements can be made in our's. Certainly nothing could exceed in slouchiness the double bridle, worn with the heavy halter. If field work is our normal condition, the halter-bridle should obtain; if it is a question of garrison work, there is little or no chance of

breaking it. I think it quite probable that the French halter-bridle is superior to our's just as their officers' saddle has always been ahead of our's."

The other letter, from a young and enthusiastic captain, a graduate from the Mounted Service Schools' second year class, follows:

"Just a few lines to tell you my experience with the halter-bridle, Model 1912. This troop has been equipped with them for two years, and at the present time I have only one that is unserviceable. They have seen hard usage, been exposed to all varieties of climate, and are in good condition at present. To my mind it is the best *military* bridle yet produced in our army, and I strongly recommend its retention. I have heard some people object to it on the ground that if it breaks during the night, the rider is without a bridle in the morning. But I have yet to see one so badly broken that at least one bit could not be used without any repairs being made. And it's so simply constructed that the poorest kind of saddler can readily make repairs. Those that do break, generally do so as the result of carelessness on the part of the rider in one of two ways:

"(*a*) Allowing reins to drag on ground when dismounted, and the horse becomes entangled in them.

"(*b*) Tying horse with the reins.

"My personal experience with the halter-bridle covers the period from May 16th to the present time, during which interval I have used it daily. My private horse has gypsy tendencies, but he has never yet succeeded in breaking loose since he reached me on July 4th. Although I have seen him lay back very pronouncedly on the halter-bridle. It always held fast. Previous to coming to the border I was in favor of a double bridle and separate halter, but my ideas have changed. It's an awful job for the enlisted man to take care of the numerous articles which go to make up his equipment and that of his horse; and in my opinion every effort should be bent toward cutting down the *number* of separate articles to say nothing of the cost."

HALTER CHAINS.

There is a great demand from Mexico and the border, for a light, steel halter chain, to replace leather shanks and tie-ropes. Some organizations have been in such straits, that shelter-halves have even been torn into strips to serve as tie-ropes.

The Cavalry Equipment Board has been actively at work to supply this demand, and have had under test a number of forms of steel chains, with snap-hook and toggle. In addition to lightness and simplicity, it has been desirable to secure a chain which will give a breaking strength of over 1,500 pounds, to withstand the backward pull or jerk of a horse weighing 1,200 pounds. Such a chain has been found in a six-foot German steel, electrically welded chain, giving a breaking strength in the testing machine of 1,580 pounds. But great trouble has been experienced in finding a snap-hook of strength commensurate with the chain, and it would appear from the tests of the Board, that snap-hooks testing over 1,000 pounds, are not made commercially in sizes suitable for halter tie-chains.

In addition to this, the spring of all snap-hooks is very apt to get out of order, especially when rusted; and it is of course to be expected that all halter-chains will become very rusty in the field, unless constant care is taken to prevent it.

It is not at all unlikely, that the Equipment Board will recommend the immediate purchase by the War Department, of one thousand of the chains described above, for issue to the mounted organizations of the Pershing expedition; and that subsequently it may be found desirable to replace the snap-hook on the chains with an additional toggle, which has a breaking strength of about 1,200 pounds, and which dispenses with the weakness of the snap-hook.

It is the intention of the Board to furnish simple repair-links to organizations, for use in emergencies. The objection of the rattle and reflection of the chain when attached to the halter on the march, will be met by carrying the chain when not in use, in one of the saddle pockets.

CARRYING DEVICE FOR AUTOMATIC PISTOL.

Mr. C. G. Cabanné, of St. Louis, has appeared before the Cavalry Equipment Board, with a very ingenious device for carrying the pistol on the belt, without the use of a holster, or at least in addition to the use of a holster.

The device is designated to permit the pistol to be "drawn" and fired in about half the time required to draw and fire from a holster. The objection that the pistol is exposed to the elements, is met with the statement that holsters rarely protect the pistol from rain or snow or dirt; and that during inclement weather, the average pistol holster is about the dampest possible place in which to keep the pistol.

The device consists of a recessed brass slot, about two and one-half inches long, placed on the pistol belt just in front of the right hip. On the left side of the automatic pistol and near the position of the thumb in firing, is a small lug, which, when the pistol is attached to the belt, engages in the slot. It has been found impossible for the pistol to become disengaged from the belt, except by the intentional use of the pistol-hand, when a simple movement of the hand and wrist, brings the arm to the front in one movement.

If recommended for adoption, the device might be used without dispensing with the holster—the quick firing device being utilized at command of the organization commander, when the trooper is in the immediate presence of the enemy, and it is not desired to retain the arm at "raise pistol."

The present problem of the inventor, is to adapt his device to the woven-cartridge belt, as the models so far exhibited, have been entirely designed for use on a simple commercial, leather pistol-belt.

WEB RATION BAGS.

"If you were down here in Mexico, I know that you would not favor a web ration bag or saddle-pocket. We are condemning them every day, and cursing them also. Everyone here prefers the old leather saddle-bag, no matter what the shape or size."

RIFLE CARRIER.

"There is no question but that our cavalry should carry the rifle on the trooper's back; it is the only place. All nations but our's carry it there, and I do not see why we ought not to take that burden off the poor horse's withers."

SORE BACKS.

"I am a Veterinarian of the —th Cavalry. During the first six weeks of the campaign against Villa, using the McClellan equipment, my regiment had fully five hundred sore backs among the horses, nearly all of the withers. In my opinion very few were caused by carrying the rifle on the saddle. I believe that we shall never get away from the misfortune of sore withers, no matter if a perfect saddle is turned out by the Cavalry Equipment Board, until we get rid of the present saddle-blanket. In my opinion, 475 of these cases of sore withers in my regiment, were caused by the see-sawing of the blanket over the withers.

As the horse lost flesh in the campaign, he lost it more in front of the saddle than behind. This caused the saddle to slightly cant downward at the pommel, and threw the weight of the trooper forward. The result was that the front ends of the saddle-bars dug into the sides of the withers, and the forward end of the saddle-blanket endlessly sawed away over the top, with every step of the horse, until all the skin was worn off.

That this was the cause, was proven by my inserting a small strap through a hole in the forward end of the saddle blanket, under the pommel arch, so as to hold the fold up into the arch without touching the withers. This not only obviated the see-sawing, but permitted a current of cool air to reach the heated withers. I cured sore withers in this manner, and prevented other animals with sharp withers from becoming disabled.

I could never understand how or why it was necessary to cover the horses back with six folds of blanket, some two and one-half feet by three, keeping all the heat of the back in, when the saddle itself has only about one and one-half feet of square surface.

We shall have little or no improvement in sore withers until the saddle-blanket is replaced by padded side-bars, these could either be of leather, padded with hair, as in the French officers' saddle; or preferably, we could devise removable and adjustable pads, with a backing of thin steel, to loop over the front end of the bars, and to be attached to the rear end by a small strap. By having a few of such pads of different thickness, especially larger at the pommel end, we could readily protect the horses' withers in a hard campaign. By using pads instead of the antiquated saddle-blanket, the horses' back would be kept cooler on the march; the saddle-blanket is particularly unsuited for a semi-tropical country.

My ideas may appear to be rather radical, but I have studied the subject day by day in the large number of sore backs under my treatment, and am convinced that no improved saddle will be wholly satisfactory until we get rid of the saddle blanket.

THE CAVALRY FIGHT AT CARRIZAL.

By Captain Lewis S. Morey, Tenth Cavalry.

[*The following brief description of the cavalry fight at Carrizal, Mexico, in which a number of our officers and enlisted men lost their lives at the hands of troops of the de facto government of Mexico, has been forwarded to the* Cavalry Journal *by the surviving troop commander at the express request of the Editor.*

In studying the details of the encounter, one is impressed with the fact that when the firing line began its initial advance, the two troops had only fifty-six troopers in line, so that aided by machine gun fire it was comparatively easy for the Mexican troops to envelop the flanks.

Captain Morey's unselfish action in causing three troopers of the Tenth Cavalry to abandon him, wounded and exhausted, and save themselves the night following the engagement, is already well known through the public press, and is worthy of the highest praise.—Editor.]

Troop "K" Tenth Cavalry was stationed about two days march from the Headquarters of the Expeditionary Force in Mexico. We were all looking for an expecting orders to return to the United States. Shortly after midnight on the night of the 17th of June, 1916, the Camp Commander handed to the commander of the two troops there stationed a telegram. This directed that a troop of cavalry make a reconnaissance in the direction of a Mexican town (eight miles beyond Carrizal) and about one hundred miles from the line of communication. Information as to the movement of Mexican troops in that vicinity was desired. The movement was not for the purpose of bringing on a fight, but our attention was called to a report that General Trevino had stated that such a movement would be regarded as unfriendly.

It was thought by the cavalry officers affected by the order that the march promised to be an interesting one. The prolongation of the dry season made water a proposition; the objective was quite a ways distant; the country was thinly settled; the grazing very poor, and the probability that it would be necessary to get along for most of the trip without transportation (no mules being available) made it appear that some lessons might be learned.

The men were in good condition and the horses were not soft, nor were they fat. Half rations and poor grazing had not put much over their bones.

Troop "K" consisting of one officer, forty-six men, a Mexican boy who had been over the route six years before, fifty-two horses (several of them remounts) and a four mule team, left camp on the morning of June 18th and camped about twenty-one miles out. On the second day's march the troop covered thirty miles to a river where we expected to water. There was no water there but by going a mile and a half upstream, a pool was found. On this day the wagon with a load of 2,500 pounds had covered fifteen miles, only half the total march, directly across very rough country. From this camp it was necessary to make a march of fifty miles out to the country to be reconnoitered. On account of lack of roads the previous day and no knowledge of those ahead, it was decided to send the wagon and led-horses back to the line of communications from this camp. Grain, hard bread, and bacon, were cached on the prarie to be picked up on the return. Ten men were sent back with the wagon and led horses.

The third day out, the troop, thirty-six men with twenty pounds of grain in the nose and grain bags, six pounds of rations, 150 rounds of ammunition per man and two led horses, left, planning to make the march out, reconnoiter and return on the third day following. If we should meet an armed force in this reconnaissance we were supposed to be on friendly terms with them and were therefore limited to some extent in our actions. During this day's march we met twelve Mexicans with two scouts out to the front. They started to run when they first saw us, but later met us and claimed to be *vaquerors*.

They had to be treated as friends and no steps taken to prevent their gaining complete information as to our strength and equipment. We knew that bodies of men like these, if given favorable opportunity, might, in spite of the apparent sincerety of the country, become hostile. This situation, with three ranges of mountains, scarce water and no supplies, proved to be as interesting as was previously imagined.

On reaching a fine American ranch located at a beautiful spring, we ran into Troop "C," Tenth Cavalry already in camp. The meeting was accidental but our missions being similar, Troop "K" became a part of Captain Boyd's command for the reconnaissance. Here we learned that Carranza's cavalry had occupied this ranch but that they, some four hundred in strength, were then located at Carrizal and in its vicinity.

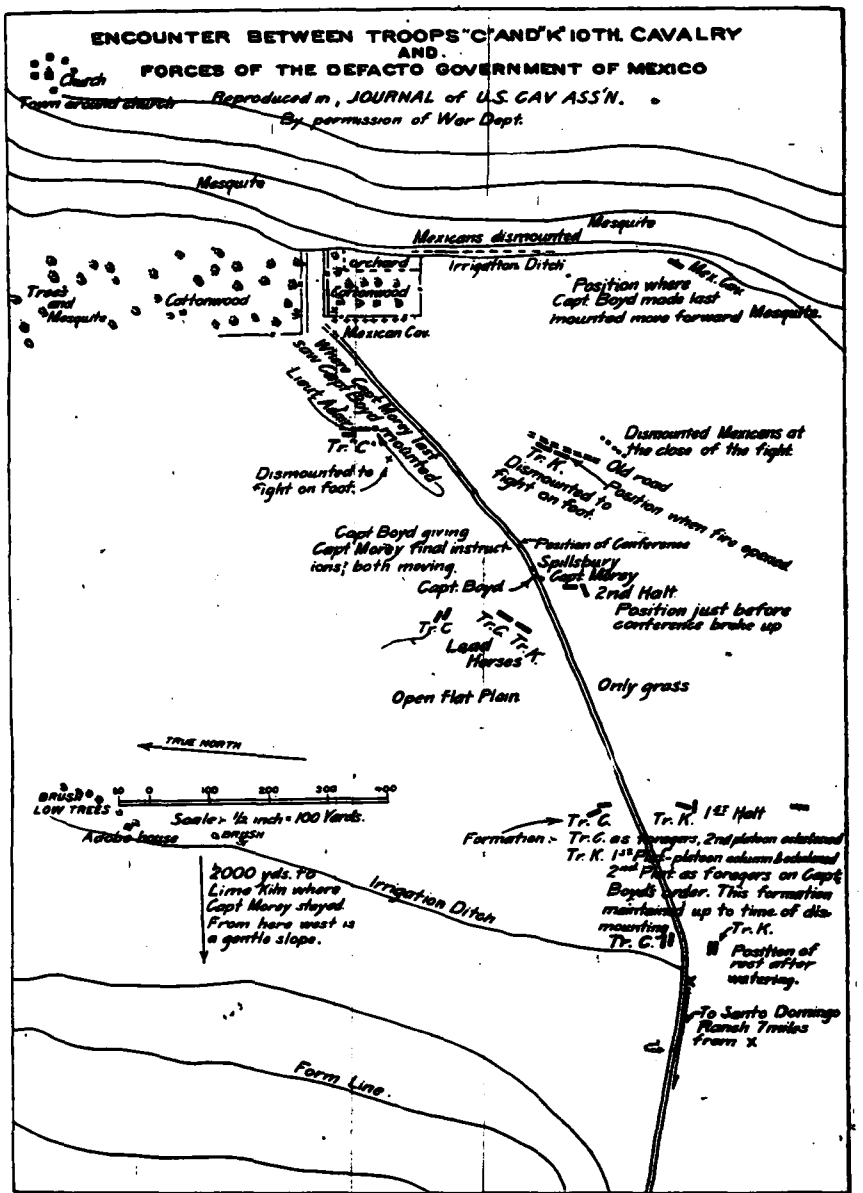
The men looked over the rifles and pistols and the horses had a good feed of alfalfa. Captain Boyd held a conference between the officers, Scout Spillsbury, and the ranch boss McCabe. His decision was to march the following morning at 4:00 o'clock toward Carrizal, to send a request to the *Jefe Politico* of Carrizal for permission to march through his town enroute to the town eight miles beyond. Then to return the same day to the ranch and camp. Captain Boyd was heard to remark, just before going to sleep that night, "It will be fine if we are lying here on the hay tomorrow, with our mission completed." How we failed, has been told several times in the press of the country.

Leaving camp as planned, we came at 6:30 A. M., at an irrigation ditch a little over a mile to the southwest of the town of Carrizal. Both troops watered and Captain Boyd sent in the Mexican boy, who had accompanied Troop "K," with the message to the *Jefe Politico* referred to above. A herd of ponnies that had been grazing on the flat between us and the town, were on their way back to the town when we came up. We soon saw through our glasses that a few dismounted men, evidently the outpost, were forming in the trees that lay to the west of the town. There was a little fringe of brush along the ditch where we were. This ditch ran north. The flat from here to the trees was bare of anything but grass. There was an irrigation ditch, we had been told the night

before, deep and wide but passable in places, which ran along the western edge of the town and extended on to the south. Into these trees and ditches the Mexicans moved troops during a conference which lasted a little over an hour. Some officers came forward and Captain Boyd moved out to meet them. At the conference Captain Boyd was told that the troops could not pass through the town. Captain Boyd returned to his troops, made some remarks and moved the line forward several hundred yards. Our messenger returned and brought a written message from General Gomez to the effect that Captain Boyd could bring the troops into the town for a conference. This looked like and ambush and it was thought advisable not to accept the invitation. General Gomez came out and joined the conference. Captain Boyd at one time receiving permission to pass through the town unmolested. There were some ten or twelve Mexicans present at the conference. Captain Boyd, the interpreter, and an orderly were the only Americans present. During the conference Captain Boyd returned twice and moved his troops nearer to the town. The Mexicans did not all leave the place of conference until Captain Boyd started his last advance before dismounting. We were at that time about 700 yards from the trees and 800 yards from the irrigation ditch south of the town, into both of which the Mexicans had been moving their troops. The formation of troops was, during the first advances, in line of platoon column, then in line of foragers with the outer platoons echeloned to the rear. Captain Boyd rode over toward Troop "K," which was on the right and gave these final instructions; that the troop be moved more to the right (this becuase of the Mexican troops on our right front and to the south of the town;) that we would go in dismounted; that Lieutenant Adair's platoon would send a few men through the southeastern part of the town; and that Troop "K" was to look out for the right flank.

The following is from the view-point of one accompanying Troop "K" on the field.

Troop "C" moved to the front, Troop "K" moved to the right by obliquing, then to the front, and dismounted when Troop "C" dismounted. During the latter part of the mounted advance, Troop "C" was led somewhat to the left,



Redrawn, Army Service Schools, Fort Leavenworth, Kas.

evidently due to the position of the Mexican machine gun. Very clear orders had been given by Captain Boyd, during his march out from the base and to the troops on the field, that no shot was to be fired by us until it was clear beyond the possibility of a doubt that we had been fired upon by Mexican troops representing the *de facto* Government. Our rifles were already loaded and when we came on to the skirmish line we were about 300 yards from the Mexican force, then friendly, supposedly, but soon to be proved an enemy. They overlapped our right with mounted and dismounted men and were before long almost directly on our right flank.

Both troops moved forward in skirmish line, the led horses of both troops were taken to the rear, and were united about 150 yards in rear of the center. The Mexicans opened with a machine gun from the group of trees on Captain Boyd's left front. This was evidently a signal for the whole line to fire, which they did. Our men replied. Captain Boyd with his troop, about thirty rifles, advanced across the two hundred yards into the trees and drove the machine gun and Mexicans in his front back. He was killed soon after the first fire. Lieutenant Adair was wounded early in the fight and received a mortal wound as he was rising from the irrigation ditch to fire with his pistol on advancing Mexicans, near the close of the fight. Troop "K" advanced and then swung the right platoon to the right to better meet the advance of dismounted men on that flank. The two troops were separated by over two hundred yards interval when the fight opened and were able to give little fire assistance to each other. The fire on Troop "K" from the irrigation ditch and the enfilade fire was hot throughout. The Mexicans evidently had some good shots.

About five minutes after the fight started, some thirty mounted Mexicans came around Troop "C's" left flank and drove the led horses off toward the ranch from which we had come. There was no guard with the horses; each man was holding from one to four horses. There were three packers with their mules with the led horses, Troop "K" had twenty-six rifles on the firing line and the men were cool and seemed to fire carefully. Captain Morey was wounded about ten minutes after the firing started. After about forty minutes of this, the leader of the right platoon (wounded) reported that it was too hot to hold his position longer. We did not seem to be stopping the Mexicans who had come up to within about 150 yards from our right, three men had been killed and several wounded and the troop was ordered to fall back. This was done in an irregular scattered line toward the northwest, to the ditch from which we had first started. Men of both troops were scattered along this ditch. Many of the first to fall back were already proceeding west up the ridge. The men scattered along, and taking cover in this ditch were later taken prisoners, and most of those going up the ridge were captured. Captain Morey and four men retiring up the ridge found cover in an old lime-kiln and remained there until night. First Sergeant Winrow, Troop "C," rode off the field on a white Mexican pony. The sergeant was wounded in the arm, thigh and leg. He did not get back. One other man of Troop "C" was killed after the fight.

Troop "C" lost, besides those just mentioned two officers and four men killed, four wounded and eight prisoners. Troop "K" lost four men killed or missing, one officer and six men wounded, and fifteen prisoners. Corporal Cooke, of Troop "K," was severely wounded in the right forearm. He lived on water and mesquie for four days, and was captured while getting water, and taken to Jaurez, where he was turned over to our military authorities about a week after the others had returned.

Lieutenant Henry Meyer's, Troop "M," Tenth Cavalry came out on the route that had been followed by Troop "K" and picked up several men. He was enabled, due to the food left on the prarie, to make an extended search. Most of the men picked up were horse-holders of both troops. He found three dismounted men, who were when he reached them, completely exhausted. These were the men to whom Captain Morey had entrusted his message giving an account of the fight. Colonel Jenkins in command of the Eleventh Cavalry, picked up men of both troops on the line followed by Troop "C" in going out.

The Mexicans lost according to their own statement twelve officers and thirty-three men killed, and fifty-three

wounded. One thing previously known but impressed on me during this trip, is that the present United States soldier remains cool and stands fire well under trying circumstances (no other conditions was noticed on the firing line).

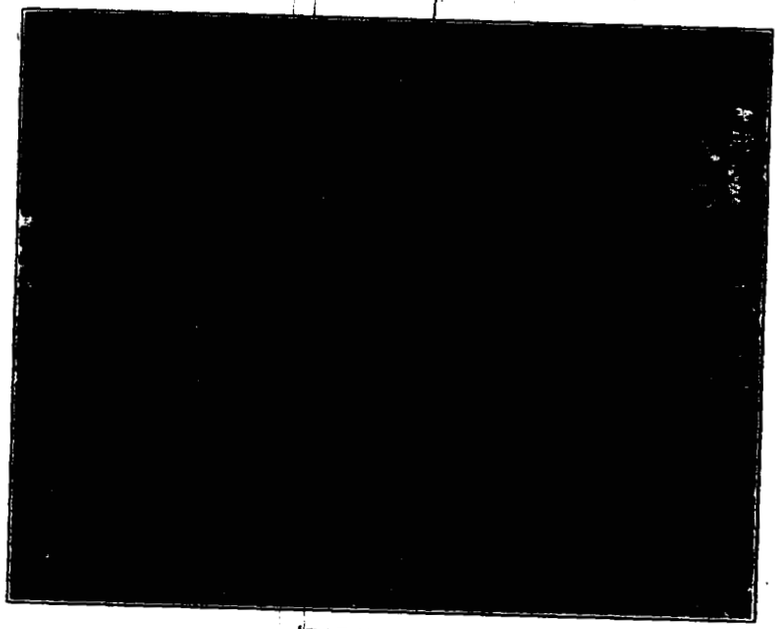
This account must not close without verbal expression of the fact that one officer and ten men lost their lives in the service of their country following a brave officer who went to his death leading men forward into what looked like certain death. More than this cannot be asked of anyone.

Military Notes

RAZZIA, 54031.

WE have received the following generous offer from the owner of the above named horse—Mr. Harvard Sharp Neilson, Althea Farm, Darien, Connecticut.

"In the last issue of the CAVALRY JOURNAL you mention my Arab stallion 'Razzia.'. Under separate cover I am send-



RAZZIA, 54031.

ing you a descriptive folder mentioning stud fees. If you feel so disposed you may mention the fact that I am willing to book twenty mares the property of officers in the cavalry free."

The following is the pedigree of the horse:

RAZZIA, 54081 Foaled April 28, 1907 Chestnut, 14.2¾	Sire HARB	MESAOUD	SEGLAWI JEDRAN (Ibn Sudan's strain of Roaly Anasah)
		BINT HELWA (Broken-legged Mare)	
	Dam ANTIKA	MESAOUD	
		ASFURA	QUEEN OF SHEBA (Betteyan's Mare)

September 6, 1913, ridden by Parker Tompkins, Northfield to Windsor, Vt., 70 miles, in 13 hours, including all stops.

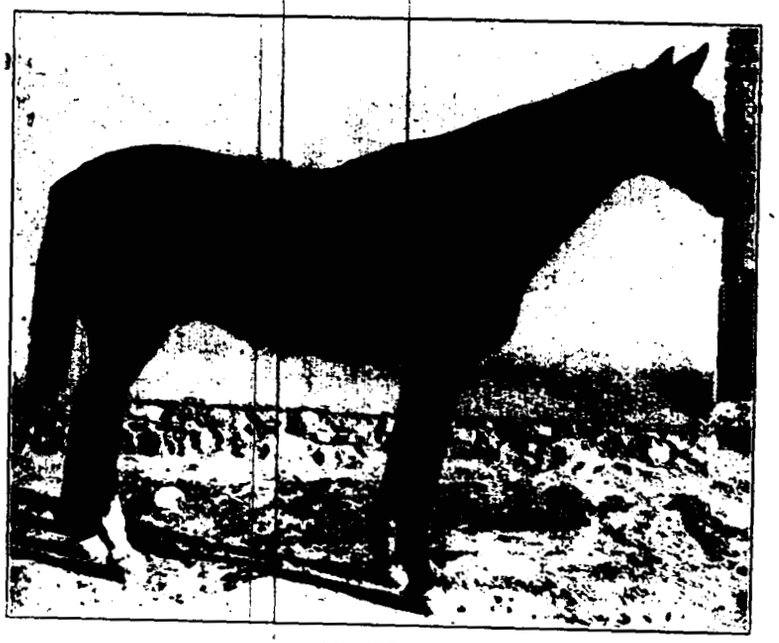
September 8, 1913, ridden by Parker Tompkins, Windsor to Northfield, 70 miles, in 15 hours (very hot day), including all stops.

October 30, 1913, ridden by Captain Frank Tompkins, Tenth Cavalry, U. S. A., Northfield, Vt., to Fort Ethan Allen and back to Northfield, 104 miles, in one day. Time on road, 15 hours and 30 minutes.

TWO CHARGERS.

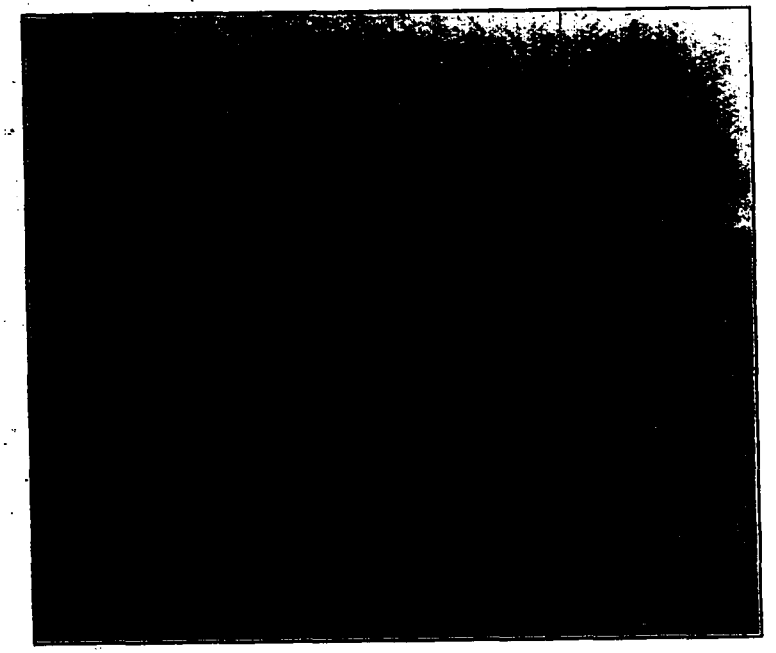
WE have received the photographs of two officers' chargers which the owners think are the best ever.

The first was sent by Colonel W. C. Brown, and which he states: "He is probably one of the best trained chargers in the service." He also adds: "I enclose the description to be printed under the photograph," but he failed to enclose it.



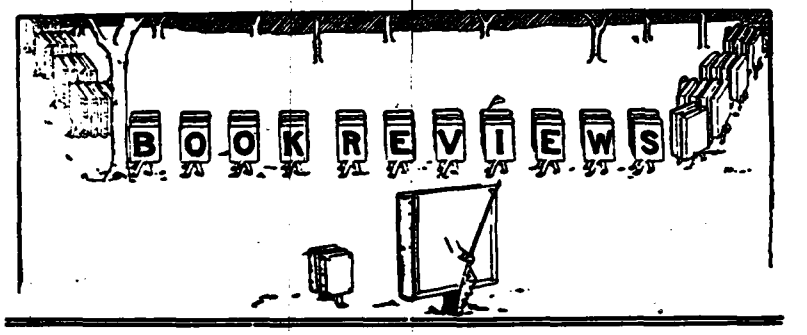
GILDEROY.

The other is from the late Brigadier General Charles D. Viele, retired.



BOYANA BOY.

Sired by Ben Franklin. Dam sired by Lexington.



Problems for Infantry.*

This is undoubtedly the most valuable book ever published by the Army Service Schools. For a long time the Department of Military Art of these schools has had in contemplation a work dealing with the training and instruction of non-commissioned officers in tactical problems and exercises.

It has been long realized that the tactical exercises solved in the Schools and sent out to the service through the agency of the Mailing List dealt with units too large and work too advanced to be of benefit to this most important class of students. There has been an incessant demand from the service for a work of this sort, but neither the time or opportunity for its proper preparation was presented until during the past school year.

It has now been done and is presented to the service without hesitation in the belief that it is the best work of the kind produced by these Schools to date. The principal value of the book is believed to lie in *the method* it teaches. It offers to subalterns and non-commissioned officers the applicatory methods of teaching tactics which has been so largely respon-

*"SMALL PROBLEMS FOR INFANTRY." By Captain A. W. Bjornstad, Sixteenth Infantry, Instructor. Press of The Army Service Schools, Fort Leavenworth, Kansas. 1916. Price 75 cents.

sible for the success and present-day standing of the Army Service Schools.

The contents is as follows: An Advance Guard Point; an Advance Guard Connecting File; an Advance Guard Flank Patrol; the Platoon as an Advance Party; a Combat Patrol; a Picket; Another Picket; Cossack Post and Sentry Duty; a Reconnoitering Patrol; a Visiting Patrol; a Detached Post; a Requisitioning Detachment or Patrol; a Contact Patrol; a Small Outguard; and, Combat Instructions.

Each problem contains from four to eleven situations, or series of exercises, so that really eighty exercises in all are presented. All of these exercises are solved in the map contained in the book.

Although the book is entitled "Small Problems for Infantry," yet it is of value to other branches of the service.

It is well printed on good paper, and has 190 pages of 6"x9". It is a remarkably cheap book.

Why Preparedness.*

Many, too many, books have already been written on the subject of the present European war. Some are good, but many are not, and have no justification for their existence, because written in a partisan spirit, biased in the extreme, and usually bristling with misinformation and misrepresentation.

It would seem that to justify the writing of a book, three requirements should be fulfilled. There must be something worth while to write about. Then there must be those for whom this something is of importance and of interest. Finally, there must be some one fitted and competent to do the writing, and present this "something" in an attractive, yet forceful style.

*"WHY PREPAREDNESS. The Observations of an American Army Officer in Europe, 1914–1915." By Captain Henry J. Reilly. With an introduction by Major General Leonard Wood. Daughaday & Co., Chicago. Price $2.00.

In the book "Why Preparedness," which has recently made its appearance, these three requirements seem to have been fulfilled. The author has a message, a message deep of significance and vital of importance, a message which he brings from the blood-stained battlefields of Europe, from devastated homes, from Old World nations, the flower of whose manhood is being sacrificed on the altar of Honor and Country, and the message is "In time of peace prepare for war." And this message is to every man, woman and child in this great broad land of ours, from the Atlantic to the Pacific, from the Gulf to the Lakes.

This book, written by Captain Henry J. Reilly, embodies the observations of an American army officer in Europe in 1914, 1915. Major General Wood, United States Army, in an introduction to the book says of its author: "Captain Reilly is a graduate of West Point. He served for a long time in the Regular Army and had extensive experience in various parts of the world. He is a capable, skilled, and critical observer. He has had almost unexampled opportunity for observation during the Great War and has seen it from various standpoints as an actual observer in the field. What he writes from the military standpoint can be depended upon as accurate, and is entitled to the most careful consideration by our people."

The subject matter of the book is arranged in four parts. In Part I, entitled "The Entente Allies at War," the author relates his observations and experiences in the Western Theater of War from the outbreak of the war in the summer of 1914, and which found him in Manila, to the latter part of 1915. In the First Chapter he takes the reader from Manila via Hong-Kong, Singapore, Ceylon, Suez Canal and Marseilles to Paris. In the following chapters he gives his observations and impressions of "France at War;" "How France Goes to War;" "A Trip to Arras" (typical of trips made to the front by correspondents); "Why France in 1914 was not the France of 1870;" "How France has maintained a large trained army since the beginning of the War;" What invasion means to the French People;" "The experience of a French woman and her daughter;" "The British Campaign in France and Belgium;" "The British Land Forces;" "Kitchener's new Army;" "Conscrip-

tion needed in Great Britian." The concluding chapter of Part I gives a comprehensive "Summary of the Western Campaign to the end of May, 1915," and, following it, there is inserted an excellent map of that Theater of the Operations, showing the principal lines held at different periods.

Part II, entitled "The Military Preparedness of the Swiss," consists of one chapter. Here the author gives a comprehensive outline of the Swiss Military System, pointing out its excellences and its drawbacks. Of the latter he says on page 151: "The chief drawback of the Swiss System is that the length of service is not sufficient to give the discipline which should be had. The whole military history of Switzerland consists of a continued increase in the length of service required. The present mobilization has given the first opportunity for a general and thorough tryout of the current system. It has shown that still further increase in the length of service should be made."

In Part III, entitled "The Central Powers at War," the author records his impressions, observations and experiences in the Eastern Theater of War. In the seven chapters pertaining to this part, he takes up: "The German Army;" "The German Army in War;" "The Austro-Hungarian Army as a Factor in the Present War;" "Communications of the Austro-Hungarian-German Armies in Russian Poland;" "The Russian, as seen from the Austro-Hungarian Side;" "What Invasion has Meant to the Poles." The last chapter of Part III gives a summary of the Russian Campaign to the end of August, 1915. Here also is inserted a map showing the campaign in the Eastern Theater of War, August, 1914—October, 1915.

In Part IV, the subject of "Modern Battle" is most excellently presented in thirteen chapters. The author takes the reader through the various phases of a modern battle, describes accurately and authentically the present-day functions of the various arms and auxiliaries of the modern military machine. Here we find chapters on: "The Volunteers' First Sight of War;" "The Approach to a Modern Battle Field;" "How the Armies have become Entrenched;" (here is inserted a diagran of a section of the Franco-German Line of trenches); "The Psychology of Battle;" "How the Wounded are Brought from the Battle Field;" "Modern Infantry in Battle;" "The Famous French Field Gun;" "Artillery in the Present War;" "Cavalry in Modern War;" "Machine Guns and Aircraft in the Present War;" "Fortresses in Modern War."

The concluding chapter (XXXV) is entitled: "Lessons America Should Learn from the Great War." This chapter should be read, pondered and taken to heart by every American who is able to read. The message the author brings to the American Nation is here crystallized.

The book holds the reader's interest throughout from cover to cover. Observations are critically made and impressions conservatively stated. Sound judgment characterizes deductions. There is a total absence of bias, of intentional or unintentional distortion and of over coloring of facts.

In writing this book the author has "performed a distinctly public service" to the American nation.

The photographs, of which there are fifty, distributed through the volume, were, with a few exceptions, taken by the author. Paper and print are good.

M.

Scout Instruction.* This little volume is intended to supplement the Drill Regulations, other manuals and War Department orders which contemplate that instruction will be given in scouting, but which are silent as to the manner and means to be used in giving the instruction for both day and night work.

The exercises are clear, simple and well calculated to impart the desired instruction and cover the subject in sufficient detail for use in the instruction of enlisted men.

As the author states in the Preface, the exercises were originally intended for use in training mounted troops, but they are, with few exceptions, adapted equally to infantry training.

The book is recommended, though its price is deemed excessive for its size.

*"EXERCISES FOR SYSTEMATIC SCOUT INSTRUCTION." By Captain H. J. McKENNEY, Twelfth Cavalry, U. S. A. Geo. Banta Publishing Co., Menasha, Wis. 1916. Price $1.25.

Spanish for Soldiers.*

A most useful and timely little volume, convenient in size, attractive in appearance and not too elaborate for its purpose.

It contains a minimum of grammar with a maximum of useful sentences and a very complete English-Spanish and Spanish-English vocabulary.

Where different names for the same thing are used in the various Spanish speaking countries enough are given so that at least one will be in use in any given country.

Partial vocabularies, according to subjects, are given throughout the text in the various paragraphs that deal with any subject, such as "roads" or " street signs" for example, but these words can be found as well in the main vocabulary.

In selecting a limited vocabulary no two people would select exactly the same words. Some of the words you would select are missing in this book and some you would omit are given, but as a whole, any one will admit the selections are admirable.

Every company or detachment serving in a Spanish speaking country should have at least one copy of this excellent book with it.

Life of Rawlins.†

The life of General John A. Rawlins is a real contribution to the life histories of the men who shaped and upheld in the making the destinies of the United States.

The book is a narrative resumé of the military career of General Grant during Civil War days, and a criticism of that career, event by event.

During the course of the narrative and incident to the criticisms the favorable personal influence of General Rawlins

*"SPANISH FOR SOLDIERS." By Major James A. Moss, U. S. A., and Lieutenant John W. Lang, U. S. A., with an Introduction by Colonel C. DeW. Willcox, Professor of Modern Languages, U. S. M. A. Geo. Banta Publishing Co., Menasha, Wis. Price, $1.00, postpaid.

†"THE LIFE OF JOHN A. RAWLINS." By James H. Wilson. Neale Publishing Company.

over the plans and acts, personal and official, of General Grant, is the predominant theme.

Rawlins, without early advantages, but of unusual natural ability was unquestionably a man on whom singleness of purpose, and absolute devotion to duty it is safe for staff officers in similar capacities to model.

It is to be regretted that the author finds it necessary to harp so continually on the alleged weakness of General Grant in connection with alcoholic dissipation. Such a weakness should be forgotten, and the genius, who was its unfortunate subject, idealized for all time, in the history of the United States. The actual contact of the author with General Rawlins during most of the time covered by the Civil War, in addition to his education, training and experience, makes him peculiarly qualified to comply with the request of his friends "to become his literary executor, and see that justice was done his memory."

The book is a very valuable contribution to our military libraries, both from military and biographical standpoint.

C.

Gallipoli.*

A description of the action of the British forces in the Gallipoli Peninsula. The word description is advisedly used, for the work can not be regarded as plainly historical. It presents a vivid picture and is accompanied by numerous photographs that add to its effectiveness and interest. For the purely military student a good topographical map would have been better than these beautiful word pictures of the terrain and the events described would be of more use had the complete hiatus between the general plan of the supreme commander and the action of the individual soldier been filled. No orders are given or even quoted. The work of the French portion of the expedition is only occasionally mentioned.

*"GALLIPOLI." By John Masefield. The Macmillan Co. 1916. Price $1.25.

In most places actual numbers are not given for either side, but the enemy is always represented as being in overwhelming numbers, well supplied with all that the British lacked and full of courage and aggressiveness.

The author believes that several times the expedition was close to complete success and ascribes failure each time to causes, which, when stripped of all verbal covering, come down to inadequate preparation by the home government for the task undertaken. Always there was a lack of fresh reserves; lack of ammunition; lack of resources to complete the undertaking which had already been begun. Always this lack was understood in the middle of the undertaking, not provided against at the beginning.

It reminds the United States soldier of what has frequently been required of him in the past and probably will be again in the future, namely, to try to make his exceptional display of exertion, endurance, courage and heroism win a success in spite of lack of a comprehensive plan of action by his government and lack of most of the necessary material for the task at hand.

The book gives a good idea of just what happened at Gallipoli, is vivid and interesting and is worth while.

America and the Great War.*

This book contains an interesting and accurate summary of submarine warfare casualties, which have been the cause of correspondence between the United States and Germany, in the present war.

Great stress is laid throughout the text, on the departure from International usages on the part of Great Britain, and the status of merchantmen arming for attack of and defense against submarines is well discussed, both from the points

*"AMERICAN RELATION TO THE GREAT WAR." By John William Burgess. A. C. McClurg & Co. Price $1.00 net.

of view of the legal status of the merchantmen and that of citizens traveling on them.

The author invites attention to the fact that with us, questions of International Law should be settled by the Constitution or Statutes, and not by the Executive. The book is an able exposition of our causes of difference with Germany and England, on questions of maratime procedure incident to the war, and is distinctly an arraignment of the arbitrary procedure of England to which he intimates the United States should not submit.

C.

Lessons in Signaling.*

The division of the subject into lessons seems reasonable and logical.

The examples for practice are good.

The data as to positions of the flag, beam of search light and lantern are correct.

The conventional signals and abbreviations are, in the main, as prescribed.

The inference that the field buzzer is used with the International Morse Code is misleading but as those for whom this book is evidently intended would hardly have occasion to use the buzzer, there is no particular harm done.

The grouping of the letters in the semaphore code is good. The diagram, page 42, numbering the positions, is an excellent idea, but the fact that the minute hand points directly to 12 while the hour hand is between two number gives a first impression of something wrong.

I would say that the book contains very little not included in the Signal Book, U. S. Army, 1916. It is not, in my opinion of any particular value and I would not recommend its purchase by any one who could get a copy of the official "Signal Book."

*"LESSONS IN VISUAL SIGNALING." By Second Lieutenant M. A. Palen, Twelfth Infantry. Geo. Banta Publishing Co., Menasha, Wis. 4¼"x5½", 60 pages. Price sixty cents.

The Mess Account Book.*

A daily and monthly record, concisely arranged, and of positive value in any organization.

The printed notes, contain in handy reference form, garrison, field, travel and reserve ration components and substitutive equivalents, and weights and measures in current use.

This book will be very valuable to mess sergeants and organization commanders and is well worth a place in organization records.

C.

*"THE MESS ACCOUNT BOOK." By Lieutenant James L. Frink, Third U. S. Infantry. The Ketcheson Printing Co., Leavenworth, Kansas.

Editor's Table

A PLAN FOR EQUALIZATION OF PROMOTION.

There has been brought forth a new plan, or rather an old plan in a new form, for the equalization of promotion. It has the merits that none of the many bills on this subject have that no one can object to it. Every bill that has been introduced heretofore has had many, many, objectors due to the selfish interests of some one.

This bill provides that hereafter commissioned officers in any grade of the army below that of colonel shall be promoted on the completion of the following total years of service on the active list: To the grade of first lieutenant after four years service; to the grade of captain after nine years service; to the grade of major after nineteen years service; to the grade of lieutenant-colonel after twenty-four years service; and to the grade of colonel after twenty-seven years service.

It provides that in estimating length of service, credit shall be given for service in the Regular Army, the volunteers, the navy and in the marine corps, and, for officers in the medical department, credit for service in the medical reserve corps. It has several other provisions regarding the promotion of staff officers; regarding those who have been retired and are restored to active duty, etc.

It provides that the President may assign any officer to any command irrespective of rank with certain restrictions.

It is believed that this will be accepted by Congress if there is found a desire for it.

THE PRESENT FORM OF THE JOURNAL.

Some nine months ago the Executive Committee of the Cavalry Association decided to try the experiment of having a "Mounted Section" and a "Washington Section" to the CAVALRY JOURNAL, with an Editor at each place.

The Mounted Service Section was to be located at Fort Riley, and to have charge of everything that pertained to the horse, his training, his conformation, his equipment, etc. While the Washington Section was to take charge of all that pertained to getting all the latest news affecting the Cavalry, particularly, legislation.

Before this could be carried out the closing of the Schools here and in Washington, and the ordering of officers to the border upset this scheme to a certain extent. Major Rhodes accepted the position of Editor at Fort Riley until one could be selected and has done valiant service. Especially so since the illness of the present Editor precluded his bringing out the JOURNAL. Without his services and that of Major Eltinge the work could not have been carried on.

Now that the proposition has been submitted to move the headquarters to Washington, all this may be changed. It appears that this change may be made and the only thing that will prevent it will be the failure of the necessary two-thirds vote to carry it. There is at present a large majority for it. At any rate there will have to be a new Editor elected as the health of the present one precludes his carrying on the work.

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April, 1917.

Shoeing Army Horses

needs skill and first-class nails. The services of a much needed horse may be lost by using cheap inferior nails which are likely to split or crimp in the hoof.

Or, if the nail is too weak to hold under great strain, disaster may befall a rider or driver charged with some important mission.

Tons of Capewell nails are used annually in shoeing Army horses. The nail is conceded to be the best in the world—not cheapest regardless of quality, but the best at a fair price.

The vast army of shoers in this Country, therefore, take no chances. For many years they have used Capewell nails—the reliable friend of the careful and expert artisan.

"The Capewell" nail is easily distinguished by the Trade Mark on the front face of each nail head—a pattern formed by lines crossing each other diagonally.

The Capewell Horse Nail Co.

HARTFORD, CONN., U. S. A.

Largest Manufacturers of Horse Nails in the World.

JOURNAL

OF THE

United States Cavalry Association.

VOL. XXVII. APRIL, 1917. No. 114

CAVALRY IN THE GREAT WAR.*

BY CAPTAIN HENRY J. REILLY, FIRST ILLINOIS FIELD ARTILLERY.

Late First Lieutenant, Fifteenth U. S. Cavalry. War Correspondent in France for the *Chicago Tribune* and the *New York Herald.*

WHILE it is still difficult to get exact information as to minor points, such as armament, equipment, and the details of organization, which this war has shown to be necessary for cavalry, there is little doubt from what has happened in the various campaigns to date, that the conception as a whole of the use of cavalry which obtained in most European armies prior to August, 1914, has been shown to be wrong.

*The CAVALRY JOURNAL is fortunate in receiving this interesting article, written especially and exclusively for the JOURNAL by a military expert and trained writer, who has had ample opportunity to see much of the fighting on the western front, of the allied armies. While necessarily lacking in details, the article indicates that this war has brought no change in the underlying principles governing the use of cavalry. In fact, three important facts stand out in Captain Reilly's article. Facts which have ever been considered axiomatic in the use of American cavalry: When the time for its use comes, it must be used in great masses; it must be wonderfully mobile to out-maneuver opposing troops, whether infantry or cavalry; and it must be as efficient in fire-effect as any opposing foot-troops.

An examination of European cavalries at the time that the war broke out, shows most of them to have been armed with a carbine and to have carried a comparatively small number of rounds of ammunition; to have been organized in regiments, of six to nine hundred troopers, brigades of 1,800 or 2,000, and divisions of 3,600 to 4,000; almost always supported by field guns, lighter and always less numerous than those assigned the same number of infantry. In other words, the armament and organization show there was no intention of seriously engaging infantry. While fighting on foot was taught, it was frequently evident that it was done with reluctance, and rather as a precautionary measure to be used in special cases than as a serious method of combat.

The training of the larger units was primarily devoted to that necessary to enable the cavalry to do reconnaissance work in front of its own army. This meant fighting the enemy's cavalry. By the time the enemy's infantry could reach the field in sufficiently large numbers to begin serious combat, it was expected that the cavalry's own infantry would arrive and thus prevent its being too seriously engaged. Of course, in every cavalryman's mind was the hope that sooner or later he would get the chance to cut up routed enemy infantry.

In examining the war to date, it is soon evident that while in the various campaigns in the open field, the cavalry has performed its reconnaissance work and has fought the enemy's cavalry, on the whole it has in no case exercised a decisive influence. The natural answer which occurs to many minds

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As every military student knows, cavalry action on the western front has been almost nil, because of the trench warfare which simulates siege operations pure and simple, with a tactical employment of cavalry which would be almost impossible on the American continent, where vast maneuvering terrain for mounted troops resembles that found on the eastern front—in Galicia, Roumania, and south-western Russia. But even on the western front, if the anticipated "big drive" on the part of the allied armies leads to an end of trench warfare, there will still be a crying need for cavalry of the kind that Sheridan and Wilson commanded at the end of our great Civil War.

Captain Reilly's article was written about February 15, 1917, from the western front, and is therefore most timely.—C. D. R.

is that this is simply because the day of cavalry has passed. Is this so, or, is it simply that the cavalry, through a faulty conception prior to the war as to its proper use, has been unable to take advantage of the opportunities which have offered themselves?

The largest conceptions are always the simplest and therefore generally the most correct. The execution of a large conception however, generally demands the careful working out of such a number of details, each of such voluminous size, as to lead most of us to the conclusion that the conception itself is impracticable, and therefore most be consigned to the *limbo* of beautiful theories which do not work. If there is one thing this war has shown, it is that the first conception as to the use of any weapon or branch of the service must be in broad simple terms, and with no thought as to the tremendous organization, training, and amount of *materiel* which the carrying out of the conception entails. All that mass of detail must be worked out after the general line of conduct has been determined.

When the war began, military aviation admittedly in its infancy, could perform little or nothing. This was undoubtedly because too much attention had been paid to the difficulty of successfully making and flying *one* machine in a manner valuable to an army. The valuable work done by a single machine soon showed what could be done, provided an army was supplied, not with a few aeroplanes and aviators, but with them by the thousands. The result was a determination to have those thousands in spite of all difficulties. The tremendous increase in the efficiency of reconnaissance and in the accuracy of artillery fire, due to aerial observation, has more than justified those organizers who did not permit the tremendous mass of difficult detail to deter them.

The French, through careful development of the use of their seventy-five milimeter quick-firing field gun, were the first to see the fact that the storm of shells produced, could literally blow a hole in the enemy's infantry in the open, through which their own infantry could go.

The Germans, by their development of the means of bringing heavy guns into the field, enabled their field armies

to quickly overcome fortifications. Both these advances, while of great importance were relatively small by the side of the conception of the use of artillery held today, in which the heavy guns deprive the defending infantry of all shelter, while the lighter guns cut them off from escape or help, and protect the attacking infantry during its advance. The amount of ammunition which such a use entails would undoubtedly, before the war have been considered so enormous as to forbid any such use of the guns, had anyone ever thought it out.*

In the beginning of the war, the German infantry made tremendous marches. While they forced both the British and the French to retreat, they were unable to move fast enough to compel the Allied troops to stand, before they reached their chosen positions. Neither were they able during all this long retreat, to outflank the Allies. The battle of the Marne, not only stopped the victorious German advance, but compelled them to retreat. Had they moved faster, they undoubtedly could have prevented the Allies from having time to reform on the line of the Marne. As one of the reasons given for their defeat was the complete exhaustion of the German infantry due to its heavy marching, it is evident that it could not have come faster. In the same manner, the Allies were unable to move fast enough to prevent the Germans from settling themselves so solidly on the Aisne, that they have been there ever since. In the same way, attempts to outflank them could not be made quickly enough to prevent the Allies being met and stopped by opposing German forces, with the result that the lines of the two armies utlimately reached the English channel.

In the summer of 1915, the Germans broke through the Russian lines on the Dunajec, with the consequence that they shoved the Russians practically out of Galicia, entirely out of Poland, and almost out of Lithuania. They have recently cleared Wallachia of the Russians and the Roumanians.

In all these tremendous movements of the various armies, the victors have captured thousands of prisoners and large numbers of guns. Yet since the beginning of the war, there has

*A report has come from a reasonably reliable source that the Germans used divisions of nine thousand rifles with two hundred and sixteen guns attached, in the Roumanian campaign.

not been a really decisive victory such as Jena, Sedan, or Appomattox.* In other words, beaten infantry though chased, always gets away in sufficiently large numbers to ultimately make a stand, reorganize, and still remain a fighting factor, instead of being completely removed from the scheme of operations, as would be the case should a complete victory be won.

There is only one reason for this state of affairs, which is that infantry cannot outmarch another equally well trained infantry. Cavalry can outmarch infantry and do it easily. However, if the cavalry armament is not sufficiently strong to meet that of the infantry on equal terms; if the cavalry has not been taught that it must attack infantry just as determinedly and with as little regard for losses as is done by infantry under similar conditions; and if the cavalry is not sufficiently numerous it can do no harm to the enemies infantry when it does overtake it. The European cavalry fulfilled none of these three necessities. Therefore, it has been unable to take advantage of the opportunities offered in this war to bring defeated infantry to bay.

The question has been asked in some quarters as to why infantry in motor-trucks cannot replace cavalry. In the first place, motor-trucks must keep to the roads. This means that the minute the extreme range of the enemy's artillery is reached, the infantry must dismount, as it is the height of folly to use columns of motor-trucks on roads within artillery range. Once dismounted, the infantry has lost its increased mobility over that of the enemy. Cavalry on the contrary, can travel over practically any kind of ground. Furthermore, as cavalry can move at fast gaits in open order, it undoubtedly can get through the extreme zones of artillery fire, which are made by slow-firing, heavy guns, with less loss than the same number of infantry.

In the second place the supply of a modern army in the field has reached such tremendous proportions as to demand a system of roads—if nothing but motor transportation is used, which even the splendid road development of the continent of Europe does not always satisfy. Tens of thousands of infantry

*Except Hindenberg's defeat of the Russians in East Prussia, which after all exercised a comparatively small effect on the war as a whole.

in motor-trucks will make a much greater demand on the number of trucks and consequently also on the road system, than the grain for the horses of the same number of cavalry. Up to now, the cavalry's mobility has always been kept down by the fact that its transport facilities could not keep up with it. The development of motor transportation, by its greater speed and carrying capacity, has for the first time in hisotry permitted really tremendous bodies of cavalry to move and be supplied while taking full advantage of the speed of their horses.

Like all other wars, this one has brought no change in the underlying principles. It has simply changed the methods of following those principles. The gathering of information before, during, and after combat, is primarily the function of the aviation service.* The preparation of the attack and its proper support during the attack, is the function of the artillery. As has practically always been the case since the invention of fire arms, the function of the infantry is to force the enemy entirely out of his position. The finishing blow which consists of stopping the retreat of the defeated enemy by outflanking and cutting him off, can only be accomplished by a force sufficiently mobile to outmarch him, and sufficiently strong to make him stand until the victorious infantry can overtake him and complete his ruin. The history of the present war to date, seems to clearly prove that this can only be done by a large, strongly armed, determined cavalry, animated by a desire to attain this result regardless of loss, in the same manner that infantry makes all of its decisive assaults.

All that is needed is a broad conception of the use of cavalry, which must not be handicapped or restricted by the numerous details of training, organization and supply, made necessary by modern military conditions.

*Of course, many of the details which complete reconnaissance should bring out, cannot be gotten by the aviation service. For this reason, the necessity for a certain amount of reconnaissance on the ground, still exists. However, there is no doubt that this can be successfully performed by small bodies of mounted scouts in war of movement, and by infantry scouts in trench warfare. It would therefore seem advisable to have small bodies of mounted scouts as part of the organization of a permanent scout corps, and not detailed from the cavalry attached to division and perhaps corps headquarters.

CAVALRY TACTICS ON THE WESTERN EUROPEAN LINE.*

CAVALRY is unlikely to be employed in any operation beyond the enemy's lines until the whole first line system of the enemy trenches has been broken over a very considerable front, and probably at several places.

If this is ever brought about, the situation would in some respects resemble the action of cavalry in the closing stages of a maneuver battle.

For such an operation, preparation, plans and orders require to be no less precise and carefully thought out than do plans and orders for the operations of the other arms.

Behind the enemy's first line system are numerous works and rear lines, but, if attacks are carried out on a sufficiently wide front and in several districts at once, it would not appear that there sufficient enemy reserves on the western front to enable them to reinforce every threatened point. They will fight bitterly for their first line system and will probably have to put in most of their local reserves in doing so, so that once broken in several districts we should be unlikely to find rear lines or works occupied by fresh troops for a considerable distance in rear. In such a case troops occupying rear works would probably be scattered bodies retiring from the broken first line.

In such a case cavalry would be employed in large bodies to extend and confirm the success, and we may be called upon:

(*a*) To push straight through and seize and hold areas of country, passages over obstacles, railway communications,

*The following notes are taken from official orders published by the commander of an Allied Cavalry Division in France. They are of undoubted authenticity but the writer does not feel at liberty to disclose the method by which he learned of the existence of these orders or of their contents.

etc., and keep the defeated enemy on the move and prevent his reorganizing.

(*b*) Up to this point everything will be on wheels, packs empty. "B" echelons as ordered.*

(*c*) At the rendezvous the machine gun, L. G. S. carts are taken over by the Division for supply purposes, and Field Ambulances come under the Division with the exception of mounted detachments which have been specially organized for such an operation.

(*d*) All machine guns, a portion of tools, explosives and ammunition are taken out of "A" carts and prepared for pack.*

(*e*) "A" echelon carts are brigaded, and come under Divisional control.

(*f*) Brigadiers ensure that the ground between the forward rendezvous and the attacking troops is thoroughly reconnoitered and that roads, concealed lines of advance across country, hiding places and assembly points under cover close behind the attacking infantry are thoroughly known to all regimental and squadron leaders both by day and night.

If the action appears to be going well the mounted troops will probably be moved forward during the final stages to places of assembly nearer to the trench line.

At this stage it will probably be possible to indicate generally the lines of advance for the move through the trench system, and the immediate approaches to them are again reconnoitered, and, if possible, the troops of the Field Squadron (Engineers) allotted to different brigades, reinforced by regimental pioneers, will be sent forward to prepare passages through the trench system. The trench system willl of course, be crossed on as broad a front as possible to minimize the effect of hostile artillery, but it is quite possible that circumstances will compel the adoption of successive lines on a narrow front with subsequent deployment when the obstacles are passed.

When the order to advance is received the main and subsidiary objectives will be explained to all leaders, and precise

*"A" echelon includes small arms ammunition carts, water carts and ambulances.

"B" echelon includes wagons that carry kit, forage and rations.

orders given as to points of passage, formations to be adopted in crossing them, tasks of the various Brigades and movement of the artillery.

If possible the first objective will be a position close in front of the successful infantry with a view to getting a jumping off place clear of other troops from which the General Officer Commanding can decide if the original objectives are to be adhered to. It is for consideration for Brigadiers whether it will not often be advisable to split up their batteries by giving sections to advanced units. The moral effect of gun-fire on beaten troops is very great and such a distribution of the artillery might assist the pace at which the advanced units can overcome opposition.

No wheels, except guns and tool wagons of Field Squadrons (Engineer) will leave the forward rendezvous with Brigades. They will come under Divisional command.

The advance to successive objectives will then commence. In such advances large masses should be avoided. Much depends on the facilities the ground offers for concealed movement, but the general principle should be a succession of small bodies at 200 or 300 yards distance if column is unavoidable, or successive lines of troop columns if such an extension is possible. A general and not a precise alignment is all that is required. Extended order should not be taken unless forced on us by fire; the moment we are forced to adopt it command becomes difficult.

Special arrangements must be made by each Brigade to ensure that all hostile wires and other communications are destroyed wherever found.

The ordinary "*barrage de feu*" created by hostile artillery which is so fatal to slow moving infantry would be practically without effect against quickly moving cavalry. We can, and must, move to the attack of hostile guns with far more confidence than we do in open warfare. In the latter, guns are seldom without strong escort; in trench warfare the guns are, like our own, dug in, without escorts and largely immobile. It will be our principal duty to put hostile battteries out of action as rapidly as possible by destroying their crews and putting the guns out of action by removing essential parts or destroying

the recoil mechanism with pick-axes. Individual squadrons should be practiced in carrying out such an operation, so as to avoid the necessity of a long pause for detailed orders and instructions.

Defended houses, villages or posts will immediately stop any direct mounted advance. We must on no account allow them to prevent the continuation of our forward movement; they must be avoided or masked by dismounted fire, and guns brought into action against them while a covered or partially covered way is sought for by which further advance can be made at speed. Rigid control of fire is necessary by masking parties; independent fire on such works is useless; officers must try and discover machine gun emplacements and concentrate their fire on them.

In view of the value of machine guns for retaining our hold on our eventual objectives and the difficulty of keeping up the supply of ammunition for these weapons, detaching them for the purpose of masking such works should be done very sparingly and never if it can be avoided.

The supply of ammunition is so great an anxiety on such occasions, owing to the congested state of rearward communications, that all leaders, and especially machine gun commanders, must ensure that fire is strictly controlled and independent fire absolutely forbidden, except in case of sudden close attack by the enemy.

In such an operation every man will be wanted and it is of urgent importance that units are not permitted to leave escorts with captured guns or make large detachments to guard prisoners. Once a battery is put out of action and its personnel disposed of, it must be left, unless special orders to the contrary are issued.

Prisoners must be disarmed, if necessary the stocks of their rifles being broken on the ground, and they must be placed as quickly as possible in churches or other large buildings guarded by a few men only. Every effort must be made to reach the final objective as strong as possible. On reaching the final objective formations, in the absence of instructions, must at once consolidate the position, pushing forward patrols to keep

touch with the enemy and reporting at once to Headquarters for instructions as to the division of responsibility for the night.

Wounded men must be collected in houses as near as possible to the main roads, slight cases should be ordered to the same places and not allowed to walk back to the rear as there are sure to be armed enemy stragglers left behind us.

Getting up rations and forage in such an operation is bound to be problematical; officers must on their own responsibility requisition any supplies that may be available in the country.

In order that these pauses may be as short as possible, consistent with concerted action, officers commanding units must, the moment they reach the end of each bound, commence to prepare the next bound by pushing forward officers patrols, and by personal reconnaissance.

Brigadiers must keep close up to their commands, and be right up with them a few minutes after each bound is complete. The command of cavalry in such an operation is essentially a "personal" matter, and depends for success on the actual presence of the Brigadiers, and the "drive" they impart to their commands.

Precise orders must be issued especially for the first move; defining points of passage through the obstacles created by the trench system which has been so long occupied; the first objective and the distant objective; special security measures demanded by the situation, such as the special guarding of an exposed flank. method of dealing with tactical points known to be held, action against hostile batters still in action, destruction of wires and other means of communication, deployment on a broader front after passing the trench system, allocation of fronts to different formations and units, axis of advance of various formations, report centers and methods of communication, disposal of prisoners and captured material and disposal of our own casualties, rendezvous for men whose horses have been shot.

We shall be dealing, for some time at any rate, with hostile infantry, and we must make full use of our mobility to outflank and anctipate them. All advances must be mounted as long as possible and our tactics must be the fire tactics of mounted troops as opposed to those of infantry. Surprise, sudden bursts

of fire at full strength, no gradual building up of a firing line, but seeking to gain the fullest effect at once by putting every rifle in the firing line. We may eventually have to attack dismounted to seize a bridge-head or clear a village or wood, which it is absolutely necessary for us to possess, but we must put it off as long as possible, for the moment we resort to it we give up our chief asset—mobility. It is better to lose a number of horses in a rapid mounted advance than to lose hundreds of men in a slow dismounted attack over the same ground.

All our movements, while as rapid as possible, must be properly protected. Formed bodies must not advance until tactical patrols have cleared the way for the next bound and until ground scouts and wire cutters have got a considerable distance ahead.

Squadrons must on no account follow up and exploit local successes recklessly. If this is permitted all cohesion is rapidly lost, control becomes impossible, and we lay ourselves open to a crushing check by hostile formed bodies. It is of vital importance for all leaders, however junior, to keep the common object always in view and constantly inform their superiors of their progress. In the heat of action leaders often forget how important this constant stream of information is to enable the Brigadiers to coördinate the effort of their commands. Latteral communications between units and formations must also be close and constant—cohesion and unity of effort depend on a constant stream of communication along the line and to the rear.

The following is a possible sequence of events leading up to and during the first stages of such an advance:

(*a*) Brigades will concentrate at advance rendezvous some distance in rear of a proposed attack, concealed as far as possible from aerial observation.

(*b*) To flank one or both sides of a break in the hostile line and incidently to widen the gap.

In both cases we may have eventually to check and delay hostile reinforcements brought from a distance until the arrival of our infantry.

On the broad front occupied at present by the hostile armies there can probably be no question of the pursuit of a beaten enemy on parallel lines. Our business will be to attain the objective given us by the higher command as rapidly as possible, and to hold onto it at all costs until our infantry, exhausted and split up after their effort against the enemy, can be reorganized into their formations and brought up.

We must be very careful that however demoralized the first enemy are that we encounter after their first defeat in the trenches, we do not allow anything in the nature of uncontrolled pursuit, which is bound to lead to severe checks from formed reinforcements should we meet them, and makes concerted action impossible. While taking full advantage of our mobility and moral effect on the enemy we must act on a clear system with definite objectives kept constantly in view.

The distant and subsidiary objectives must be clearly understood by all commanders, and we must try and reach them quickly, but in good order. Each bound should be prepared and, the pace and length of the movement being regulated by the opposition incurred, proper security measures must be taken before committing formed bodies to an advance.

There should be a distinct pause at the end of each bound to allow of reorganization and the issue of fresh orders to deal with the local situation in the spirit of the general instructions.

In carrying out such an operation the cavalry must remember that to break the enemy line, no price can be too high, no half measure will succeed—there must be a determination to drive forward at all costs, regardless of losses or fatigue of men and horses.

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THE COLUMBUS RAID.*

COLUMBUS, New Mexico, is situated on the El Paso and Southwestern Railroad, about two and one-half miles from the Mexican border. The civil population at the time of the Villa raid was about four hundred, while its military garrison consisted of headquarters and seven troops of the Thirteenth Cavalry, in addition to the machine gun troop and a small sanitary detachment. The Commanding Officer was Colonel H. J. Slocum, Thirteenth Cavalry.

On March 8th, the troops were disposed, with Troop "G" at Bailey's ranch, two and one-half miles from Columbus; Troops "E," "L" and part of "M" at Gibson's ranch, fourteen miles distant; while in camp at Columbus were Troops "F," "H," "K," machine gun troop and band, with an approximate strength of 190 men.

The Thirteenth Cavalry had been on border duty at Columbus since September, 1911, and during that time had been almost constantly on patrol duty against possible attack by Mexican bandits. On numerous occasions, alarms had reached the regimental camp causing uneasiness, but in all cases hitherto, the result of reconnaissance or investigation proved the rumors to be without substantial foundation.

On or about the 5th or 6th of March 1916, rumors were rife that Villa was to cross the international boundary and give

*The following account of what happened at Columbus, N. M., March 8 and 9, 1916, is compiled by the CAVALRY JOURNAL from different sources, and is intended to supplement other articles describing rather isolated engagements with the Mexican bandits. Many of the principle facts have been taken from the simple narrative of Captain James T. Castleman, Thirteenth Cavalry, who was Officer of the Day on the night of the raid and who was, therefore, in a position to know more of what actually occurred than perhaps anyone else present in Columbus or its vicinity. Captain Castleman's gallantry on the night of March 9th is well known to the service, and has been formally recognized by higher authority through publication in War Department Orders.

himself up. This story was received with little or no credence, but the camp commander took every precaution to receive the bandit whether he should appear as a friend or foe. Accordingly Major Elmer Lindsley, with Troops "E" and "L" were sent to Gibson's ranch about fourteen miles from Columbus and actually on the international line, while Troop "G" under Captain Jens Stedje, 13th cavalry, was sent to Bailey's ranch, commonly known as the Border Gate, about two and one-half miles from Columbus. Both these little commands had specific instructions to patrol the international line east and west, reporting any information that might be received.

On the night of March 7th, Colonel Slocum received information that Villa was about two miles south of the Border Gate, and accordingly Lieut. McCain, was directed to take Troop "K" and re-inforce Captain Stedje at the gate. Captain Turner was also directed to proceed with his troop dismounted to the same place. The camp commander made a personal visit by automobile to the Gate but found everything quiet; the Carranza commander at that point reporting that Villa was nowhere near the international boundary. Mexican patrols sent out at the instance of Colonel Slocum also reported no Villistas in the immediate vicinity of Columbus, and about two or three o'clock A. M., Troops "K" and "M" were ordered back to camp.

On March 8th, the usual routine was carried out in camp, and on the afternoon of that date Captain Castleman assumed the duty of Officer of the Day.

He has since reported that during the first part of the night everything was particularly quiet in camp, and his inspections revealed the sentries constantly on the alert. At twelve midnight he met the train from El Paso bringing back certain members of the regimental polo team, afterwards inspecting the guard again, and subsequently entering the officers of the day's shack about one o'clock A. M. For some unknown reason Captain Castleman did not lie down, but continued to read until about four o'clock A. M. At 4:15 A. M., he began preparations to make his final inspection. The night was pitch dark and the only light burning in camp was that of the Officer of the Day.

Hardly had Captain Castleman risen from his chair when a shot was fired and someone yelled "My God! I am shot!" The Officer of the Day grabbed his pistol and running to the door of his shack met a Mexican face to face at the corner of the house. The two came together with a clash and the Mexican fired point blank at Castleman with a 30-30 Winchester, knocking off the officer's hat and burning his face. Captain Castleman shot him dead in his tracks. The Officer of the Day then started on towards the sentry who had yelled that he was shot, but had hardly taken a dozen steps in that direction when the ditch running parallel to camp was ablaze with the flash of Mexican rifles.

The Officer of the Day immediately realized that Villa had at last attacked Columbus, especially as the firing was accompanied by blood curdling yells worthy of Apache Indians. Turning toward the guard house the Officer of the Day managed to cross the parade under this galloping fire and reached the guard who were on the alert. He directed the guard to open fire at once and they were soon using their rifles on the Villistas with telling effect. As soon as they were started in action, Captain Castleman ran down the line of stables turning out the stable men as he ran. After reaching the stables of Troop "F," Captain Castleman ran over to the quarters of his troop ("F") and assembled his men; line was quickly formed and a hot fire opened on the right flank of the Villistas, our troops rapidly advancing until they actually came in contact with the Mexicans, when the latter broke and started towards the coal bins on the E. P. & S. W. R. R. toward town. The bandits then got into the bins and poured a merciless fire in the direction of the Americans, accompanied by the usual blood-curdling yells. Captain Castleman continued advancing with his troop and ultimately drove the Mexicans from the bins in which they had taken refuge. Private Taylor was killed here and his body was left on the side of one of the bins, as the fighting was too close to give him any immediate attention. As the American troops moved out of the bins already piled with Mexican dead, the Villistas again broke and ran toward the Hoover Hotel and Columbus Bank, with all of Troop "F," except one dead and one wounded, right after them. The number of Villistas in

this particular corner was estimated at about three hundred and for a solid hour Americans and Mexicans fought a hand to hand conflict in pitch darkness, hardly able to recognize friend from foe. Near the Columbus Bank corner, Private Butler was mortally wounded; his body was taken to a house out of range of direct fire. Meanwhile the cavalry troops went in aggressively against the bandits, shooting them, clubbing them and resorting to every possible means of driving them from the town. This fight started about 4:45 A. M., and lasted until 5:40 A. M.

About 5:30 A. M., Captain Castleman heard screaming in the Hoover Hotel, and Mr. Hoover yelled that he was in the building. Captain Castleman with three men ran into the hotel and at the door stumbled over the bodies of Mr. C. C. Miller and Mr. James, both riddled with bullets. Private High was wounded here. Returning to the street, Captain Castleman found the bandits again breaking, so that he deployed his men across the streets and fired volley after volley up and down the main street of the town—north, east and west. About this time he was joined by Colonel Slocum, who directed him to hold his position at that end of the town at any cost. Firing was continued as long as any of the bandits remained in Columbus, and detachments were subsequently sent out to round up the ladies and children—about thirty of them being brought in safety to the principle adobe building. As day began to break the Villista bugles began sounding the retreat, but firing continued until about 6:05 A. M., when Colonel Slocum directed that Troop "F" mount up and follow the bandits, supporting Captain Smyser.

Now as to what happened in the camp proper: It would seem that the first line of Villistas which charged the camp and which had been opposed by Captain Castleman with his troop, consisted of about 300 or 400 men. About the time that they were driven out of camp, another line of several hundred entered the town from a slightly different direction and these were met and opposed by individual soldiers of the Thirteenth Cavalry, fighting practically by themselves all night. The sudden on-rush of the bandits isolated most of the officers from their troops and with the terrific firing going on and the practical

possession of the town by the bandits, it was impossible to tell friend from foe.

Captain Symser and his family (wife and two children) escaped from their house in night clothes and entering a stable, laid on the floor watching the Mexicans ransack their house. After the Villistas left, they slipped into the brush and ran about two miles to a cave. Their feet were badly lacerated. Colonel and Mrs. Slocum left their house at the beginning of the firing and took refuge in the mesquite, until just before daylight when a detachment found them and brought them into camp. Lieutenant Lucas got out of his house without his shoes, and his feet were badly cut by sand-burrs and mesquite. He succeeded in getting two machine guns into action at the beginning of the fight. Mrs. Castleman and her two children were awakened by the yelling and firing, and crawled under their bed where they remained breathless until the last shot was fired. Captain Castleman's colored butler, Carson Jackson, crawled under the bath tub and remained there throughout the fight—a feat which no one could accomplish under ordinary conditions. Captain Castleman's house was riddled with bullets and his motor car had nineteen bullet holes in it. Captain George Williams succeeded by a roundabout route in making his way to camp without being killed or wounded. Major and Mrs. Frank Tompkins barricaded their doors and took refuge behind some mattresses with all the pistols in the house loaded, awaiting the breaking in of the bandits. Mr. Dean, a civilian, tried to reach his store and was killed in the middle of the street. A. B. Frost, his wife and baby, tried to reach his garage when the fighting started and had backed the machine out when Frost was shot. He succeeded in starting towards Deming when he was shot the second time. Mrs. Frost put her husband and baby (three months old) in the back of the car and drove the car to Deming herself. J. L. Greenwood, living in the north edge of Columbus, started for Deming with his wife and baby and raced with Mrs. Frost—each one thinking the other was the enemy. Lieutenant McCain, wife, baby and servant took to the brush at the beginning of the fight, armed only with a shot gun. McCain there encountered an armed Mexican on

whom the bird shot had little effect, but who was subsequently despatched with some difficulty by the use of a knife.

Daylight found the town and camp a most gruesome sight. Nineteen Mexicans had been killed in front of the Columbus Bank. At the stables of Troop "F," seven Mexicans were found dead and six horses wounded. Troop "F," upon receiving orders to move out, and follow the retreating Mexicans, was attracted by screaming in the brush and upon investigation found a Mrs. Moore lying in the mesquite shot through both legs. Her husband, Mr. Moore, had been riddled with bullets near the door of his house. As the troop proceeded towards the border line, it passed about forty dead Mexicans scattered along the way.

Upon reaching the border Captain Castleman received a message to push on and support Captain Symser. The troop had hardly crossed into Mexico, when the Mexicans opened fire and for about fifteen miles there was a running fight with every conceivable method of cavalry warfare, used except sabers. The Mexicans would run to a ridge, dismount and open a terrific fire on our troops, forcing the latter to dismount and drive them off. As soon as this was done our cavalry would mount and pursue them again. This lasted for a number of miles.

At last Captain Castleman and Captain Smyser got together and increased the intensity of the attack—coming to close quarters with the bandits every few hundred yards. About twelve miles from the American line a frontal and flank attack was attempted by the two troops which had the ultimate effect of forcing about four hundred Mexicans into action. After intense firing on both sides the Mexicans broke and ran, and as the Americans were practically out of ammunition, they were forced to return to Columbus.

In retracing their steps, sixty-seven dead Mexicans were found between the place of the last fight and the American line, with some two hundred horses, many rifles, some machine guns and much ammunition. It is almost unnecessary to state that the troopers were so utterly exhausted that they could hardly sit on their horses, having been in action for about eleven hours

without food or water. They arrived back at Columbus at 3:15 P. M.

All told, the Villistas lost about two hundred and fifteen men killed; the number of their wounded is unknown but under ordinary rules of computation must have amounted to several hundred. Our cavalry lost seven men killed and eight wounded. Their were also eight civilians killed and five wounded.

THE AUTOMATIC PISTOL IN THE PUNITIVE EXPEDITION.

By LAWRENCE J. FLEMING, Lieutenant Colonel, Fifth Cavalry.

IN spite of the fact that the cavalry has been armed with the automatic pistol for more than two years, little has been done to develop its use, and the conditions have been adverse for experiment. Nevertheless, several good opportunities have been offered during our service in Mexico to test the pistol in actual combat, and the positive results obtained, in spite of the poor preparation, led General Pershing to take radical measures to develop the evident possibilities of the pistol in action.

With this in view a board was appointed at Colonia Dublan to conduct exhaustive experiments to determine the best methods of using the pistol in action and of training men for that use, and a list of twenty questions was sent by circular letter to all cavalry officers in Mexico and they were required to reply in compliance with the following order:

Headquarters Punitive Expedition, U. S. Army,

General Orders, No. 60. Dublan, Mexico, November 1, 1916.

The general efficiency in pistol practice attained by the cavalry during recent years has not been high enough to inspire confidence in the effectiveness of that weapon, even among its advocates. Nor has the development of fire tactics of troops using the pistol, mounted, kept pace with the progress made by troops armed solely with the rifle. But the very positive results obtained during this campaign in the mounted attack with the pistol, in the hands of even average shots, clearly indicate its possibilities if handled by troops well trained in its use.

With a view to developing a scientific method of quickly training men in mounted work with the pistol, all cavalry officers are enjoined to give the subject careful thought before the period of pistol practice begins, and to study the tactical features involved in leading mounted troops in the pistol charge. They will be expected to prepare and submit their views for consideration by a board of officers, shortly to be designated to make exhaustive experiments in methods of instructing both men and horses in pistol work and to consider the tactical problems that present themselves in this connection.

By command of Major General PERSHING,

De R. C. CABELL,
Colonel, 10th Cavalry,
Chief of Staff.

Some of the replies that could be consolidated so as to show a positive vote are as follows:

Q. 1. Do you think cavalry should be armed with the automatic pistol?

A. Yes, 71; No. 29.

Q. 6. How many clips should be carried? Where? Would you change the present web pocket?

A. Present number of clips, 74; more clips, 24; Present web pocket, 19; leather pocket, 77.

Q. 7. Is a dust proof holster or separate cover necessary?

A. Yes, 45; No. 56.

Q. 9. Would you recommend the use of a .22 caliber gallery automatic pistol, same weight, size and shape of the Cal. .45 for training purposes?

A. Yes, 65; No, 34.

Q. 11. Do you advise firing straight to the front mounted?

A. Yes, 47; No, 52.

Q. 13. Do you consider it advisable to have compulsory firing once a month during the open season for all cavalry regiments?

A. Yes, 81; No, 14.

Q. 14. Have you found any difficulty with the pistol functioning on this expedition? If so, what?

A. Yes, 34; No, 62.

Q. 15. Do you believe that the pistol could be used to advantage in the dismounted charge against trenches?

A. Yes, 86; No, 13.

Q. 20. Have you ever had any experience in drill exercises or action requiring use of ball cartridges by more than individual men? If so, give results and conclusions.

A. Yes, 14; No, 86.

The board considered the replies of officers and conducted daily experiments in firing, dismounted and mounted.

As the result of this experimental work three distinct results were arrived at:

1. A Manual of the Pistol.
2. A Course of Pistol Practice.
3. A demonstration of the Manual and the Pistol Course to assembled officer and non-commissioned officers.

* * * * * *

All officers and all non-commissioned officers armed with the pistol, were assembled for the demonstration, and both the manual and the course met with universal commendation and approval.

The results of the firing to the front, and of training sixteen new horses in thirty minutes, were especially striking.

All the cavalry of the expedition are now engaged in practicing the manual and firing the special course recommended (the regular course not being adapted to conditions here) and rapid progress is being made and great interest is being shown by both officers and men, as the whole practice appeals to them as being practical and of a kind to lead directly to use in action.

Some conclusions of the board are here given:

6. That quicker and better results are attained by training horses to mounted fire first collectively then individually.

7. That the difficulties and danger of charging with the automatic pistol in line or column have heretofore been greatly exaggerated. Trained men can charge in line in close order on horses not accustomed to fire mounted after thirty minutes practice. After ten days practice in the course recommended each troop of cavalry should be able to charge by platoons in line in close order.

8. That the pistol charge may be delivered from:

(*a*) Line of foragers.

(*b*) Line.

(*c*) Column of twos.

(*d*) Column of fours.

(*e*) Column of platoons, rear platoon obliquing.

(*f*) In larger bodies a charge with the attacking line armed with the pistols should be followed by supports armed with the saber.

9. That it is not advisable to practice firing dismounted with the pistol beyond 100 yards, as beyond that the point of aim is too far off the target.

10. That firing kneeling is more accurate than off hand provided the off hand position is maintained as nearly as possible, and the elbow only rested on the knee. Any attempt to assist with the left hand or to change the relation of hand, wrist and arm give poor results. The reason is the change in the jump of the pistol. The kneeling position with left knee on the ground left foot to the rear, right arm resting on right knee is one easily gotten into or out of at a run, gives greater accuracy and presents a smaller target. The prone position did not prove satisfactory.

11. That scores of seven shots be used instead of five.

12. That in firing automatic fire the arm must be held straight without locking the elbow.

13. That the automatic pistol can be kept in working order in dry weather when dust is abundant and rust unlikely by wiping it dry after cleaning, by blowing or brushing off the dust; and in wet weather when rust is likely by keeping it well oiled. A complete overhauling of the pistols at least once a year should be made by a competent man.

14. That it will probably be better to hold three shots for the mêlée after the charge than to fire them at extreme range while charging. Two lines approaching each other at the rate of 100 yards in ten seconds (twenty miles per hour) will cover 100 yards in five seconds; beyond 50 yards shots go very wild. In this connection it is worthy of remark that if the horses begin to pull up (which must be discouraged) the cone of fire falls in front of the target, shown in firing at a barrier target that drops.

15. That instead of starting a recruit at individual mounted practice when he is not too sure of handling his pistol and probably discouraged at his ability to control his horse, the better practice would be to have him ride on the target flank of a set of fours and devote most of his time to his pistol.

16. That mounted specially pistol must be handled definitely and with decision. One should know what he is going to do with his pistol before he moves. Carelessness in this respect should be discouraged from the outset and corrected by drill in the manual until all movements have become second nature. No firing with ball cartridges should be given until the manual is thoroughly understood.

17. That suspended targets arranged as specified in the Course of Pistol Firing (G) are very satisfactory for firing to the front on account of their safety.

18. That E figures attached to long stakes and spaced two yards between edges is a good target for charging through as foragers.

19. That a combination of 18 and 17 about 150 yards apart is a good target for firing by fours, changing magazines.

SPECIAL RECOMMENDATIONS.

1. That monthly payments be given for qualification in pistol firings as for the rifle in the following amounts:

Expert, $3.00 per month; first class, $2.00 per month. Conditions of qualification should be such that a reasonably

good shot may attain first class and only a fine shot may become an expert.

The effect of the reward for qualification in rifle practice has been to make each man eager for every opportunity to practice and keen to learn; the same feeling should exist toward the pistol.

2. That the slide stop catch on the pistol be extended toward the rear about one-half inch so that it may be more easily reached by the thumb when operating it.

3. That the magazine be made stronger at the upper edges where the tips are curled over so as to hold the cartridge down and guide it (while the slide pushes it forward) until the bullet enters the chamber. When the tips become opened out from any cause the front end of the cartridge springs up too soon, striking the upper rear end of the barrel and jamming. This serious defect can be easily remedied by making the tips of the magazines and the portion of the sides below the tips so strong that no ordinary use will deform them.

4. In a number of cases the magazine base has broken out where the rivets fasten the base to the sides. This fastening should also be made stronger.

5. That the shape of the hammer head be modified so it will not pinch the hand immediately behind it when firing. The skin is caught between the hammer and the shoulder of the grip safety.

6. That the hammer be so arranged that it can be let down without slipping. Change hammer so that when down against the firing pin the hammer axis is to the rear of the pivot on which hammer rotates.

7. The magazine pocket should be of leather and with a simple stud and button hole fastener similar to that on the holster.

8. The 1916 model pistol holster which has no swivel, seems satisfactory.

9. That eight automatic pistols, Cal. 22, same weight, size and shape as the Cal. 45, be issued to each orgnization for training purposes.

10. A certain amount of firing with the Automatic Pistol, Cal. 45, should be required each month of the open season.

11. That blank cartridges be issued for accustoming horses to fire, using the pistol as a single loader.

12. That a course of pistol firing be included in the instruction at Fort Riley as it is a mounted arm and cannot be properly developed at the School of Musketry.

COMMENTS.

As the utility of the pistol for mounted use by cavalry has never been firmly established in our service, the assembly of five regular regiments of cavalry in the field in one command, with time on its hands, presented a rare opportunity to give this weapon a thorough try-out. The board detailed for the task was directed to make every endeavor to develop a method that would produce quick and certain results in training men and horses, so that pistols could be used with confidence in mounted work, especially in charging to the front in close formation.

Although the Firing Regulations for the pistol prescribe no practice in this class of firing, but rather discourage such effort as dangerous, it was my own opinion, concurred in by the members of the board, that it could and should be done, and that unless cavalry could be trained up to this point the retention of the pistol as a weapon for that arm would be very questionable.

The first essential in the development of any method was to teach the men to handle the pistol without danger to themselves or others. The next and most important step was to teach the horses not to fear the sound of firing from their backs. The fact that horses are more easily handled in groups than as individuals was taken advantage of, and upon this principle this system of training horses to stand firing is based.

Numerous instances can now be cited where absolutely untrained remounts have been taken in hand by trained troopers and used in the charge, troopers firing to the front at suspended targets, after thirty minutes training as a group. The most

incredulous officers have become thoroughly convinced that the system proposed, if adopted, will revolutionize pistol practice, materially add to the efficiency of cavalry and increase the importance of mounted action.

J. J. P.

PROPOSED MANUAL FOR AUTOMATIC PISTOL, CALIBER .45.

The following manual for the automatic pistol, Cal. .45, will be used by all cavalry of the Punitive Expedition in lieu of the manual of the pistol as given in the Cavalry Service Regulations (paragraphs 125–132) and of any regulations in the Small Arms Firing Manual which may conflict with it.

MANUAL OF THE PISTOL.

1. Instruction is first given on foot; but the execution is the same whether mounted or dismounted. The recruit is first made familiar with the mechanism of the pistol and the method of cleaning, assembling and operating it.

When a lanyard is used, the snaps are attached to the butt of the pistol and to the magazine; the sliding loop is passed over the head and drawn snug against the right arm pit. The lanyard should then be of just such length that the arm can be extended without constraint.

2. *The pistol being in the holster:*

I. Raise. II. PISTOL.

At the command Raise, unbutton the flap of the holster with the right hand and grasp the stock, back of hand outward.

At the command PISTOL, draw the pistol from the holster, reverse it, muzzle up, the hand holding the stock with the thumb and last three fingers; forefinger outside of the guard; barrel to the rear, and inclined to the font at an angle of about thirty degrees; hand as high as the neck and six inches in front of the point of the right shoulder. This is the position of Raise Pistol, and it may be similarly taken from any position.

When dismounted, with intervals, carry the right foot about twenty-four inches to the right and place the left hand in the position of the bridle hand.

3. I. Lower. II. PISTOL.

At the command PISTOL, lower the pistol without changing the grasp and rest the hand and pistol on the right thigh, back of hand up, muzzle in front of right knee.

When dismounted, lower the pistol without changing the grasp of the hand; arm by the side and nearly extended, back of hand to the right; barrel inclined to the front and downward. This position will not be used in close order mounted.

4. *To withdraw magazine, pistol in any position:*

I. Withdraw. II. MAGAZINE.

At the command MAGAZINE, turn back of left (rein) hand down; place pistol, barrel down, in left hand on reins and clasp barrel in full grip of left hand, thumb clasped over barrel in front of trigger guard, butt of pistol up, barrel pointing to the left front and slightly downward. With tip of right forefinger press stud releasing magazine and then place tip of same finger under projection at front of magazine base. Raise magazine about an inch, then close thumb and second finger on sides of magazine, giving a secure grasp with which it can be withdrawn from socket, placed inside bolt (in pocket of shirt or otherwise disposed of without throwing it away). Right hand then grasps stock, back of hand to the left.

5. *To open chamber, the pistol in any position:*

I. Open. II. CHAMBER.

Carry the pistol to the left hand (if not already there) barrel to the left, front end of slide grasped between thumb and forefinger of left hand; right hand grasping stock, back of hand up; right thumb under slide stop. Hold left hand steady and push forward with right hand till slide reaches end of stroke; engage slide stop, and come to Raise Pistol. Should the pistol be cocked and locked, it will be unlocked so that the slide can move.

6. *To close chamber, being at Raise Pistol, chamber open:*

I. Close. II. CHAMBER.

At the command CHAMBER, release slide stop with right thumb and let hammer down gently. To let hammer down, pull downward with point of right thumb till hammer presses against grip safety and forces it home; then while continuing

this pressure on hammer, pull trigger; and while continuing pull on trigger, let the hammer down. While letting hammer down, grasp stock firmly between the palm and last three fingers to prevent pistol rotating in hand.

7. *To insert magazine, pistol being in any position, no magazine in socket:*

I. Insert. II. MAGAZINE.

Lower pistol into left hand as in *withdraw magazine*, grasp magazine with tip of right forefinger on projection at base of magazine, withdraw from pocket and insert in pistol. To make sure that magazine is home, strike base of magazine with palm of right hand. Bring the pistol to the position of *Raise Pistol.*

8. *To return pistol, being at Raise Pistol:*

I. Return. II. PISTOL.

Lower the pistol and raise the flap of the holster with the right thumb; insert the pistol in the holster and push it down; button the flap with the right hand. If the pistol be loaded and cocked, the command I. Lock, II. PISTOL must precede the command "Return."

9. *To load, having loaded magazine in pistol, pistol in any position, chamber empty:*

I. Load. II. PISTOL.

Place pistol in left hand, barrel down, butt of pistol up, barrel pointing to left front and downward, slide grasped between thumb and forefinger. Push forward with right hand until the slide is fully open, then release slide allowing it to move forward and load cartridge into chamber. Come to Raise Pistol. If the last shot in the magazine has been fired, to reload; same command, but execute Withdraw Magazine, Insert Magazine, Close Chamber. As soon as the pistol is loaded, it will be immediately locked by the commands, I. Lock, II. PISTOL. Should the command for locking pistol be inadvertently omitted it will be locked without command.

10. *To unload pistol, being in any position, loaded:*

Execute by the commands, Withdraw Magazine, Open Chamber, Close Chamber, Insert Magazine.

11. *To inspect pistol, it being in the holster:*

I. Inspection. II. PISTOL.

Execute, Raise Pistol.

To inspect the pistol more minutely, add III. Withdraw, IV. MAGAZINE, V. Open, VI. CHAMBER.

To avoid accidents, individual men out of ranks, in barracks or camp will first *Withdraw Magazine* then *Open Chamber* whenever the pistol is removed from the holster for cleaning, for examination, or for any other purpose. Accidental discharges will not occur if the above rule is always observed, and failure to observe it must be considered a military offense, whether or not accident results.

12. Whenever men fall in ranks with the automatic pistol the officer or non-commissioned officer in charge will command:

I.	Raise,	II.	PISTOL;
I.	Withdraw,	II.	MAGAZINE;
I.	Open,	II.	CHAMBER;
I.	Close,	II.	CHAMBER;
I.	Insert,	II.	MAGAZINE;
I.	Return,	II.	PISTOL.

When falling in dismounted the above commands are given after chamber of rifles have been opened and closed, and the order resumed—the rifle being held against the left wrist. The commander of any troop or detachment thereof is responsible for giving the necessary commands to put the pistols in a safe condition.

13. The pistol with cartridge in chamber is habitually carried *cocked* and *locked*, whether in the hand or in the holster. The hammer will not be lowered while a cartridge is in the chamber.

14. In campaign, the pistol should habitually be carried with a magazine in the socket, loaded with *seven* ball cartridges, chamber empty, hammer down. The extra magazines should also be loaded with seven ball cartridges each.

When action seems imminent, the pistol should be loaded by command. It may then be returned by command to the holster till the time for its use arrives.

15. Recruits are first taught the motions of loading and firing without using cartridges. However, the automatic action and the effect of ball cartridges in operating the slide can not be taught without firing ball cartridges. Practice without cartridges is very necessary to acquire *facility* in the exact movements of the manual, and in aiming, holding, and trigger squeeze.

To execute the movements without cartridges, first *withdraw magazine*, *open chambers*, and *examine* both *pistols* and *magazines* to assure that none contain ball cartridges.

The automatic pistol must at all times be assumed to be loaded with ball cartridges until an inspection has disclosed that it is not so loaded.

16. All the movements in loading pistol should be practiced without looking at it, in order that the trooper mounted may execute them in action, while moving at any gait, and be free at all times to look to the front and control the movements of his horse. In order to do this successfully it is necessary to know exactly where the magazines are carried so the hand may find them without fumbling. Also, since the projection at the front of the magazine base is on the same side as the bullets, and the magazine must be inserted in the socket with these to the front, the magazine should be carried in the pocket with the projection to the left and should be withdrawn from the pocket with the same grasp as is prescribed for *Withdraw Magazine*.

17. The Manual of the pistol and the firings will be frequently practiced, by the specified commands, at all gaits.

HEADQUARTERS PUNITIVE EXPEDITION, U. S. ARMY,
Instruction Memorandum Order, No. 24. DUBLAN, MEXICO, December 12, 1916.

PISTOL DEMONSTRATION.

The demonstration will be held at 9 o'clock A. M., December 13th, two miles west of camp. All officers and all non-commissioned officers who are armed with a pistol, will be required to attend.

OBJECT.

1. The object of this demonstration is to show the methods used and the conclusions reached by the pistol board appointed by these headquarters to make an exhaustive study of training men and horses in mounted pistol work. The theory upon which the board proceeded will be illustrated in the course of firing followed in the demonstration. This course has been tentatively recommended by the board for troops of this command and will probably be adopted with some modification. The tentative Manual of the Pistol already published to the command will be shown in detail and the reasons for its adoption will be explained and discussed.

TENTATIVE PISTOL COURSE SUGGESTED BY THE BOARD.

2. *Preliminary Instruction.*

(*a*) Dismounted—

Firing with ball cartridges will be preceded by thorough drill in the Manual of the Pistol in the Position and Aiming Drills, dismounted, as explained in the Small Arms Firing Manual, and in the following exercises which will strengthen the muscles of the fingers, wrists and forearm.

First.—I. Arms sideward, palms up. II. RAISE. III. Finger Exercise. IV. CLOSE. V. OPEN. Close and open the fingers vigorously, separating the fingers when open. Resume the position of a soldier at the command HALT. Vary the exercise by turning the palms to the front, down, and to the rear.

Second.—I. Arms sideward, palms up. II. RAISE. III. Wrist Exercise. IV. UP. V. DOWN or IV. FRONT. VI. REAR. Bend the wrist according to the command, keeping the fingers extended and joined. Resume the position of a soldier at the command HALT. Vary the exercise as in *First.*

Third.—I. Right arm forward. II. RAISE. III. Forefinger exercise. IV. CLOSE. V. OPEN. Close and open the forefinger vigorously without moving the other fingers which are held tightly closed as in gripping the pistol. Resume the position of a soldier at the command HALT.

Fourth.—Being at the Raise Pistol, chamber and magazine empty. I. Quick Fire Exercise. II. ONE. Lower the forearm until the pistol is pointed at the target. III. Two. Thrust the pistol forward to the position of aim, snapping the pistol just before the arm reaches its full extension. IV. THREE Return to Raise Pistol, and cock the pistol.

(*b*) Mounted—

During the dismounted range practice keep the horses tied near the firing line.

Drill the men thoroughly in the Manual of the pistol while mounted at the halt, walk, trot and gallop. Pay particular attention to the motions of loading and to changing magazines. Every movement should be made with definite exactness thus eliminating carelessness due to indecision. The position of Raise Pistol should be held firmly. The position of "charge" as explained in the first paragraph of (*b*) Mounted Range Practice requires especial attention.

To accustom the horses to firing mounted march the platoon or troop in line, and at command require certain specified men to fire about forty-five degrees upward to the front, and instruct the men not to jerk their horses. Later, require all men to load one round in their magazines, and at command have Numbers 1 fire, then Numbers 2, etc. Progress easily to the same firing at the gallop, and to firing two or three rounds a piece. Practice same kind of firing at suspended targets until the horses are accustomed to them. It will generally be found that the horses are more easily trained to firing collectively than individually. Before beginning the instruction practice require the fours or sections to run at the target without firing.

3. *Range Practice.* (Instruction.)

(*a*) Dismounted—

Slow Fire.—Same as described in Small Arms Firing Manual. Target A.

Quick Fire.—Being at the Raise Pistol, pistols locked, at the command "Commence Firing," fire and return to Raise Pistol after each shot, following the principles of the Quick Fire Exercise. Position is the same as that prescribed for Raise Pistol with intervals. Target E, five yards apart, one for each man firing.

Automatic Fire.—Being at Raise Pistol, pistols locked, at the command "Commence Firing" empty the magazine in seven seconds, keeping the arm extended. Position is the same as for Slow Fire.

Trench Fire.—Target, two lines of E targets ten yards apart; the first line is composed of one figure for each man firing, five yards apart, the second line is composed of two figures for each men firing placed immediately in rear of the figure in the first line, one yard between centers. Advance at the double time from 100 yards to the first line firing one shot at the first line at about 10 yards from it continuing the double time; halt at the first line and fire 6 shots, automatic fire, at the targets in the second line.

Score.—A score will be seven shots. Targets will be marked after each man completes a score.

COURSE.

(1) Slow Fire, 10 yards, minimum of 1, maximum of 3 scores.

(2) Slow Fire, 25 yards, minimum of 1, Maximum of 3 scores.

(3) Quick Fire, 10 yards, minimum of 1, maximum of 3 scores.

(4) Quick Fire, 25 yards, minimum of 1, maximum of 3 scores.

(5) Automatic Fire, 10 yards, minimum of 1, maximum of 3 scores.

(6) Automatic Fire, 25 yards, minimum of 1, maximum of 3 scores.

(7) Trench Fire, 1 run of 7 shots about 8 men at a time.

A record of this practice will be kept in the organization showing the percentage of hits for each kind of fire.

(*b*) Mounted—

Firing to the front is conducted as a "charge" from at least 150 yards from the target, gradually increasing the gait to full

speed of the slower horses and regulating on a guide who will be designated. At the command "Charge" given at about fifty yards from the target the troopers lean forward resting the weight of the body on the left forearm placed on the upper half of the horse's neck, the right hand with pistol being carried as far to the front as possible, over and between the horse's ears without touching him, and the pistol kept pointed at the target during the firing. In leaning forward the seat should be deranged as little as possible, the lower legs being held close to the horse at the girth and not carried to the rear. The men firing pass under the targets before decreasing the speed.

Target.—For Exercise 1 to 12 inclusive, 12 E targets, numbered if desired, suspended from a rope or wire stretched between two poles about thirty yards apart; Figures one yard between centers, and the lower edge about the height of a man's head sitting erect on his horse. These exercises constitute one kind of fire.

COURSE.

(1) To the front, four men as foragers, gallop.....1 shot
(2) To the front, four men as foragers, gallop.....2 shots
(3) To the front, four men as foragers, gallop.....4 shots
(4) To the front, four men as foragers, gallop.....4 shots
(5) To the front, four men in close order, gallop.....1 shot
(6) To the front, four men in close order, gallop.....2 shots
(7) To the front, four men in close order, gallop.....4 shots
(8) To the front, four men in close order, gallop.....4 shots
(9) To the front, by sections of 12 men, in close order, gallop, - 1 shot.
(10) To the front, by sections of 12 men, in close order gallop, - 2 shots.
(11) To the front, by sections of 12 men, in close order, gallop, - 4 shots.
(12) To the front, by sections of 12 men, in close order, gallop, - 4 shots.
(13) Target-Four E paper targets pasted on A targets arranged in line ten yards apart, ten yards from and facing the track. Two scores of seven shots each to the right and two to the left. Mark after each score. Fire one shot at least at each target, otherwise distribute the shots at will. Conduct the practice as prescribed for similar exercises in Small arms Firing Manual, except that four men will run at a time, only the man on the target flank firing.

(14) Time Test: Loading the pistol at a gallop.

Target.—Three E targets placed 100 yards apart, five yards from and facing the track.

Each trooper at the starting point (one magazine in the pistol and two magazines in the pocket, one cartridge in each magazine) loads from the magazine, enters the track at the gallop about twenty yards from the first target, fires at the first target when opposite it; changes magazines and loads (keeping a gait of at least twelve miles an hour, on the track); fires at the second target when opposite it; and repeats the operation for the third target. The time between the first and third shots must not be more than thirty-four seconds.

The object of this exercise is to test the trooper's skill in loading at the gallop, keeping control of his horse, and arranging before starting so as to quickly dispose of empty magazines and procure loaded ones. The targets need not be examined nor pasted, the record being a matter of time only. If the time limit is exceeded the exercise will be repeated (with or without cartridges) till the proper speed is attained; that is, 100 yards between shots, horse traveling about 100 yards in seventeen seconds, or faster if the loading can be done more quickly.

Except for Exercise 14 a record will be kept in the organization showing the percentage of hits for each kind of fire.

4. *The following additional Exercises tried out by the Board will be shown.*

(*a*) Four men as foragers firing four shots at suspended targets and two shots at elevated E targets, changing magazines between targets, distance between targets approximately 100 yards.

(*b*) Column of twos firing to the right and left at E targets arranged in two lines of seven each, facing the track twelve yards apart, ten yards between targets: This tactical forma-

tion might be necessary in moving rapidly through a narrow passage.

(*c*) Charging by section of twelve men each, close order at the drop target, firing four shots per man: This approximately represents the mounted charge against cavalry.

(*d*) Charging by platoon, close order, at suspended targets, firing four shots per man, mounted on horses that have not been used in any of the practice at any time: This feature will illustrate the possibility of using the average untrained cavalry mount in the charge, and will demonstrate the entire feasibility of charging a line of mounted men to the front with the pistol without previously training horses for the purpose. The principles that horses will advance in company with other horses boot to boot, much the same as men will advance more courageously with a touch of elbows, is brought out clearly in this exercise.

By command of Major General PERSHING:

J. L. HINES,
Major, Adjutant General,
Acting Chief of Staff.

OFFICIAL:
E. S. WALTON,
Major, 17th Inf.,
Acting Adjutant.

EXTRACTS FROM A REGIMENTAL SCRAP BOOK.

BY SEV. H. MIDDAGH.

Organization and five years service on the Rio Grande, 1855—1861.

IN reading over my notes on the Porto Rican service of the regiment it becomes evident, that those readers who are unacquainted with its previous service, will fail to undertand the term, "*The Fighting Fifth,*" a well earned title,—making it desirable to turn back the leaves of our "*scrap book*" for a new start.

From the following extract, it would appear that we have succeeded in uncovering the beginning of things:

"When Mr. Jefferson Davis, the War Secretary in 1855, had succeeded in the adoption of his pet scheme for the organization of two new mounted regiments, he set out at once to make them worthy of his patronage. Much opposition had been encountered from that class of politicians who are inimical to a regular army; who pretend to fear many plans for conquest abroad or reward favorites at home, so that, among other compromises, about half of the new appointments were made from civil life. Among the officers of the army, great rivalry existed for the new places, on account of the prospective increase in rank. Mr. Davis then displayed that fine judgment in the selecting of men, which has been said to be the first requisite of greatness, and which afterwards enabled him to place the fate of the Southern Confederacy in the best hands from the early days of the war." So we find the birthday of our regiment, organized as the Second Cavalry, falls on March 3d, the authorization of its organization having been approved March 3, 1855.

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On March 26th, the assignment of officers was announced by the War Department and the cavalry regiments designated as a distinct arm, promotions therein being regulated accordingly. Our regimental headquarters were established at Louisville, Ky., from where the recruiting was superintended by the regimental commander, to whom its newly appointed officers reported by letter with suggestions as to places in their neighborhoods where recruiting rendezvous could be advantageously established.

Some little time was required for the carrying out of this preliminary work, but by the middle of May we find the recruiting in full force, the recruits being concentrated at Jefferson Barracks, Mo., where our Lieutenant Colonel (Robert E. Lee) and a few troop officers were ordered in June and the regiment organized. With two exceptions all the officers were withdrawn from recruiting service in August and placed on duty with their troops; the regimental headquarters being transferred to Jefferson Barracks in September.

"The first drills were conducted by Major Hardee, the author of the tactics of that day and the early discipline soon felt the master hands of such men as Johnston, Lee and Thomas assisted by as good a lot of soldiers as ever spurred steed in fight or foray."

The horses were obtained mostly in Kentucky, by officers designated by regimental order, at an average pr ce of one hundred and fifty dollars. Later, we find where after six years of the hardest kind of service most of them were left behind with deep sorrow, when General Twiggs surrendered to the State of Texas.

During the summer, owing to the new mode of life and duties, but principally to the existing health conditions at the barracks, cholera appearing among the men on several occasions, many from dissatisfaction and fear of the disease deserted. In addition the troops were inconvenienced for the want of proper and sufficient clothing, which, requisitioned for in May did not arrive until the middle of September. Still, on the 27th of the following month, we find our men (fully armed and equipped, clad in their new close-fitting jackets, trimmed with yellow braid, the ostrich plumes of their black hats, looped

with an eagle at the side, trailing in the breeze) leaving Jefferson Barracks in the wake of their Regimental Standard on their maiden march through a sparsely settled country, to their new station, Fort Belknap, Texas.

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Each glance at that Standard today, causes a heart-throb, to those who in their reminiscence recall their service while lead by it over our states and territories and foreign possessions. And so we, following it from the beginning, hitting its trail here and there through the aid of our scrap book, do it with interest and pride. Leading us during these early days along that far western border, we find the record of forty engagements with Lipan, Apache, Kiowa and Commanche Indians, and with Mexican guerillas. "All who know how hard it is to catch an Indian on the war-path will appreciate the hard riding, the winter cold, the summer thirst, the quarries trailed but never flushed, the wakeful nights, the heavy days involved in that brief record."

Then it leads us over the blood-sodden fields of the Civil War, over the territory of the Military Division of the Missouri, recalling to our memory the Staked Plains of Texas, a term scarcely recognized by the khaki clad soldier of today, the great American Desert of Wyoming, which has now lost its terrors for the traveler, the Lava-strewn beds of Idaho, the painted Bad Lands of the Dakotas, the Buffalo plateaus of Utah, the desolate sinks of Nevada, and the sun-kissed tablelands of New Mexico and Arizona.

Again we are reminded of that service on the storm swept island of Porto Rico, and the cholera stricken masses of the Philippines. It has been the fortune of many of us now following the Standard to have passed over nearly every foot of the ground referred to, perhaps at times alighting from a Pullman Palace Car, to enjoy dinner in a city located on the ground that in these early days was to our men a water hole, landmark and camping place located on the map, to be gained only by the aid of their compass. Still these men were then making history.

The maps of 1850 showed much of what is now Nebraska, Colorado, Kansas and Oklahoma as the Great American Desert. Of our new conquests little was known other than the names of the territories.

There is no need to dwell upon the cleaning up of these immense territories, as we shall later follow our regiment as it aids in the task. Through modern and popular literature, we are constantly reminded of the enormous deeds performed by the Path Finder and the almost unsurmountable obstacles overcome by the American Cow Boy, but, there was a man in advance of both! The man who blazed the trail for the Path Finder and made available the immense tracts of territory for the grazing of the beef cattle, a positive necessity before we find the birth of our Cow Boy, and that man was the regular soldier!

We now run across those men in every stage of life and occupation. Men who left the service after the completion of their "*Five year hitch,*" and those whose service mounts the various stages up to the thirty year mark, minus double time. We find them associated with our statesmen, representatives of their people from our national capital down to the ward boss. We find them engaged in the various professions. We find them among the merchants and tradesmen. In fact, they are to be found scattered broadcast throughout the world engaged in their varicus pursuits. We find the retired men engaged as instructors to militia and at ccllege, employed by nation and state. We find him enjoying the benefits of his own cottage and land, the product of a thrifty life. We find him camped along some clear and shady stream endeared to him by some incident of the service and we find him occupying a favorite chair in a dingy bar rocm waiting for pay day. But! No matter where you find him, take your hat off to him! He has made it possible for you and me to live.

Now let's take up the trail.

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Moving out from Jefferson Barracks on the morning of October 27, 1855, we follow the regiment, with its supply train of twenty-nine wagons, carrying the commissary supplies which

could nct be procured west of that place, while the resources of the country traversed were relied upon to furnish meat and flour, Lieutenants Shaaff and Minter keeping well in advance of the column making arrangements for their supply and for forage. All clothing and baggage not required for the march had been shipped by water under charge of Lieutenant McArthur.

The command arrived at Fort Belknap on December 27th, having passed through Springfield, Mo., Fort Gibson and Fort Washita, located at the Cherokee and Choctaw Nations respectively, enroute. Headquarters and six troops proceeded to Fort Mason, on the Rio Llano for staticn while the remaining four troops under Major Hardee, established a camp on the Clear Fork of the Brazos, known as Camp Cooper. Troops "L" and "M" had not been organized.

The topography of Texas, taking in much of what is now Colorado and Kansas, showed an area of two hundred and thirty seven thousand square miles of which little was known, and its border at the time of the arrival of the regiment was filled with terror, the Indians having plundered the country within twenty miles of Austin. There was plenty of work, and as to how it was performed can be best understood by looking over the list of battles and reports of operations from 1856 to 1861, recording a work over a country extending from the Red River in Northern Texas to Fort Brown on the Rio Grande.

Much of the time was passed under canvas, with a certainty of a change of station once each year. There was constant scouting, and the plains of Texas were made famous by the gallant deeds performed by our officers and men, and the frontier soon became an unpopular field for operations of marauding Indians. By troops and detachments the regiment was constantly represented in the field, now camping beside a clear, running stream, followed by a night at a waterhole on the sunburned plain; one day enjoying a superb climate, the next facing a terrible "*norther.*" The march varied from a trail along a shaded water course to that leading over a prairie where, with empty canteens, which as the trail became fresh would be forgotten, the men would push cn for days and days that they might overtake and punish the marauding savage

until they resembled the Indian whom they pursued, more than the soldier they were.

We also get a glimpse of the social life of that day, the wives of the officers who finding their way to the palatial residences provided for them, built of stone or logs chinked with mud, with a clay floor and an earthen roof, counted themselves happy when it was no worse, while articles which we regard as necessities, even ice, and potatoes, were unheard of luxuries in this distant sagebrush Eden, and scurvy was a well known word in the hospital records. These houses, the homes of a few married officers, formed charming social resorts which helped to keep alive the graces and refinements of civilization, and many a jolly party met within their narrow walls and the Thanksgiving turkey was none the less enjoyed when the guests had to sit on the family beds in order to arrange themselves at table. Colonel Johnston's quarters at Fort Mason consisted of one small room for himself and family.

On February 22, 1856, Captain Oakes opened our list of engagements which today will compare favorably with any similar list filed in the archives at Washington. Nine more are shown for the year in the report of operations and fourteen for the year following, which gives some idea of the work performed.

To attempt a detailed report of this work with the limited knowledge in possession of the writer, would be to defeat the object of the assembling of these extracts, which, is to show at first hand, the work done by the regular soldier under the varied conditions amid which he is employed.

The list of stations of troops show that the men were enlisted in the southern states and that among our officers of that day, were nineteen who had served in the war with Mexico, seven of whom held brevet rank for gallant and meritorious service druing that war. A study of the map leaves no doubt as to the hard riding, while a comparison of the detachments with the number of the enemy encountered, and the results of each engagement, gives a far better understanding of the work, than any narrative that could be written therefrom, but space will not permit of recording them here. Many

from a fighting point of view, were minor affairs, still there was plenty of hard work connected with each.

With reference to the engagements on February 22, 1856, we find that Troop "C," on a scout from Fort Mason, picked up a trail which was followed for six days before the Indians were encountered at the headwaters of the Nueces River. During this time the men were exposed to very cold and wet weather, and in the fight one Indian was killed while several were wounded and their animals and property captured. Sergeant Reis and Private Kuhn were severely wounded and the troop for more than seven days subsisted on two day's allowance of bread and coffee with such game as they could kill and the flesh of horses they were obliged to abandon. On March 8th, Troop "I," overtook a party of Lipans on the Guadalupe River, killing three warriors and in addition to their horses and mules captured a large supply of clothing, land papers of importance and a draft of one thousand pounds sterling which had been taken from the settlers on the Ciblo, near San Antonio. This account conveys a fair idea of the cause for running these renegades down.

Captain E. W. Johnson, with twenty-five men of Troop "F," closed the engagements for the year. He set out from Camp Colorado and after a search of seven days ran upon a part of Seneco's band of Comanche's near the head of the Main Concho and having driven them into the chaparral, charged them, dismounted, killing three and wounding others. But he also met with losses and Bugler Campion and Private Lamb were killed by arrow shots through the heart, while Sergeant Gardner and Private McKin were slightly wounded.

Captain Brackett was the first to take the field in 1857, with Troop "I," from Fort Clark. His operations covered a period of thirty-two days, during which he had marched six hundred miles before he discovered the band of hostiles near the Arroyo de Los Encinas, between Eagle Pass and Laredo, which had succeeded in gaining the shelter of a dense thicket of trees and bushes lining the banks of the stream. They were pursued for five miles down an arroyo emptying in the Rio Grande, but the troop was obliged to give up the chase due to the deep ravines encountered and the injury to the horses by

the thorns of the prickly pears and mesquite bushes and the Spanish bayonets which they were obliged to pass through. In spite of all that could be done, the Indians succeeded in escaping to the Mexican side of the river but their retreat was so hasty that a considerable part of their property was abandoned.

A fair idea is given of the chances taken by our men while engaged in this work, from the reports of an engagement on April 4, 1857, on which date Lieutenant Jenifer with thirteen men of the troop ("B") after a search of fourteen days and a march of nearly three hundred miles, hit upon a trail near the head of the North Fork of the Nueces River, which lead into a rocky country almost impracticable for cavalry. He dismounted his detachment and leaving his horses with a guard, continued the pursuit with seven men. After a tedious march of four miles he suddenly came upon a camp occupied by from eighty to one hundred Indians. Approaching it under cover to within two hundred and fifty yards, his little party were discovered and attacked by all the warriors in the camp, and at the same time were threatened by a party returning with horses. The Indians were repulsed with a loss of to them two killed and one wounded, when, under darkness of approaching night, the detachment withdrew and returned to their horses. The next morning the lieutenant returned to renew the attack, but in the meantime the Indians had dispersed. For the last three of the seventeen days during which the detachment was in the field, it had no rations.

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In April, 1858, orders were received for the regiment to proceed via Fort Arbuckle, to Fort Leavenworth, Kansas, but the movement was countermanded in May, after the concentration of the regiment at Fort Belknap for the march. Reports from Fort Arbuckle, situated on the Washita River in the Chickasaw Nation, I. T., had been received to the effect that a large band of Apaches, Comanches and Cheyennes were on the Canadian River, near the Antelope Hills, and that the depredations which were being committed by them upon the settlements of the Choctaw Nation were for the purpose of capturing horses to

make incursions upon the frontier of Texas. General Twiggs, commanding the department, requested permission to send an expedition into the Indian country, employing the troops enroute to open a wagon road to Wichita Mountains, or as near thereto as possible. It was believed that if the troops could remain in the field during the winter, the frontier would be measurably secure against attacks from these bands.

The expedition finally selected for this duty consisted of Troops "A" "F," "H" and "K" of the regiment with a detail of one officer, three non-commissioned officers and fifty privates from Cos. "C" and "F" First Infantry, under command of Captain Earl Van Dorn, Second Cavalry. It was to move from Fort Belknap to Otter Creek, west of the Wichita Mountains, establish at some suitable point a supply camp, guarded by the Infantry detachment, while the cavalry were to scout the country between the Red River and the North Fork of the Canadian, following any discovered Indian trails without reference to department limits.

Marching from Fort Belknap on the 15th of September, a generaly north-west course was pursued and arriving at Otter Creek on the 23d, the supply station was established in the friendly timber on the south side of that stream. A stockade was erected for the protection of the animals and supplies during the absence of the cavalry, which were to take the field as soon as the defense was completed.

The site of this camp, Radziminski, was located at the mouth of one of the most ruggedly picturesque cañons in the Wichita Mountains. From the summit of Mount Radziminski, nearly a thousand feet above the level of the adjacent plains, the outlines of the main range of mountains to the east and north, the great sweeping curves of the North Fork of the Red River to the west, and the timber fringed course of Otter Creek near its foot, furnished a pleasant view in return for the hard climb up its steep slopes, strewn with a continuous succession of boulders.

Information was received on September 29th, through the Indian Scouts, that a large encampment of hostile Comanches was located near the Wichita Village on Horse Creek, in the Choctaw Nations, nearly due east and about forty miles distant

from the camp. The cavalry set out on what was to terminate in a "*bad day for the Van's.*"

After a forced march of ninety miles in thirty-six hours, the command, a little after daylight on the morning of October 1st, came upon the camp of the hostiles, consisting of one hundred and twenty lodges occupied by between four and five hundred Indians. They were immediately charged and after a most desperate struggle of an hour and a half, during which there were many bloody hand to hand conflicts, achieved a most decisive and important victory. Fifty-six Indians were left dead on the field, the lodges were burned, over three hundred animals were taken and a large quantity of supplies appropriated or destroyed, and the surviving Indians dispersed among the mountains in a destitute condition.

After the fight, it was found that Lieutenant Van Camp had been shot through the heart with an arrow while charging the enemy. Sergeant J. E. Harrison of Troop "F," and Privates Peter Magar and Jacob Echard of Troop "H" were also killed. Captain Van Dorn received four wounds and eleven others of the command were wounded, not counting the sutler Mr. J. F. Ward, and Mr. S. Ross, the special agent in charge of the friendly Indians who had volunteered for the expedition and are deserving of great praise for their gallantry in action. During the combat, Captain N. G. Evans, Second Lieutenants Harrison and Phifer had each killed two and Lieutenant Major had killed three Indians in hand to hand encounters.

On October 10th, the command returned to camp where it remained until the 28th, when, having rested and recruited their horses, under command of Captain Whiting, it departed for the Antelope Hills and examined the country to the North and South Canadian Rivers, returning November 4th.

Preparations were now made to occupy the camp during the winter. The shelter consisted of tents, made snug with walls of logs with turf about them. There being no fortifications, the supplies were constantly guarded as were the picket lines which lay along the south side of the camp, nestling at the lower end of the cañon through which the creek flowed, protected to some extent, from the wintry blasts by the low mountain range. Supplies for the subsistence of the command

were freighted by wagons from the Texas settlements in the region of the Brazos.

It is needless to state that camp life during the winter was a continuous round of ease. Captain Van Dorn, though wounded almost unto death, with a long season of convalescence to try his restless spirit, began plans and preparations for a vigorous campaign against the Comanches, which was to be carried out during his absence, it being his intention, as soon as he was able to travel, to visit his home in Mississippi. This plan was carried out, and during that time one of his sisters, a gifted musician, composed and dedicated to him a piece of martial music entitled "*The Wichita March,*" which became a great favorite with the regimental band.

During his absence, a large nmber of recruits were received, who with the seasoned troopers were subjected to frequent drills and thorough discipline, varied with play spells for hunting parties and expeditions amcng the peaks of the Wichitas, near at hand. In addition to the drills of cfficers and men, the horses were put through a course of training, foreign to the movements of evolution of the squad, troop and squadron. When turned out to graze, the whole herd was taught to gallop into camp at the slightest alarm, that attempts to stampede them by hostile Indians might be offset to a certain extent.

Though grain was supplied, there was no hay, and the stock were herded on the sun cured and nourishing buffalo gramma and mesquite grasses which covered the valley extending southward from the camp, and when the ground was covered with snow, as it was for several days at a time, they were fed on the bark and twigs of cottonwood trees.

Owing to a late spring, it was not until the end of April that the new grass had sufficiently matured to sustain the horses and mules of the command. Several friendly Indians, consisting of Caddos, Keechis, Tonkawas, Delawares and absentee Shawnees, from the fragmentary tribes then living on the Brazos Reserve, joined as guides under the leadership of Jack Harry, a Delaware, and Shawnee Jim, a veteran of the Texas Revolution and a man of more than ordinary intelligence who spoke good English.

Setting out on April 1, 1859, the cavalry marched northward toward the valley of the Washita, Canadian and Cimarron rivers. The route lay across to the valley of Elk Creek and up that stream to its source and across the divide into the valley of the Washita. The friendly Indians were used as feelers and scouts, detachments of which were kept ten miles in advance, with flankers far out to prevent the hostile Comanches and Kiowas from observing the advance of the command which would camp at sunset each day, but, as soon as darkness set in, would remount, advance several miles for the purpose of deceiving any prowling spies from hostile tribes, and then go in camp for the night.

On the fourth day out, after reaching the valley of the Washita, a scout brought in a Comanche boy who said his people were camped on a small stream two days journey beyond the Cimarron and who was persuaded to guide the command to their village. On reaching the valley of the Canadian, the stream, running bank full, could not be forded and the wagon train was parked, and supplies transferred to pack mules. The freshets having subsided to some extent, a crossing was effected and the march resumed.

The point where the wagon train had been left was about thirty miles below the Antelope Hills, where the route lay north to the Cimarron River, which was crossed near the stream-crossing of the present state line of Kansas. Following the valley of one of the tributaries of the Cimarron, there were found the abandoned camping grounds of several villages of Comanches and Kiowas. They appeared to have been occupied by at least two thousand Indians, the camp being scattered along the valley for several milles. Continuing the march in the same general direction, a fresh trail was soon struck and the second big engagement of the regiment with the enemy momentarily expected.

Next day, still following the trail until noon the command halted to rest in the valley of a little stream. Upon the banks a few trees were growing, and the horses were unsaddled and under a strong guard turned out to graze. Lieutenant Royall commanding the heard guard, dismounted his guard to graze

and rest their horses after having posted three or four videttes at suitable points around the herds.

The day was dark, a rain storm threatened, and about two p. m., three Indians were discovered endeavoring to creep between the videttes and stampede the herd. The guard immediately gave chase, while the frightened cavalry horses galloped into camp. Captain Van Dorn ordered "boots and saddles" sounded, and made ready for the message Royall would send. He had not long to wait. The Indians having secured their horses, fled at topmost speed closely pursued by Lieutenant Royall and his guard. Suddenly at right angles to the line of retreat which the Indian were shrewdly leading their pursuers, a large herd of Indian horses and ponies were described and surmising that the village was near, Lieutenant Royall sent a courier to appraise Captain Van Dorn of the discovery and that he intended to stampede the herd and hold the hostiles at bay until the arrival of the command.

With horses saddled and ready, a detail selected to remain with the pack mules, the command was mounted and at a gallop proceeded for the spot where Lieutenant Royall and his men had rounded up the Comanches, approximately three miles distant. Without their horses the Comanches were at a decided disadvantage, though none the less determined and defiant. Taking positions behind bushes, stunted trees and the low steep banks of the stream, their places of concealment were betrayed only by the "twing" of the bowstrings and the spiteful "swish" of the arrows that challenged the soldier's advance.

The command was now divided, mounted troopers being placed in elevated positions on either side of the valley while those dismounted were formed in line to sweep down the valley and drive the enemy from his place of concealment. As the order for the advance was given, the rain which had been threatening began to fall requiring the coolest and most undaunted individual bravery to advance upon the danger that presented itself in the fearful ravine. The troops moved into the darkness, and with a courage that challenged admiration, felt for the danger that they were called upon to encounter.

The Comanches fought without giving or asking quarter until there was not one left to bend a bow. Forty-nine were killed in the fight and thirty-six prisoners were taken, of whom six were men, the remainder being women and children.

At the beginning of the fight the spectacles of Captain Edmund Kirby Smith, having become blurred, he failed to see an Indian who, crouched behind a log, fired with either rifle or pistol hitting him in the fleshy part of the thigh, the ball barely missing the femoral artery as it crashed through his leg. Painful as was the wound, he remained with his troop until recall was sounded. Lieutenant Lee was struck in the right breast by an arrow which penetrated the lung and protruded from his back beneath the right shoulder, the shaft being pulled from his body by Lieutenant Cosby, who with the aid of a trooper carried and laid him beneath a sheltering tree.

In Troop "A," there was a "stump sucking" horse, ridden by Private Willis Burroughs, which during the gallop to the scene of the fight gave out. Burroughs following his comrades dismounted, was on the ground ready for duty when the charge was ordered, and was the only man killed outright during the fight. His body was buried on the battle field as was that of Sergeant Leverett, who died two days later from wounds received.

The command camped on the battle field for several days until the condition of the wounded warranted the return to Camp Radziminski. Lodge poles and buffalo skins obtained from the dismantled lodges were converted into litters on which, covered with dry grass and blankets, the wounded were transported. On the departure from this camp, Captain Smith mounted in the saddle and surrendered his litter to an enlisted man, and it is recorded that his wound was practically healed by the time he had completed the two hundred mile ride to camp. Lieutenant Lee, a jolly invalid, one day shortly after the return march had begun, sent for Lieutenant Cosby, and requested that the mules which furnished the motive power for his litter, the poles of which were suspended from the pack-saddles by thongs, be changed. The rear mule, a grey, he wished placed in front saying: "Every step he takes his muzzle comes within a few inches of my face and his long ears flap in a way that I don't like. 'Familiarity breeds contempt' you know, and probably the mule feels that way about it, too, but of course he can't say so."

For the return journey, the command was divided, Captain Van Dorn, with a portion setting out by a circuitous route, in light marching order, while the remainder, under command of Captain Smith, with the wounded and prisoners, doubled back on its trail picking up the wagon train at the Canadian. Both columns arrived at their destination at about the same time, and, with the sending of the prisoners to San Antonio, one of the most brilliant and successful campaigns ever waged in the western wilderness was ended. Seldom mentioned in history, it nevertheless will suffer none from comparison with the exploits of Custer, or Miles, or McKenzie, with which we are yet to become acquainted.

The Comanches, impoverished and divided, being driven from their hunting grounds, disappeared and it was believed they had moved to the Arkansas River. Large herds of buffalo ranging over the prairies for fifty miles above Camp Radziminski, indicated that the favorite retreats of these nomadic people were within the shadows of the Wichita Mountains.

Some of the troops had marched fifteen hundred miles, none less than twelve hundred with broken down animals, and the endurance of the officers and men having been tasked to the limit, Captain Van Dorn recommended that if future operations were to be conducted, orders should be issued placing the Comanches at enmity with all the troops of the Army. That they should be pursued and chastised wherever found, from the Rocky Mountains to the Rio Grande, and taught that there could be no refuge of safety for them as long as they continued to rob and murder. He closed his recommendations with the truthful and forceable remark, that, "while a squadron of cavalry might be in pursuit of a party of marauding Indians, the members of the band might be smoking their pipes on the parade ground of a military station in a neighboring department as the invited guests of the commanding officer."

Arrangements having been made during the month of August for the reoccupation of Fort Mason, Captain Van Dorn,

on August 15th, was ordered to proceed to that post and take station.

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At Fort Belknap was Major Thomas with two squadrons of our regiment.

Near the post was the little town of Belknap, where there lived a number of families, the post sutler's establishment and two or three other mercantile enterprises, including a small paper, called the "White Man," that through a series of articles succeeded in exciting the suspicions and feelings of the people of the lower country. About the same time renegades made a practice of stealing a few horses in neighboring counties and these were run as far as the Brazos reserve and left to be picked up by the owners who were sure to be in hot pursuit along the trail, made plain by means of cast away moccasins and arrows that had been provided for the occasion. Suspicion naturally fell on the Indians of the reserve, while the "White Man" was busy disseminating every bit of news which was calculated to infuriate the restless citizens.

A hunting party consisting of an old man—Choctaw Tom—with his family, seven in all, left the reservation with permission to visit a small stream about six miles south of the reserve on a weeks hunting trip with no cause for fear or molestation. Indeed, he had made the settlements of Milan and Arlin possible; having always, with his little band, protected the settlers from the hostile Comanches. The granting of his hunting pass was unknown to the Indian haters of Parker County; he passed one night in camp and at daylight the next morning, he, his women and children were murdered. Not one escaped.

Upon receipt of the news of this massacre at the reservation, the Agent ordered all the Indians to assemble on the Agency prairie and urgently requested the protection of troops. Major Thomas responded in person with two troops of the regiment and three pieces of field artillery. After some little trouble between the Indians and the white renegades, orders were received to remove the Indians to the Indian Territory and several tribes were assembled for the transfer. They were escorted by two squadrons of the regiment and two companies of the Fifth Infantry under command of Major Thomas.

Starting out on their long journey on the morning of August 1, 1859, the command was joined the following day by a number of friendly Comanches from the upper agency, located near Camp Cooper, bringing the number of Indians up to ten tribes, numbering over two thousand souls, constituting one of the most remarkable cavalcades ever assembled on this continent. The start was accompanied by a babel of such noise, as the blasts from the cavalry trumpets; the fife's shrill notes with the accompanying roll of the infantry drums; the braying of the army mules, proclaiming their dismal protest, and the barking and howling and fighting of the dogs, of which each family was well supplied, all of which, with the mad scurrying of galloping Indians contributed to the uproar and confusion attending the departure of the command. There was little to break the monotony while passing through broken country, but, when in the open, the Indians would string out on either side of the military escort, for a mile or more, sweeping the level stretches as a skirmish line.

There were deer, antelope, wild turkeys, prairie chickens, quail, jack rabbits and various other game in abundance which were constantly being started by the advancing line with its three mile front. With the jumping of a bunch of deer on one flank and their dash along the front, the chase would begin. Led by the dogs, their number increasing as the game advanced, until there would be a thousand or more, representing all kinds, sizes and colors, followed by the scurrying Indians, furnished the escort much excitement and an appreciated diversion during the first part of the trip, but it proved to be the undoing of the dogs, which, worn out by the long chase, began to fall out along the stretches between streams, leaving but few to complete the journey.

The greater number of the Indians were mounted on horses or ponies, while others traveled on foot. Many transported their domestic belongings in bundles attached to trailing lodge poles drawn by ponies, while the commissary supplies were carried on wagons drawn by oxen. The march was made by easy stages, though distances were regulated by the location

of water along the route. The Red River was crossed a week after starting and another week was required to finish the trip to the valley of the Washita, where the Indians were to locate on a new reservation and where a new agency was to be established. So we find that while a portion of our men were engaged in deadly combat with the Red Men, another was busy hustling the Indian from a place of danger to that of safety.

Shortly after the return of Major Thomas' command, he set out with headquarters and five troops on an expedition to the upper waters of the Red and Canadian Rivers, marching thirty-eight miles west of the one hundredth meridian, then north-west to, or near the Camerons on an Indian trail, which soon became so obliteratd by the tracks of buffalo that it was abandoned and the country examined in the vicinity, after which the expedition returned to the Canadian. Leaving camp, on this stream, November 5th, where the command had remained for five days, a course was taken southwest to the head of the Washita, then south to the Sweetwater Creek where Lieutenant Royall with Troops "C" and "G," were detached to examine the stream to its mouth. From there he was to move south, examining the country along his route until he crossed the Main or the South Fork of the Red River, and then march direct to Camp Cooper. The main body marching south-southwest, across the tributaries of the Red River to the crossing of the South Fork, arrived at Camp Cooper on November 22d. Although no Indians were discovered, a large section of the country was explored and valuable information obtained concerning the district, before unknown to white men.

The regiment had lived in the field near the close of the year, and due to the hard service and constant exposure, together with lack of sufficient forage, many of the horses died, many more were broken down and unserviceable, so that scarcely a troop was in condition to take the field if occasion demanded. And it did. Cortinas, with a large force of men, composed of Mexicans from both sides of the river, well supplied with munitions of war, was reported as committing murders and outrages and had probably taken the city of Brownsville, and had killed many of its citizens and was assuming a formidable and threatening attitude at various points between the Nueces and the Rio Grande rivers. And in December we find our troops taking up positions to cope with this new danger threatening the border.

To cope with the Cortinas troubles, Troop "B," with a detachment of twenty men each from three other troops were sent to Fort Merrill, on the Nueces, about fifty miles northwest of Corpus Christi, to act in connection with other troops ordered to rendezvous at that place. Troops "C" and "F," with a detachment of Troop "E," were sent to Brownsville, and Troop "G," to Fort Inge from where it sent a detachment to occupy the camp on the Frio, as well as a guard to protect the public property at the Pendencia, until it could be removed to Fort Inge. Troop "I," occupied Camp Verde; Troop "K," proceeded to the head of the Nueces, a site known as Old Camp Wood, and Troop "H," established a camp in the vicinity of Eagle Pass.

The forces assembled at Brownsville, consisting of the cavalry, three companies of the First Artillery, serving as infantry, with two twenty-four pounder howitzers and three companies of Texas Rangers, numbering about three hundred and eighty officers and men, were commanded by Major Heintzelman of the First Infantry, who on December 14th, attacked a part of Cortinas' force at the Ebonal near Brownsville. After a sharp conflict the outlaws abandoned the blockade which they had established on the main road, and retreated up the Rio Grande until they effected a junction with the main body, the whole of which were driven up the river and overtaken at Rio Grande City, near Fort Ringgold, where, after a severe engagement, the troops gained a brilliant and decisive victory. The enemy, five hundred and fifty strong, were driven ten miles further, where they abandoned their arms, ammunition and supplies and sought safety in a hasty retreat across the Rio Grande into Mexico, having suffered a known loss of sixty-six killed and many wounded.

Cortinas continued to harass the border until the spring of 1860, and the bitter feelings aroused by his lawless aggressions were such as to soon bring about, if not checked or allayed, a state of war between the United States and Mexico. The belief was general, notwithstanding the protestations of the

Mexican authorities that they did not countenance the marauding outlaws, that they really did so by international non-action, and that they were afraid to disperse them.

In February 1860, we find Troop "E," in camp at Fort Brown, where it had moved from Reno, and in March, Troop "G" established a camp on the Rio Grande, just above that place. To these two troops was assigned the task of guarding about one hundred miles of the Rio Grande, a duty that it was impossible to perform with satisfactory results.

Captain Stoneman finally proposed to Lieutenant Kimmel who was in command of troop "G," that they cross the river and capture the town of La Mesa, about three miles distant, where it was reported Cortinas had established his headquarters. After an earnest consultation and believing they could capture the outlaw, on March 15th, reinforced by seventy-five states troops eager for the sport, they crossed the river and at daybreak carried the town by assault, killing and wounding several Mexicans and capturing three hundred armed men. They were greatly elated over their success, but they had captured a garrison of Mexican soldiers.!!

The result of their trip had not terminated as they had anticipated, and there was only one course to pursue, and it was promptly adopted. The prisoners were released and many apologies made for the unintentional mistake. Soon, however, they were confronted by four hundred Mexican infantry and ordered to return to the United States. This bluff was called by Captain Stoneman, who informed the Mexican colonel that no matter what might then happen, he could not be in any worse position so far as the question of a violation of international law was concerned, and he refused to comply with the demand until he had made further search for Cortinas. The colonel threatened to attack the troops, but evidently thought better of it and withdrew, saying that he would report the invasion to his department commander. A few days later Captain Stoneman received orders to return to his camp on the Rio Grande, which he carried out on March 20th, having searched the country for twenty miles in the interior during his five days stay on foreign soil.

The year of 1860, proves quite as interesting as the five previous years, the reports of operations showing that on February 16th, after a detachment of Troop "B" had succeeded in killing one of a pair of Indians which had been discovered leading away some stolen horses, Lieutenant Lee ran upon the other, who had succeeded in traversing the intervening prairie between Pecan Bayou and an adjoining wood, where he abandoned his pony and sought safety in a rocky ravine. There they were found in hand to hand combat by Trumpeter Hayes, but so closely embraced, that he was unable to fire on the Indian for fear of injuring the Lieutenant, who was obliged to fight it out to a finish, which he did, finally succeeding in throwing and killing his antagonist.

Ten days later Sergeant Chapman with nine men of Troop "A," uncovered a band between Brady's Creek and the Kickapoo. Protected as they were, by steep bluffs on one side and deep chaparral on the other, he charged them, first mounted and then on foot, and put in three hours of hard fighting before he succeeded in subduing them. At about the same spot Captain Johnson with the troop, came upon a party of Comanches and succeeded in capturing their horses but was unable to reach them by a mounted charge, enabling them to slip away with small loss. During the pursuit, which was continued until after dark, it was ascertained that whites were intermingled with the reds, as two men were overheard speaking the English language too fluently for Indians. A further search shows that on August 26th, the regimental commander Major Thomas, was twice wounded severely, in the chest and chin, while the wounding of two troopers of Troop "D," and a sergeant and two privates of the band in a fight with Indians on the Salt Fork of the Brazos, furnishes an instance where members of the field, troops and band received marks of battle in the same engagement.

No less interesting is the account of where Corporal Rutter with eight men of Troop "B," who after riding for two days through a heavy rain storm reached Sabano Creek. He was in pursuit of a band of horse thieves, and although the swollen condition of the stream made swimming necessary, they took the plunge, and on arriving at the opposite side, scrambled up

the bank right into the Indians' camp. The only choice was an immediate charge which was carried out, but owing to the swim only three or four of their carbines were serviceable, the others misfiring. This condition was as readily discovered by the Indians as by the members of the detachment, and acting promptly they forced their way through the corporal's line, leaving behind the stock which he had been sent to recover. Two Indians were wounded and one of the corporal's men was killed. This is an instance of where a detachment continued the pursuit during a heavy rain storm when even the Indians were awaiting a change of weather.

We have now reached the point where we find the service of the regiment on the Texas frontier is soon to terminate; the state having demanded, through its commissioners, the delivery of the military posts and public property within the limits of the Department of Texas, commanded by General Twiggs, who on February 18, 1861, ordered the posts evacuated by their troops which were to take up a line of march out of Texas by way of the coast, marching out with their arms, clothing, camp and garrison equipage, quartermaster supplies, susbistance, medical and hospital stores and such means of transportation of every kind necessary for an efficient and orderly movement of the troops, which were to carry provisions with them as far as the coast.

For years, our regiment had stood between the settlers and the Indians—protecting each from the wrong doings of the other—winning thereby the unbounded admiration of the citizens of the state, and when it was rumored that there would be conflicts between the regulars and the state troops, the people appealed to the governor to prevent such a calamity, stating that the regular army had made with its best blood many places within the State holy and almost classic ground, and that black indeed would be that page in Texas history which should record such contests.

To prevent concentration at any northern station by marching through the Indian Territory, the troops stationed at distant points were first sent to the coast. Captains Oakes, Stoneman, and Whiting made efforts to unite their commands for this purpose—making Fort Leavenworth or Jefferson Barracks the objective point—but were prevented, owing to lack of

transportation, while it was found that there was barely enough subsistence stores on hand to supply the troops enroute to the coast. Being widely separated, the troops were obliged to accept the situation or be held as prisoners of war until they could be exchanged. The "Order of Exercises" was complete in all details, and the regiment could do no better than submit to it and get out of the country as soon as possible.

During this period, the insurgents had raised troops to occupy the forts and protect the frontiers. The Indians, emboldened by the withdrawal of the regulars, made frequent attacks on the settlers in the vicinity of Fort Inge, murdering citizens and stealing property, leaving the settlers in a state of alarm. They reveled in carnivals of blood and plunder until Lieutenant Arnold with Troop "C", which had not as yet left that post, set out in pursuit and pushed the marauding Comanches so closely that they were obliged to seek safety on Mexican soil, our regiment thereby discharging its duty to the state, to the very last hour, and even after its citizens had hauled down the "Stars and Stripes" from their flag staff, replacing the national emblem with the "Lone Star" flag.

During this eventful period, Colonel Johnston was at San Francisco, commanding the Department of California; Colonel Lee was soon ordered to Washington for the purpose of offering him a command in the field; Major Thomas and Captain Van Dorn were on leave of absence. In February the regiment commenced its exodus from the State, the first detachment of four troops marching to Green Lake, and Troops "E" and "G" were transported by steamer to Brazos, Santiago, at the mouth of the Rio Grande, then by sea to Indianola from where the first detachment embarked on the steamship *Coatzacoalco* and proceeded by way of Key West and Havana, to New York, where they arrived on the 11th of April, being met at that place by Major Thomas. They then moved by rail to Carlisle Barracks and arrived on the 13th. Troops "D" and "H" were ordered on the 17th to Washington for duty. Headquarters and the remaining four troops followed soon after, and uniting at Indianola, they embarked on the steamship *Empire City*, arriving at Carlisle Barracks, April 27, 1861.

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Upon the arrival of the second detachment at San Antonio the "Lone Star" flag was flying over the Alamo, while the troops marched through the principal streets with the regimental standard and troop guidons displayed and the band playing "Yankee Doodle" and "Hail Columbia"; a large number of citizens following beyond the city limits, where they presented the regiment with a United States flag. The following afternoon, on reaching Goliad, a Secession flag was found displayed from the principal flagstaff, which during the night, the troopers cut down, and as they marched through the town the following morning it was displayed as headstreamer for the train mules.

The day after this detachment sailed from Indianola, a Confederate force entered the harbor and captured the remaining transport steamship *Star of the West*, while all the national troops remaining in the State were captured and paroled as prisoners of war.

The loyalty of the men was severely tested before leaving. State agents offered them good pay and liberal bounty if they would enter the Confederate service, but no further evidence than our regimental returns is required to illustrate their faithfulness to their obligations. Their arrival at New York was received with demonstrations of delight. Carrying themselves with the ease and assurance which indicates the trained and experienced soldier, the citizens seemed to think that if the regular army was composed of such men the revolt would soon be crushed. The regular army was, but little had they considered the strength of that force or the magnitude of the military operations in which their country was to be involved. But this carries us to another period.

WITH THE APACHE SCOUTS IN MEXICO.

By Captain JAMES A. SHANNON, Eleventh Cavalry.

THE Punitive Expedition entered Mexico to "catch Villa dead or alive," but from the beginning it was clear to many of the older officers that getting Villa himself would prove a very difficult operation; and, before the campaign had been on for many days it was clear to everybody that the attempts to catch Villa himself was, as one officer expressed it, "like trying to catch a coyote in Wyoming with a particular stripe down his back." If Villa would stand to fight with his band it would be easy. If his band broke up and he became a fugitive alone or with a small detachment it was an almost impossible task. There was, however, one chance of getting him. If his trail could be found, if one reliable person could be found who would say "here is where he went," and if some one could be put on that trail who had the ability to follow it, he might be caught. It was for this purpose that the Apache Indians were secured.

Once the idea had been suggested, it was carried into effect with the least possible delay. In fact the Indians did not all have time enough to get mounts before they left Fort Apache, and the detachment of twenty arrived at Columbus with only eleven horses. In spite of this effort to get them in promptly and of the further effort to get them to the front promptly by sending them 300 miles south by motor trucks, they were too late. By the time they arrived at San Antonio, the advance base 300 miles south of Columbus, the pursuit of Villa was over.

From what the officers have told me since that time, I believe if they had been with Colonel Howze's column during its dash to the Durango line, Villa might have been caught. It seems very probable that his column was very close to Villa at one time and that the presence of these trailers might have

enabled him to catch the arch bandit himself. From what I have learned about the Indians myself I haven't the slightest doubt that if they had been put on the trail they would have been able to follow it to the end. However they were too late, and this article is not an account of how near they came to catching Villa, but is a recital of some of the interesting and amusing things that have happened to these peculiar people since the pursuit of Villa was abandoned.

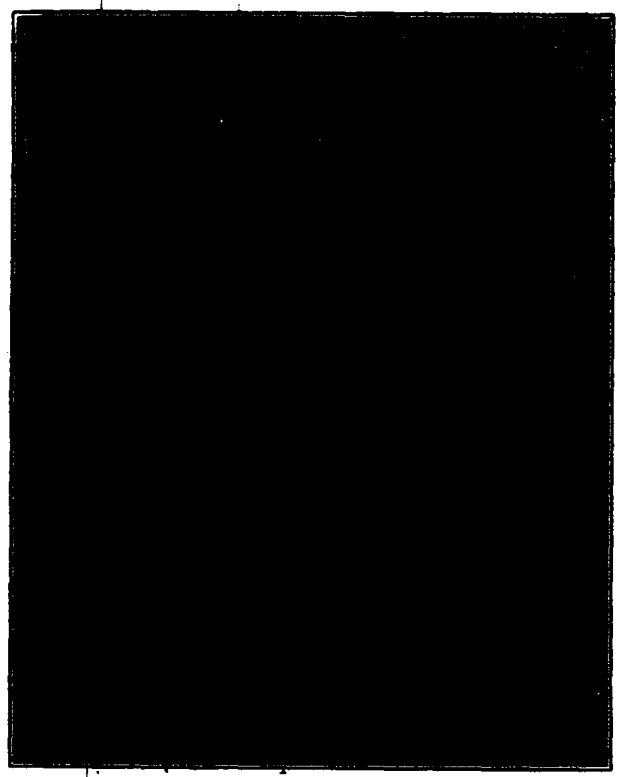
Early in April, it was learned that the Indians had been secured and were on their way. It became my duty to go back to meet them, see that they were properly equipped, and outfitted for service in Mexico, and bring them back to the front where they could be used in following Villa's trail.

I had never seen an Apache Indian, and my total knowledge concerning them consisted of certain statements I had heard to the effect that they could run all day long up and down hill and over the tops of the highest mountains, that they were very cruel and ruthless (from which came such names as the Apaches of New York and Paris) and that they could "trail anything that walked or swam or flew." As I rode toward the border on a truck train, I was forming in my imagination a picture of what I would see when I finally met my braves. I expected to find some tall, lean, eagle-eyed and eagle-beaked redskins, with little or nothing on except moccasins and a rifle belt, with probably a knife or tomahawk fastened on somewhere, sort of "Leather Stocking" heroes, silent and fierce.

I arrived at last and went at once to find the Indians. I found them—but not the people of my imagination. Instead, I found twenty short, stocky, pleasant mannered individuals, fully equipped in cavalry uniform from leggins to campaign hat. Their average height was about five feet six inches and some of them were decidedly too fat and didn't look at all as though they could run full speed over the tops of the Sierra Madres.

Moreover, although Captain Hazzard, their regular post commander, who had brought them to Columbus, had equipped them with everything necessary, before my arrival, I found the Indians had not received everything they wanted by any means, and I was soon getting them sweaters, dust-goggles,

electric flash lights and other luxuries. We started south again on the next truck train and soon they wanted boric acid for sore eyes, vaseline for sore lips and one old fellow, Sharley, wanted a mustard plaster for a sore back. I began to think my braves were not quite up to Cooper's heroes. I was too quick in my judgment, however, and through all my service



CHICKEN.

with them, I find that I have been slow to understand the Indians. Of course they asked for flash lights and mustard plasters if they thought they could get them, (just as a white man would) but they didn't need them and when thrown on their own resources could make a fire out of almost nothing and dig up enough medicine roots in a few minutes, almost

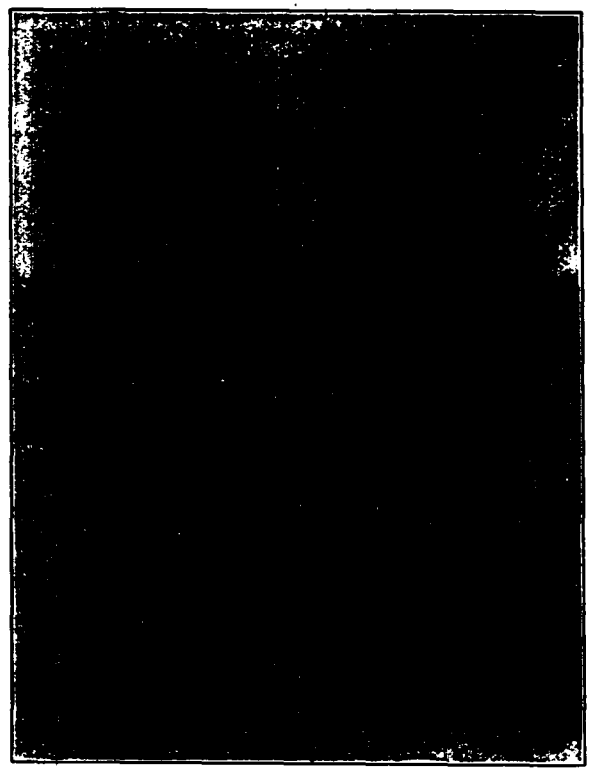
anywhere, to cure a whole family of anything that was the matter with them.

The Indians had brought eleven ponies to Columbus, and had not been given time to get more before leaving Fort Apache. These eleven had to be left at Columbus and the Indians were hurried south by truck train about 300 miles to the advanced base; but when they were given some Government horses and tried to go forward they were told that operations were suspended for the present and they would remain where they were. So they went into camp to await developments. At Columbus, I had drawn enough rations for the trip south. Having heard of the Indians' custom of eating up all the rations the first day and then going hungry until the next issue, I carefully doled out the day's supply each day and so made the rations last the required time. I found out on the trip south that they were adept at making camp under disadvantageous circumstances. As soon as the truck train stopped at camp they jumped out and the fire seemed to be started about the time they struck the ground, and a hot meal was ready a very few minutes later.

On the way south I had noticed them pointing here and there at the various mountain peaks. Some of them had been in Mexico years ago and they were evidently locating themselves according to their custom by observing the high peaks. The first thing of interest that happened after we got to San Antonio, was that the Indians began to get drunk. The first offender was an old-timer named Yet-Suey ("Hell"). He announced his possession of the fire-water by loud harsh yells and curses. The next day Loco Jim got some. A few days later several got drunk together and then it began to get pretty monotonous.

The Indian is a beast when he gets his liquor, and he has little less self-control than the white man, and is therefore more dangerous. The Apaches are as easy to control as a lot of children except when they get liquor. They are exactly like the inmates of the violent ward of an insane asylum when they are drunk. They then remember all the old unsettled scores of the last fifty years, and try to square things up. At that time it is good policy to take the bolts out of their rifles

and the magazines out of the pistols. On one occasion one of them got some mescal. After sitting around camp awhile, he got up quitely, turned his back and began loading his rifle. He had imagined some grievance against another scout sitting about twenty feet away, and decided to settle it then and there. He was caught and disarmed in time. After repeated warnings



CHOW BIG and NONOTOLTH.

and fatherly talks, six of them were finally put in the guardhouse after one spree, for about two weeks. This was a terrible jolt to them and we had no further trouble.

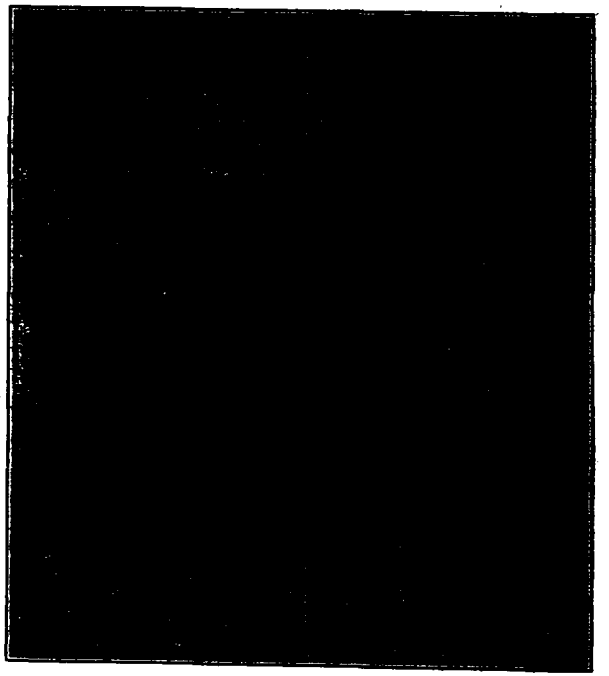
The liquor trouble and the need of varying the monotony of sitting in camp, led us to start hunting. And here first I began to see the real pleasure of serving with the Apaches.

There were some drawbacks to being with them. Some of them were lazy, selfish and undisciplined, but once we got out in the mountains after game they were a perfect joy. They were always quiet, alert, sharp-eyed, and absolutely sure of their location and of the direction to camp or any other place they wanted to go to.

As hunters they were perfect. Like a finished horseman who controls his horse and makes him perform every movement without any apparent effort on the part of the rider, the Apaches trailed and found their game so quietly and with so little sign of doing anything unusual, that one might hunt with them for months before realizing that they were doing anything at all except ride quietly around. I knew that they found plenty of deer and that those deer almost always appeared in places where they could get several good shots before the deer could get away. I finally woke up to the fact, that, from the moment they saw the tracks of the deer, they began trailing their game; but in hunting deer, instead of following the tracks as I expected them to do, they worked on their knowledge of the habits of the animal to tell where it would go. They were not remarkably good shots, although two or three of them were excellent game shots up to about 200 yards; but in the art of finding their game and putting it at a disadvantage they were perfect.

I had an amusing illustration of how little they seemed to be doing while hunting. One day a friend of mine, and a good hunter, went out with the Indians. That day they brought back seven deer. Nothing looked easier. A few days later he went out with a detachment of soldiers from his own regiment to the same locality where he and the Indians had killed the seven deer. He came back and told me they had not seen a single deer. He confided to me that the high water had driven the deer up onto the higher mountains. I smiled, remembering how slow I had been to appreciate the Indians hunting ability. A few days later he went out again to the same locality with a detachment, but this time two of the Indians went along. The party brought back four deer this time. The amusing thing was that he did not seem to realize that the presence of the Indians had anything to do with the finding of the deer.

Our hunting trips often lasted three days and were a combined hunt and reconnaissance. Leaving camp about 6:00 A. M., with a couple of pack-mules to carry rations and forage, we would make fifteen or twenty miles before noon, and make camp on some cool mountain stream. A quick lunch and then the detachment would split up into several parties of three or four each, a small guard would be left in camp, and the hunting



BIG SHARLEY and JOHN CODY.
Two of the best hunters.

parties would spend the afternoon hunting, returning to camp about dark. The next morning at daylight, the hunting parties would again set out carrying a lunch and hunt all day returning to camp at night. The following morning we would return to the main camp. When camp life had gotten especially monotonous, one of these three day hunts would come like a life-saver. The all day hunts gave one a fine appetite. Bacon, corn beef, hardtack, anything tasted good. A few

hours away from the flies of a big camp was a relief in itself. And the hunts produced enough of excitement and of unusual situations to keep one interested. There is a something about being in the mountains with the Indians that is fascinating and must appeal to any man. To get off twenty or thirty miles away from the command with a rifle in some wild part of the mountains with one or two Indians who could speak only a few words of English, would have a strong appeal for the wild man who is pretty near the surface in everybody. Hunting was a perfect drill for the scouts. It combined every element for their training or rather for keeping them in form. There was the trailing of the game, the alert watching for its appearance, the quick dismount and going into action when the game appeared, and then the firing at a moving target—every phase of the scouts' business. Had it not been for this we would not have hunted them at this season.

When the Indians shot a deer they immediately dressed it, and as the Mexican White Tail deer which they shot principally, is small, not weighing more than about 100 pounds, at this season, we packed them to camp behind our saddles. On returning to the main camp they always skinned the deer and tanned the hide. The hide was first put in water for about twenty-four hours, then taken out and the hair scraped off. It was then stretched to dry for several hours. Then the brain of the deer, which has been cooked by throwing the head into the fire, was scooped out, softened with water and with this the hide was rubbed and kneaded and pulled and stretched by hand for several hours. When it again became dry it was soft and white and thoroughly tanned. The Indians did a pretty good business selling these skins to officers at the various camps. Not the least attractive thing about the hunts was the addition to the ration that these trips provided. The deer were the most delicious eating one can imagine. They entirely lacked any strong gamy flavor. A piece of fried tenderloin could be cut with a fork like a sausage and the flavor was delicious.

The scouts had arrived too late for the dash after Villa and it looked as though they had missed the chance of seeing any action. About three weeks after their arrival, however, they had a chance. A band of the illusive Villistas had appeared somewhere south of San Antonio, had scared some Carranzistas almost to death, and the latter fled for aid to the American camp.

A column of six troops, a machine gun troop and the scouts under command of Colonel R. L. Howze was started in the direction of the trouble at 8:30 P. M. The Indians acted as advance guard. Since the year one, probably the Indians had never acted as a regular advance guard to a military force. Also, they are not very strong for night operations. As a consequence it was pretty hard to make them understand what was wanted. They didn't seem to understand the idea of keeping strung out along the road with good distance between troopers, and a constant lookout to front and rear to avoid loosing connection in the dark. However they managed to keep ahead of the command and form a sort of protection against surprise.

About midnight we ran across part of the Carranza outfit which had been driven out by the Villistas. As we approached this outfit and opened a conversation with them, Sergeant Chicken (First Sergeant of the Scouts) fingered his gun nervously and gave vent in one sentence to the Indians' whole idea of the Mexican situation: "Heap much Mexican, shoot 'em all!" There were no fine distinctions in their minds between friendly Mexicans and unfriendly, Carranzistas and Villistas, *de facto* troops and bandits. To their simple direct minds there was only one line of conduct—"Heap much Mexican, shoot 'em all!" They had to be watched pretty carefully when out of camp to be kept from putting this principle into practice. At midnight we met an American doctor accompanied by another doctor, part Mexican, who knew the country. They guided the command to the Mexican Ranch of Ojos Azules. About six o'clock in the morning we arrived at the ranch and effected a partial surprise of the band of Villistas we were looking for. The plan for the Indians, who were in the lead at this fight, was to pass around the ranch without waiting to fight, into some hills just beyond and take up a position to cut off the escape of the Mexicans. This was explained to them by the interpreter before we arrived at the ranch. As they started to circle the ranch at a gallop they came under the fire of the

bandits and immediately every one of them, true, I suppose, to a thousand years of training and to their natural instinct, dismounted and returned the fire. No persuasion or cussing could get them to come along. They stood their ground well and returned the fire, but the idea of being under fire and not returning it was evidently foreign to every fibre of their being.

The Indian cannot be beaten at his own game. But in order to get results, he must be allowed to play that game in his own way. You tell a troop of white soldiers there is an enemy a thousand yards in your front and they will go straight at him without question. The Indian under the same circumstance wants to look it all over first. He wants to go to one side and take a look. Then to the other side and take a look. He is like a wild animal stalking its prey. Before he advances he wants to know just what is in his front. This extreme caution, which we don't like to see in the white man, is one of the qualities that makes him a perfect scout. It would be almost impossible to surprise an outfit that had a detachment of Apache scouts in its front. They do not lack courage by any means. They have taken part in some little affairs in Mexico that required plenty of courage, but they must be allowed to do things in their own way.

After the troops came up, the scouts went on with them, and I believe accounted for several of the Villistas. Being unable to get the scouts to come along over the hills as at first planned, I joined "G" Troop, Eleventh Cavalry, and went on over into these same hills with them, but arrived too late to intercept the retreating Mexicans.

On return to the ranch two hours later, the scouts were all there, and each scout had one or two mules or ponies captured from the bandits; also, saddles, bridles, rifles, blankets, etc. Most of the animals had terrible sore backs, but after several weeks of careful treatment they all got well and made pretty fair mounts for the Indians.

We stayed within a few miles of Ojos Azules for a few days. During this time a large party of Carranzistas under a General Cravassos came into the ranch of Ojos Azules. Later, General Cravassos marched past our camp and we had a good look at him and his command. This was the most military looking body

of Mexicans I saw in Mexico. They were very well mounted, were marching in column of twos with intervals between troops, had a machine-gun on a pack mule, and although not uniformed, they presented a very orderly appearance.

About two nights later a message came in directing that we return to San Antonio, to arrive by daylight the next morning. We broke camp and marched as ordered, arriving at San Antonio the next morning. Stayed there that day, and marched north again the next night to San Diego del Monte, about 20 miles, and the next day to Lake Itascate where we went into camp. At this point the Indians were detached from the Eleventh Cavalry, and attached to the Fifth Cavalry, and for about three months served with the latter regiment, scouting or hunting almost continuously. Late in August they moved north to Colonia Dublan, where they again were attached to the Eleventh Cavalry, and where they have stayed until the present time.

It is seldom that a person who has a reputation for doing anything especially well can come fully up to expectations. The reputation is generally better than the reality. And that was what I expected to find about the trailing ability of the scouts. I expected it to be a sort of hit-or-miss affair. After seeing two or three demonstrations however, I am willing to state that I believe trailing is a science with the Apaches. There is no chance about it at all. Show them the trail and they will take you to the person or thing that made the trail.

The first example I saw of this was on June 1st. On that day the Fifth Cavalry made a march north, changing camp, and after the Apaches had scouted through a pass in advance of the regiment, in accordance with orders, they went up the valley a few miles to a Mexican ranch where, it was reported, there were some American horses. It was known that some officers had lost their horses and it was thought there might be a chance here to recover them.

Arrived at the ranch they quickly found the tracks of some American horses, evidently two or three days old. They started off on the trail and after going a short distance came to a rocky stretch where the trail was hard to follow. They circled out like a pack of hounds and soon one of them gave a

point and all the rest went over where he was and started off again. After a while the trail seemed to divide, so the detachment split up into two parties following the two trails. After about an hour or so, one of these parties overtook the Villistas in a very narrow ravine. They shot two of them, and on account of the narrowness of the pass, unfortunately shot two of the horses, one of which proved to be the private horse of Lieutenant Ely of the Fifth Cavalry. They recovered one government horse and got some Mexican saddles, rifles, etc.

A better example of their trailing ability occurred about a month later. We were then in a big camp and it was the custom to send out each day two patrols to the south to keep a lookout for our friends the Carranzistas. One day the Indians were sent out in place of one of these patrols. They started south along a trail which followed a narrow river bed. The trail crossed this river about fifty times in half as many miles. About ten miles from camp the scouts, who were always watching the ground, saw the tracks of an American horse going south, and soon they announced that there was a Mexican mule with this horse. They said they thought an American soldier had deserted and was going to join the Mexicans and had hired a Mexican to show him the way.

After a few miles the trail left the river bed and led across the hills, still going south. They followed it fast, about five mile an hour I should say. If they got at fault they would look the ground over, evidently pick out the place where they thought the trail must go, one of them would dash off at a gallop, and soon they would all be off on the trail again.

After going about fifteen miles they finally came to a place where a lot of big range horses had been grazing, and the ground was covered with tracks. Here they lost the trail completely for perhaps fifteen minutes. They circled out widely and finally one man whistled and waved his arm, and when the rest rode up he pointed down in a little narrow wash, and sure enough there were the American horse and the Mexican mule tied to trees. All approached cautiously and called out "hands-up!" No reply. So they went down into the ravine found saddles and bridles, etc., and foot-tracks leading out which they followed.

In a few hundred yards they had followed these tracks into a big pile of rocks, and in answer to their challenge out came a tall American with his hands up. He was one of General Dodd's guides who had been sent off by the General on a secret mission with a reliable Mexican, to ride at night and sleep during the day. They had been hiding when they saw the Indians and thought they were surrounded by Mexicans. Everybody had a good laugh and they came back with us.

The best trailing the Indians did in Mexico, however, was a two-day chase after some deserters which occurred early in August. Any lingering doubts I may have had as to their ability, were entirely dispelled by this exhibition. Early one day the Adjutant sent word to the Apaches that some deserters had left camp the night before, and that the commanding officer wanted to see if the Indains could find them.

It was ascertained after some inquiry that three men had left. All were well-mounted and they had taken three rifles and five pistols. They had left camp about ten o'clock the night before, but nobody knew anything about where they had gone, or whether they were attempting to get to the states or to join the Mexicans.

The camp was located in a valley about ten miles wide running north and south, and bounded east and west by mountain ranges. Four scouts spent the morning going across this valley from east to west, north of camp, and returned to camp at 10 o'clock stating that the deserters had not gone north. After dinner they started out again to cross the valley south of camp. About 3 o'clock they found a trail leading east, and after following it a short distance they announced definitely that this was the trail made by the deserters, that there were three of them, that the trail had been made at night and that the horses were traveling fast. To prove that the trail had been made at night, they pointed to a prairie dog mound into which one of the horses had stumbled, and a little distance further along, a piece of sharp cactus broken off evidently by one of the horses. It was plain enough after they had pointed it out.

Some soldiers were working not far away, building a target range under charge of Lieutenant Whitside, Fifth Cavalry,

and a request for two of these men to assist in the chase was promptly granted. These soldiers had to return to camp for their rifles but joined the scouts a few hours later, with Lieutenant Whitside, in the next valley to the east. The scouts, had meanwhile been following the trail which presently led into a well beaten road leading to the east. This road had been traveled since the deserters had been over it, by an entire troop of cavalry, going the same direction, it was impossible to follow the tracks of the deserters' horses. But by riding along the sides of the road, a few yards out, the scouts were able to make sure that no one had left the road and gone off to one side. After traveling about ten miles we came to the next valley to the east, where a troop of cavalry was kept as an outpost to the main camp. The Indians picked up the trail in this valley before dark, Lieutenant Whitside and his two men joined us and we spent the night with this troop.

At sun-up the next morning the Indians took up the trail where they had found it the night before. It still led east and about ten miles farther on another low mountain range was crossed and we passed into another valley. No play and no story could have been more fascinating than it was to watch the work of the Indians this day. It was a chapter out of Cooper's "Deerslayer." The country was wild and barren a few cattle here and there were the only signs of life. Not a sign of a house or of a human being. The Indians were following the trail fast, about five miles an hour. There was no noise, no talking and never for a moment were they twenty feet away from the trail made by the deserters horses.

Early in the day we found we were following a thirsty crowd. At every water course we came to we saw evidences of this. There was little water in the country, but we would find where the deserters had followed the water courses looking for the little pools that could sometimes be found, and occasionally we would find where they had dug in the creek bed for water. Some empty bottles we had passed just after leaving the main camp the day before, gave us an inkling of one reason for this thirst. Also it was a hot day.

About noon we came to a big pond and here we found the place where the deserters had camped the night before. If it

had been interesting watching the Indians on the trail, it was more interesting watching them at this camp. They went first to the fire. It was still warm and that showed them the camp had been abandoned not long before. In the fire they found the buckles of a soldier's cartridge-belt suspenders. That definitely proved that we were following soldiers if any proof were necessary. They found a piece of Government halter, a soldier's light wool sock, and the tracks of his bare feet as he went to take a bath. Everything they looked at meant something to them. They saw everything and they drew correct deductions from all that they saw.

At this camping place I got a clear proof of the fact that, to the Indians, trailing is a science and not a matter of guess work. As we approached this camp we saw at a distance going to the south down the valley what appeared to be two or three mounted men. Whitside, who had a good pair of field-glasses, looked carefully and decided they were the party we were after. They were going south. While looking around the camp, Sergeant Chicken found the trail leading north. He was told that the officer with the field glasses thought he had seen them going south. He listened patiently and then said as though he had been stating some simple self-evident fact, "No, they gone north." So we went north!

The trail was fresher now and the scouts followed faster, their little Mexican mules galloping much of the time. The Indians were intent, alert, but wary like a wild animal approching its prey, occasionally slowing up and looking the country over. We went on this way probably an hour and a half. Then Sergeant Chicken pulled up, looked the country over and said, "We see 'em about five minutes." We were at this time following along the bank of a deep wash. In about five minutes we came where a widening in this wash gave us a view down into it. There we saw the deserters probably 1,200 yards away, standing by their horses.

As they saw us they mounted and fled at top speed. The next few minutes formed a fitting end to the days sport. The Indians on their little mules fell away behind. Whitside riding a splendid little thoroughbred mare, shot to the front and after a run of about three miles overhauled and disarmed

the two hindmost of the deserters. The other was better mounted and went on about a mile further but was finally brought in without much trouble; and when we got them together the Indians had come up and were standing around quietly, smiling good-naturedly and saying nothing.

The certainty with which the scouts decided on the trail as soon as they found it, their certainty at the pond that the trail going north was the trail we were following in spite of the evidence of field-glasses, and Sergeant Chicken's final remark that we would see them in five minutes. When at the moment he couldn't possibly see them, convinced me of their absolute reliability as trailers. We got back to our camp of the night before about 8 o'clock P. M., and the next day turned the prisoners in to the guard.

I wish I could tell all the interesting and amusing things that have happened with these Indians but it would take too long.

There are several interesting characters among them. Old Hell Yet-Suey, the first man to get drunk, is quite a character. He is the real hereditary chief of the White Mountain Apache so far as one can be said to exist. He has tne most villainous look imaginable. His face is almost black, his eyes are bloodshot, and the lower lids hang down. He wears his black hair long and shows his teeth. When this old scoundrel put on his dust glasses and approached a Mexican prisoner to look him over, the latter died of fright. He was also quite a craftsman. He could make very pretty watch-fobs and hat-bands of braided hair. He made General Dodd a very good looking pair of silver stars out of Mexican coins. He was also a great master of the dance and knew all the frills that go to make an Apache ghost dance complete. He loved to have his picture taken. He had captured a belt from a Villista, and when he was about to be photographed he would roll up his sleeves, push back his hat, hang this belt across his shoulders, then kneel on one knee with one hand grasping his rifle and the other his trusty automatic. He was certainly a fierce sight. The only trouble was that the temperature near his feet was always below zero when there was anything to be done.

Charley Shipp is a short, stocky, little man who talks the best English of any of the scouts in this detachment. At home he is a tribal judge. He is round faced, smiling and good natured. In spite of his judicial dignity Charlie had to go to the guard house once.

Skitty Joe Pitt is a great joker and a pretty good hunter and a good cook.

First Sergeant Chicken is probably, all things considered, the most valuable man in the detachment. He is finishing his seventh enlistment period. He speaks pretty fair English, is an excellent trailer and scout, and an absolutely reliable man.

Sergeant Chow Big and his brother Corporal Nonotolth are probably the two best hunters and two of the best men in every way. Nonotolth is a handsome Indian with a strong face and a strong character. He is the nearest like a white man in his characteristics of any of the Indians in the detachment.

Big Sharley and B–25 were with Crawford in Mexico thirty years ago and the latter carries an ugly scar on his jaw received from a Mexican bullet.

Nakay (Y–5) is the oldest man in the party (sixty-three), but he is able to keep up as well as the younger ones. He and one or two others still wear long hair.

Loco Jim is one of the friendliest of the outfit. He was a great man in his day, and his body is covered with scars obtained in early encounters. He has lost much of his strength and cunning and was not quite equal to the hardships of the trip.

The Indians had some interesting customs. They have a way of their own of taking a hot bath. They build a little frame of bushes or branches of trees about four feet high and four feet in diameter on the bank of a stream. They cover this with blankets until they make an enclosure that is almost air-tight. Then they heat several large stones, put them inside, and pour a little water on them. Then as many Indians as possible crowd into this sweat box, wearing only a gee string. Here they sit for about ten minutes until an ordinary man would be suffocated. Then they begin to sing the bath song. This is a kind of weird chant and lasts perhaps ten minutes more, when with loud yells they all dash out dripping with perspira-

tion and jump into the stream. After cooling off this way, back they go into the wickup and repeat the whole thing, song, cold plunge and all.

The general opinion seems to be that the Indian is a dirty man in his habits, but after seeing them take a few of these baths, one is convinced that these scouts are as clean as anybody in camp. They are also very careful as to their camp sanitation.

Another curious custom they have is that of holding a sort of song service every little while. After dark they all gather around in a small circle and after sitting quietly for a little while, one man exhorts them in a few words and then starts a song. He sings the verse and all join in the chorus. The soloist has a hard time of it, for the song is very guttural and a terrible strain on his throat and head. This song service sometimes lasts several hours, all getting more and more excited as they go on until they wind up with a wild yell. It is a religious service, involking the aid of the Great Spirit to protect and assist them in times of danger and sickness. The soloist is generally fit for sick report the next day.

A large part of the duty of the officer in charge of these braves consists of writing letters home for them and reading the letters they receive from home. None of them can read or write. There is no modesty about this letter business. All gather around and listen while a letter is being dictated, and also while one from home is being read. It will not be indelicate to give a few extracts: This is a man writing home to his wife: "Some scouts got letter saying you crying all the time since I left home. Stop that crying. Don't let anybody borrow my wagon or steal my horse. Get some of your family to cut my corn and brand my calves. See that my children get plenty to eat. I be home pretty soon. Thats all. Goodbye."

This is a letter to a scout from a friend back at Apache: "Everything just the same here at Apache. Everybody well. Your wife made some toodlepie and got arrested the other day. B-25's two wives are fighting over the money he sends home. His wife, B-17, spent too much money and his wife B-23 got mad about it. Y-2 has a baby. It looks just like Y-2. Send me a silk shirt from Mexico. Good-bye." Toodlepie is a

very intoxicating drink made by the Indians themselves. The Indians are devoted to their families, especially their children, and send home many presents and a large part of their pay.

I believe the Indians' military value is and always will be as guides, scouts, or trailers, wherever such persons are needed. I don't believe they could be made into soldiers—reliable, disciplined, fighters in a hundred years. It is a mistake to use them in any set military formation such as advance guard, flank guard, etc., and expect them to do it like a trained soldier.

On the other hand, as guides they have a sense of direction and locality that is uncanny. One soon gets to learn that they locate and orient themselves by the high mountain peaks. But that is far from the whole thing. I remember a little doctor who had been out west for awhile, who told me he had found the secret of the cowboy's ability to ride a bucking horse. I was very anxious to know the secret so he told me there was not much to it—*they just did it by balance*. That is about as near as the ordinary man comes to possessing the Indians sense of direction and locality. How it is that they always know the exact direction they want to go. How they know which side of the mountain will be the easiest to go around, how they always know just where they are, I have never found out.

As scouts, away out in front of the advance guard, under command of some one who understands them, they would be invaluable. Surprise would be practically impossible. They see everything and they know the meaning of what they see. I have already described some of their feats as trailers.

Service with the Indians has been intensively interesting and I have grown very fond of them. They have a sort of childlike trust in the officer who is in charge of them that is remarkable. What he says is *so*. They are very undemonstrative, but when, one in a long time, they say in very broken English, "You got good heart, we all same brothers," you can't help having a mighty friendly feeling for them.

Mounted Service Section

A METHOD OF PURCHASING HORSES.

Being comments on Major Clyde E. Hawkin's article in the January JOURNAL.

BY THE FORT RENO REMOUNT OFFICE.*

AFTER an experience which involved the purchase of some 8,000 horses and mules during a period of ninety days, the method detailed by Major Hawkins in the January issue of the JOURNAL appeals to this office as decidedly complicated and as failing to give the maximum of efficiency with the minimum of expense. Beginning July 1st, this office was given the handling of three contracts covering 10,000 animals in two cities several hundred miles apart. There were but two officers to do this work and it was to be performed, presumably, without interference with their duties in connection with the remount depot. The number of animals involved in these contracts should give all the necessary experience to any officer as to methods for purchasing this class of animals. Any inspector who had not learned something of value in this connection after purchasing 8,000 animals, would hardly learn by purchasing more.

The method detailed by Major Hawkins is largely based on the present complicated paper system with which our service is cursed, and a careful analysis of it will show that the time of the board, or commission, is given rather to the careful preparation of certain papers, wholly unnecessary, than to in-

*Contributed through the M. S. S. Section of the CAVALRY JOURNAL.

specting animals. Chief among these useless papers is the Descriptive List of Public Animals. This paper probably will shortly become obsolete, at least in so far as purchasing officers are concerned, as it has been recommended abolished by various boards on amendments to Army Regulations.

Two methods of purchasing were experimented with during the past summer. The first was by a board almost identical with that described by Major Hawkins in the first paragraph of his article. Later, commissions were organized, each covering one horse contract and one covering two mule contracts. These commissions were employed with the idea that greater speed would be obtained in filling the contracts. It will be shown later in this paper that the efficiency of the original board exceeded that of the commissions, both as to speed and economy.

Taking Major Hawkin's article in detail we find that the capacity of the board first described is stated as seventy-five animals per day. With a board that has become accustomed to working together, even with the pernicious descriptive list still with us, this number could very well be doubled. See table given later in this article.

Next we find that it is contemplated to *weigh* the animals. Why weigh? Of what importance is the exact weight of the animal at the time of purchase? He will probably weigh from 50 to 75 pounds less than this when he has arrived at his destination after a trip of several days and he will in all probability exceed this weight from 50 to 100 pounds six months later under the conditions of ordinary garrison duty. Now any inspector who cannot estimate well within these limits simply by observation is lacking in the "horse sense" cited by Major Hawkins as an essential qualification of an inspector. What, after all, has the weight of the animal to do with his suitability? The question is, has he the frame and conformation to carry in good condition a certain recognized weight which is consistent with his work? This feature the eye of the inspector should be able to estimate, as well as he judges the animal's suitability in other respects. No time should be lost on such useless details as weighing.

Next, a sort of double inspection is described. *Why?* Largely in order to insure an accurate descriptive list. But even with the D—L, why double the work? The animal when presented is either suitable or he is not. He is either sound or he is not. While the inspector and his veterinarian are determining these points, the clerk can be preparing the D—L so far as distinctive marks are concerned. It need not be completed until the wind test has been made, but if it should be completed and the animal finally rejected, it is a simple matter to destroy the D—L and transfer its number to another descriptive list.

These are a few of the points which strike us at once as faulty in the method described. In general it is desired to call attention to the following main features in Major Hawkin's method with which this depot does not agree, to outline a method which we consider better, and finally to give the reasons for our support of the latter method.

Defects of system described:

1. It contemplates that the present D—L of public animals must continue to be a function of an inspecting board.

2. That the hoof brand must be depended on as a means of identification from point of purchase to destination of animal.

3. That a combination of letters and figures make the best hoof brand.

4. That an examining board must consist of not less than eight members to satisfactorily accept and ship from 150 to 250 animals per day, preferably the smaller number, during an eight hour day.

5. That, in general, the yards of the contractor, which usually mean public stock yards, are the best place to conduct inspections.

6. That no real control of the feeding, care, etc., of the animals intended for the service can be had prior to the inspection and while in the hands of the contractor.

7. Does not render fraud difficult so far as substitution of animals is concerned.

Consideration of the present D—L as a function of the inspecting officer or remount depot may be dismissed. The fallacy of the hoof brand as a means of identification has been amply proven by the experiences of the past summer. Ask the auxiliary remount depots on the border. Ask officers who took part in the Punitive Expedition. Ask some of the officers of the Inspector General's Department who tried to identify animals presented for condemnation. As for a combination of letters and numbers as a hoof brand, this point was pretty thoroughly covered in the July issue of the JOURNAL, in an article commenting on Mr. Trowbridge's "Identification of Public Animals." The other points will be covered in discussing the following scheme which we believe should, in general be followed where the inspection of large numbers of animals is contemplated:

1. Animals should be inspected at Government controlled yards.

2. The present D—L should be abolished as a function of the inspecting officer.

3. The hoof brand should be replaced by a body brand.

4. An inspecting board of more than three members (the inspector, veterinarian, and clerk), aside from the branders, involves more labor without corresponding results. It decreases efficiency.

6. The Government can insist on preliminary supervision of the feeding and care of animals prior to presentation for inspection.

Considering the first point, it should be borne in mind that the emergency calling for a large number of animals will be sufficiently outlined to indicate where the mobilization of troops is to take place, and thus where the most advantageous locations for field remount depots will be. With this knowledge, the remount service should be arranged to establish receiving points. These should be located convenient both to the ho se markets and the transportation lines which will be utilized in carrying accepted animals to field depots. Except in civil strife, these mobilization points are not difficult to guess. It will be one of our four borders. The plans for receiving depots

and auxiliary depots, rest stations, etc., should be prepared *now* and on file in the O. Q. M. G. or whatever department is to have charge of the remount service. When the emergency arises, they should be put in the hands of the officers detailed for this service together with the necessary funds for their construction. Where large numbers of animals are required, it means the expenditure of immense sums of money. To insure the greatest value for the money and to fortify against loss, the government should utilize a part of the appropriation for the purchase of public animals to construct proper receiving, inspecting, and shipping yards. The experiences of the past summer show that this will pay in the long run and the long run is what counts. All premises where animals are received and inspected should be *absolutely under the control of our own inspectors and veterinarians*. The same is true of the stock cars and in fact everything pertaining to the sanitation of the remount machinery.

Let us consider what our experience of the past summer cost us in losses due to preventable causes. Roughly speaking, our contracts called for an expenditure of approximately ten millions for both horses and mules. Of this amount, the total loss in animals after acceptance, due to shipping diseases and causes incident to delivery to depots and troops in the field, is not certainly known. No figures are at hand on which to base an accurate estimate, but it has probably amounted to several hundred thousand dollars even at a conservative estimate. Suppose a half of the money loss had been invested in constructing and maintaining Government controlled yards and by so doing one-half of the remaining half of the loss in animals had been saved to the Government, the item would have been considerable.

To use a concrete example, let us assume that $100,000 had been set aside for use in constructing yards, or fifty per cent of the assumed total loss due to yard and shipping disease. Awards were given as follows in the last call for animals:

Front Royal ..... 1,000 head.

Central Department:

K. C. and St. Louis	26,333	
Wichita	6,985	
Oklahoma City	8,300	=41,618 head.

Southern Department:

Ft. Sam Houston and Ft. Worth ..... 13,825 head.

Western Department:

San Francisco	735	
Seattle	100	
Los Angeles	1,900	
Ft. Keogh	75	= 2,810 head.

This involves eleven purchasing points:

Montgomery, Ala., St. Louis, Mo., Kansas City, Mo., Wichita, Kans., Oklahoma City, Okla., Fort Worth, Texas, San Antonio, Texas, Los Angeles, Cal., Seattle, Wash., Miles City, Mont.

Suppose San Francisco and Seattle had been combined, or Miles City and Seattle, making ten purchasing points. Allowing evenly $10,000 for each point, which would not be necessary where the smaller number of animals was to be inspected, or pro rating the $100,000 on the basis of the number of animals to be delivered at each point, very satisfactory yards could have been erected, maintained and equipped under Government control for the period of three months, during which the greater part of the purchasing was conducted.

Make it a part of the specifications that bids must be made with a view to shipping to the remount yards; that the animals being assembled for inspection must be vaccinated on their home grounds when purchased by the contractors agents, even going to the extent of supplying the vaccine free. Give the Government the right to control in some measure the shipments so that shipments can be made when weather is most favorable. In other words, do not let the emergency stampede the system. It is better to deliver well, non-infected horses and mules to the troops than sick, infected animals. The latter are not only useless, but carriers of disease to the sound stock in the hands of the organizations, who, with an emergency already on their hands, have no time to fight epidemics. The most serious time in the new animal's career is the short period of a few days between the contractor's purchasing agent and the inspector. This is the time that infection gets in its work to show up later on in a thoroughly unserviceable animal, either

temporarily or for good. Arrived at the crowded stock yards, the animal passes through the period of incubation of his particular infection, to come down with the disease just before shipment or on arrival at his destination, provided he does not come down on the contractor's hands and is in no condition to be shown. This latter class is the one that infects the premises and makes the public stock yards a veritable incubator of all forms of infection which rapidly develop complications far more serious than the original disease.

Major Hawkins states that any inspecting point would shortly assume the same condition as the public stock yards. This is not correct. It will, of course, if it is allowed to. But it must be considered that public stock yards are always in the large centers where property is high, and rent and taxes enormous. No dealer in horses and mules could afford to own or rent sufficient ground to give the number of animals he ordinarily handles the requisite space to insure sanitation. His stock of animals must be crowded into the smallest space possible. Some of these dealers have pastures outside the cities where their yards are located, but these also have to be limited due to the high value of the land. Furthermore, the contractor's yards are not filled simply when he is working under a Government contract, but constantly filled with a constantly changing stock of animals which he keeps on his hands the minimum time. All these animals carry their share of infection, and when it is considered that this has been going on for years, the condition is obvious.

The Government need not confine itself to small space or high priced ground. It already possesses many large tracts of public ground and reservations which might be utilized. Take the remount depots. They are already equipped and have a permanent personnel which would be invaluable for handling large contracts. As an example consider Reno in connection with the contracts in Oklahoma City, only thirty miles distant. Last July, due to high water, the contractors were cut off from their pastures for weeks. Animals were crowded into the stock yards in a pitiable manner. The weather was exceedingly hot and the stench from the overcrowded stables and pens was nauseating. At one time there

were 5,000 animals in the pens of W. T. Hales' alone, and the animals stood in the stables dripping with sweat induced by the crowding and the excessively hot weather.

Thirty miles away at Ft. Reno, were 8,000 acres of excellent pasture, fenced off into twenty pastures with communicating lanes and gates; there were some twenty men of the permanent personnel whose business it is to handle the depot stock; there were unloading pens, cutting pens, and any other equipment that might have been essential could readily have been erected at practically no cost. Both contractors remarked on this circumstance and both would have been only too willing to have changed their delivery to Ft. Reno instead of Oklahoma City. To say that this reservation would soon have assumed the same condition as the stock yards is nonsense. Officers could have begun their inspection at 7:00 A. M., and worked till dark without inconvenience, allowing an hour for lunch.

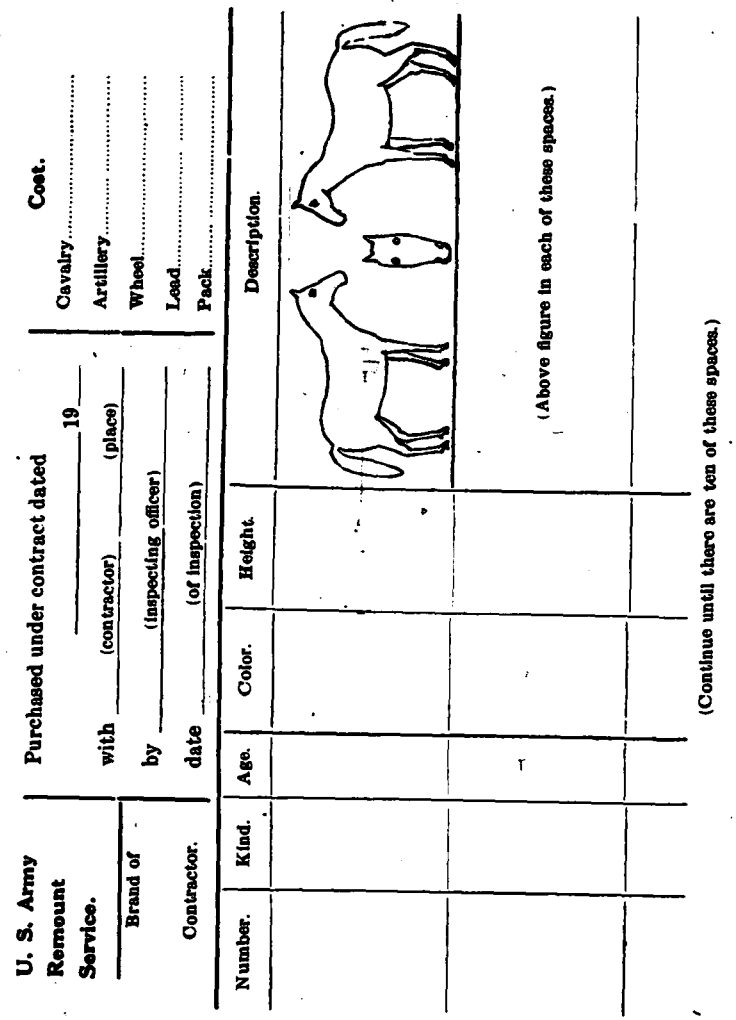
We have not so far considered a recommendation made by this depot relative to the establishment along the lines of supply from the purchasing point to the field depots, rest stations, which could be feeding stations, under remount control. By the utilization of the present remount depots as above suggested, a good part of the amount of the $100,000 previously assumed, could be saved. Very little expenditure would be required to convert these depots into inspecting yards. Traveling expense of boards would be saved, as the personnel would be quartered at the depot and could go to their work daily at as early an hour as circumstances demanded, and continue till the day's shipment was actually made, without inconvenience. If this saving were put into Government controlled stations for unloading, feeding, etc., our losses en route would be further reduced. These halfway stations could carfully inspect each shipment and relay to the field depots only those animals that were in good shipping condition, holding up for rest and treatment those that showed sickness or exhaustion. Thus there would be removed from the flow of animals to the field depots temporarily sick and exhausted animals, but would save these to the service for later use, where under present methods many of them are lost. The creation of more remount depots and sub-depots for permanent

use in peace times, and there is no doubt that these depots should be increased if we mean to make the system of practical value, would give us permanent, well-equipped relay and inspection yards without waiting for the emergency to arise, as it will, if we become engaged with a foreign power.

To return to the details of inspection. It may be argued that if we do away with the permanent D—L, what is the inspector going to do to keep track of his animals? In the first place there is no occasion, as will be shown, for the inspector to be obliged to keep track of his animals after the day's shipment is made. Those animals are gone, off his hands. They were so many cavalry, artillery, or infantry horses, or so many wheel, lead, or pack mules. They were so branded and that should be the end of it for the inspector. But he does need a temporary method of identification to check his acceptances and his shipment. A duplicating record book, or pad, which would fulfill the conditions of Major Hawkins' floor clerk's memorandum is shown in the accompanying sketch. One copy is kept by the inspector and the duplicate sent with the shipment to the field remount depot to which the animals are consigned. This will be the only record kept, and this only until the shipment is receipted for or checked back. The inspector may preserve his copy if he chooses, for his own information, but it is his own to dispose of as he pleases and it has served his purpose when the shipment has arrived at its first destination.

There are few distinguishing marks necessary on the average horse that need recording for temporary identification. A brand, the shape of a star or stripe, a scar, something will always be found that will readily identify the animal to the inspector on a recheck. The figure or outline of the horse gives plenty of space for this purpose when taken in connection with the age, height, color and classification of the animal. Major Hawkins' estimate of the number of men needed is based largely on the desire to keep the D—L of the horse and the office records together. In other words, fifty per cent of the inspection is subordinated to paper work, energy that might very well be applied to the real business in hand, which we conceive to be the selection of suitable animals with the least pos-

sible loss of time. If the present D—L of animals is to be retained at all, let it be only within the organizations. Given sufficient time, anyone can make a D—L of an animal insofar



U. S. Army Remount Service.

Purchased under contract dated _____ 19____

with _____ (contractor) _____ (place)

by _____ (inspecting officer)

date _____ (of inspection)

Brand of Contractor.

Cost.

Cavalry.....

Artillery.....

Wheel.....

Lead.....

Pack.....

Number.	Kind.	Age.	Color.	Height.	Description.

(Above figure in each of these spaces.)

(Continue until there are ten of these spaces.)

as his height, age (up to nine years), weight sex, color, and peculiar markings are concerned. If we still believe the name of the purchasing officer, the contractor from whom pur-

chased, the date of purchase, the age at purchase, and the place thereof is necessary to a proper accounting for the animal, then why not brand this data on him so that if his card should be lost, anyone familiar with the system can determine all this for a D—L which they may wish to prepare for local identification.

To replace the nerve-wrecking, soul-destroying hoof brand the following is suggested. We have tried it and with good results. At the inspections have metal mane tags of different colors with serial numbers. These are designed solely for the benefit of the inspector, his clerk, and, in a measure to assist the receiving officer at the field depot to classify, though classification should be branded on the haunch. Discontinue the use of the hoof brand entirely. There are any number of horses running loose at this depot for the past six or eight months with their mane tags still intact. That is more than can be said for a hoof brand, which is always a source of trouble, taking up precious time at issuing points in trying to decipher the correct number.

Depend entirely on body brands in connection with mane tags to identify animals. With the "U. S." incorporate the age at purchase and the year purchased. On the left haunch, where it is visible in a herd, put the classification brand. All the contractors this depot has dealt with make use of particular brands which they call "war brands" to identify their own animals, and which particular buyer sent it to the yards. Take advantage of this and require the contractors to use specific brands which will become the identifying mark of that contractor. This could very easily be done by requiring bidders to submit with their bids or in advance of their bids in separate envelope the brand which they propose to use. These could be compared and where two brands were likely to be confused, have them modified so as to render error impossible. The contractors could be required to place this brand wherever the Government officials desired. This brand then gives the information found on the descriptive card under "from whom purchased."

Now the only information the animal does not carry on his hide is who inspected him and his cost. Are these necessary?

If we believe that they are it is a perfectly simple thing to cover with a brand. All that is necessary is to give the inspector a symbol in the form of a small brand which is applied to every animal he purchases. Then publish to the service the brands of the inspectors and contractors with the prices for the various classes of animals, just as we now publish from time to time the prices of uniform clothing, ordnance stores, etc. Anyone who wants to spend time in making a descriptive card can now do so simply by looking at the animal and consulting the order publishing prices and brands.

The descriptive card of public animals now calls for the following which nature has put on the animal: age, sex, weight, color, and height; for the following which does not seem necessary: kind, breeding, sire, dam, name, bred by, foaled; and for the following which would have to be put on him: kind, age, when purchased, date purchased, where, by whom, from whom, cost, and how (by contract or open market). The kind we cover by a hair brand on the haunch, "C," "A," etc. These brands were finally ordered used by the Department Quartermaster, Southern Department, toward the end of the season of 1916. The actual calendar date of purchase does not seem so vital. The age at purchase for convenience of record might be considered necessary. Suppose we combine the two and group a brand with the "U. S." thus:

U. S.
6 — 17

indicating the animal belongs to the Government and was six years old when purchased in 1917.

The contractors brand gives us the "where," "from whom" and "cost," simply by referring to the published list previously referred to. Under the mane would seem to be a good place for this and for the inspectors brand arranged thus: △ ⊚. The double circle would show that W. T. Hales of Oklahoma City is the contractor who put in small cavalry at $138.00, specification cavalry at $159.00, specification artillery at $180.07; small artillery at $170.00; wheel mules at $225.00; lead mules at $184.00; pack mules at $150.00. The triangle shows that Captain Blank was the inspecting officer.

The only omissions now are those which appear to be unnecessary. In the course of accepting nearly 1,000 animals, only four or five appeared with a pedigree and these were uncertain. Such cases could easily be covered by making out a special card for such animal or follow the shipment with a letter drawing the receiving officer's attention to him.

The only record needed at the point of inspection is the memorandum mentioned by Major Hawkins and this only for local purposes. The inspector from time to time wants to know how many animals he has accepted so as to figure on carload lots. The animals may break loose after branding and it becomes necessary to check the number and identify those returned as the ones accepted. For the convenience of the receiving officer at the field station some description may be wanted. After that the animals should be issued to troops as so many of each class, not as R289, or K.C.741. If the organization desires to make a descriptive list of each animal, they have the data on his hide to do so.

The duplicating record book (see Sketch "B"), six by ten inches, should serve all the purposes of a record at the inspecting point. The duplicate to be sent forward with the shipment, and the original retained till a sufficient time has passed, to close the accounts of the inspector and to answer any inquiry that may have been made by the field depot.

As to proper composition of the inspecting board. It is believed that the board first referred to by Major Hawkins, viz.: One officer, one veterinarian, one clerk, and one messenger, is correct. However, the experience of this depot has been that such a board should be able to inspect and accept an average of 150 animals per day. A larger board merely multiplies labor without increasing results. The following tables show the net labor and results of two different systems employed by this depot during the past summer:

One officer and one veterinarian were engaged in inspecting from May 21st to July 1st, working with three contractors, two in Oklahoma City and one in Ft. Worth. The results follow:

Number engaged	2
Period May 21st to July 1st	41 days
Number of inspections	23
Animals accepted and shipped	2,361
Average per day for period, 41 days	57.5 head
Average per day for 23 working days	102.6 head
Percentage of days occupied	56%
Man power for 41 days	28.7 horses
Man power for 23 days	51.3 horses
Maximum for any one day	150 head
Minimum for any one day	56 head

The inspections were begun about 9:00 A. M., and stopped about 4:30 or 5:00 P. M., taking out from an hour to an hour and a half for lunch. During these inspections the descriptive cards were prepared by the inspecting officer, the peculiar marks of the animals, etc., entered with indelible pencil, the name of the inspecting officer, contractor, place, date, price, and kind being filled in with rubber stamp prior to the inspection.

Commencing July 6th, two officers and four commissions of four men each were engaged working with three contractors as above until September 4th. The result is shown below:

Number engaged	18
Period July 6th to September 4th	61 days
Number of final inspections	38

Animals accepted and shipped:

Horses	5,352
Mules	2,302=7,654 head

Average per day for 61 days	125.4
Average per day for 38 working days	201.4
Percentage of days occupied	62%
Man power for 61 days	6.9 animals
Man power for 38 days	11.1 animals
Maximum any one day	472 animals
Minimum any one day	44 animals

In the latter case the percentage of time occupied represents that for the final inspection only. In handling this system, each of three commissions was assigned to a particular con-

tractor and one to work with two contractors on mules. These commissions would make preliminary inspections, and when sufficient animals were ready the inspecting officers would give the final inspection. There were thus but very few days out of the total of sixty-one that each commission was not working.

Major Hawkins' method calls for a board of eight members by which from 150 to 250 animals can be accepted and shipped per day, preferably the smaller number. He submits the following steps to accomplish this result:

(*a*) Inspect and weigh, and when a sufficient number pass.
(*b*) Wind and work, following this the animal would be
(*c*) Checked,
(*d*) Branded,
(*e*) Descriptive lists made,
(*f*) Shipped.

This appears to be a duplication of work. Why weigh? Why check before any description is made, if description is to be made later? A temporary description is intimated as being made before coming to (*c*) on page 314 under duties of floor clerk. This is certainly duplicating work. If a memorandum description is made, then why not the permanent description? This permanent record is provided for by a second clerk on page 316. He is at the branding chute. Also there is a third clerk at the branding chute to see that the number on the foot, the mane tag, and the card agree, and the brand "U. S." put on properly. This increases labor and puts too many men around the branding chute. The fewer here, the better. The reason is advanced later for not making the permanent record on the floor (page 332) that the floor clerk has not the time to properly and accurately fill in the card, that the cards get soiled and that the inspector has no other record than the memorandum book kept by the floor clerk. Now, this added labor is directly chargeable to our present D—L and the desire to keep it straight. As a matter of fact the number of errors is directly proportionate to the number of persons engaged.

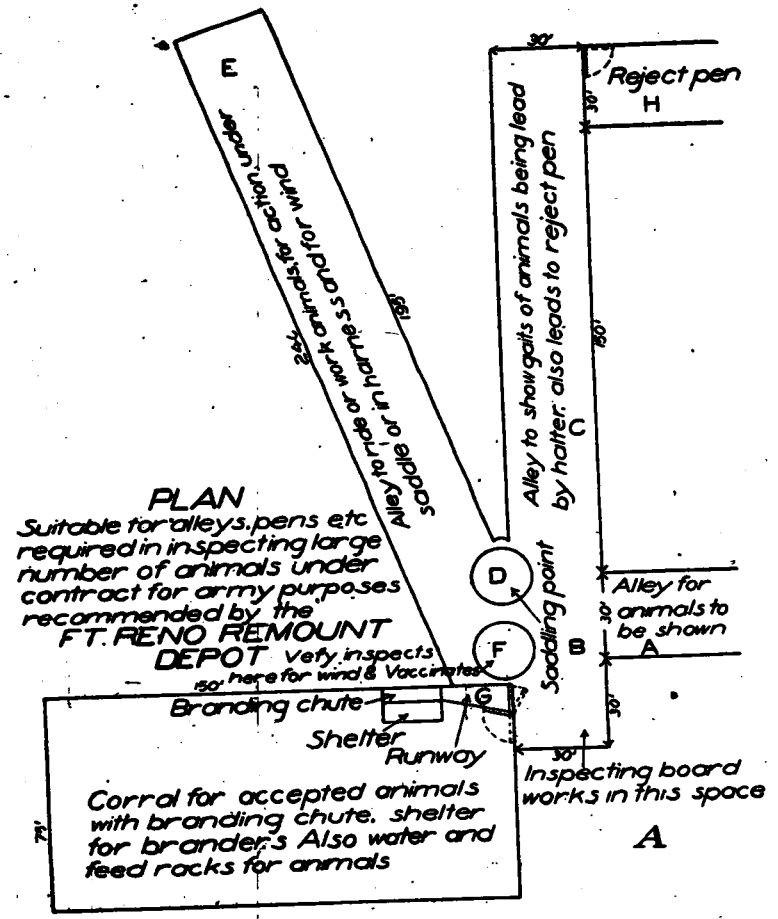
After carefully considering the question of inspecting and purchasing animals under contract, and as a result of the experiences of the past summer, this office has outlined a method which it believes meets the requirements with the least expense and waste of time. In the first place, a plan for an inspecting alley, including the assembling of the animals prior to inspection, in connection with lane for gaiting and winding, branding chute, accept and reject pens, so arranged and concentrated as to be under the eye of the inspector at all times, is essential.

Such a plan is submitted marked "A," and involves the following personnel:

One inspector One veterinarian. One clerk. Three branders, enlisted or civilian.	Furnished by the Government.
Three horse holders or leaders. Two riders. One horseshoer.	Furnished by the contractor.

The scheme for inspecting would be to have the horse brought in from the point "A" to "B." Here the inspector and the veterinarian make their preliminary inspection for conformation, unsoundness, age, etc. The horseholder then walks the animal away for about twenty-five yards in the alley "C," trots him back, and if desired, backs him or moves him as directed by the inspector. While this is going on, the clerk is making the notes in the duplicating record book sufficient to identify the animal. A skillful man can do this very rapidly and accurately. He also prepares or is supplied with the metal mane tag with the serial number stamped on it, which is the temporary or shipping number of the animal and is not at any time to be branded on the hoof. These tags properly put on, will remain for months and they can be secured in any quantity with any series of numbers stamped on them. Contractors use them constantly. They can be had with any initial stamped on them in addition to the serial number. This initial could be that of the purchasing officer. Any color or varieties of color can be obtained, and these could be used to temporarily indicate the animal's classification. These tags cost about $10.00 per 1,000.

Assuming the animal under inspection now to be satisfactory, excepting as to work under the saddle, he is then tagged by the clerk. The leader turns him over to one of the riders at "D" who saddles him a few yards away, mounts and rides at



a gallop from "D" to "E" and back to "F" at which point the veterinarian listens to his wind and vaccinates him. If the wind is sound, the horse is turned into the lane at "G" going to the branders who are Government men. He is then

branded on the body with the "U.S" and such other descriptive brands as will designate his classification, age and year purchased, etc. This operation, if only one horse at a time is conducted through the whole series of proceedings described, would be slow, but it will be found that there will probably be three and sometimes four animals undergoing a separate part of the process at the same time. For instance, the moment the first horse is handed over to the rider to be saddled and during the saddling, the second horse would be presented to the inspector. The preliminaries with him would just about be completed when the first horse would have completed his circuit of the alley marked "D—E," when the veterianrian would be free to hear his wind and vaccinate him. The first horse then goes to the branders, the second horse to the riders and the third horse appears for preliminaries. The attention of the inspector is not so completely engaged, but what if he is wide awake, he can keep all the functions of the process well under his eye and detect any effort to practice fraud. The rejected animals are taken to the corral at "H" at the opposite end of the inspection point and with no connection between it and the accept —pen or the alley.

It will frequently occur that two horses are being ridden in the exercise lane for wind, which in no way complicates matters.

The principal object in giving the horse a shipping number, is local. For instance, the clerk, as the horse completes his winding, checks the horse by this number which is convenient for the rider to call off and expedites matters. If rejected, the mane tag is removed. If accepted, the color of this tag indicates to the branders what classification brand to put on the haunch. This brand is a hair brand, though there is no reason why it should not be made permanent; and materially assists the receiving depots to instantly classify the animals as they are unloaded or to separate a herd into pens by classes. It also helps in case horses in the accepted corral break out and mingle with the contractors horses, as they can readily be cut out by their haunch brand.

With this system, when the day's work is done, it is done. The shipment off, there is no useless office work to engage the already fatigued clerk or the inspector. Major Hawkins

suggests that five days per week is all that can be expected of a board as Saturday must be devoted to office details. There need be no details which require one day per week simply in office work. The papers connected with any day's purchase are perfectly simple, if we do away with the useless ones. The temporary description is completed as soon as the last horse is accepted. If shipment is to be made at once, the bill of lading can be prepared in ten minutes. Bills of lading can be made out in advance except as to the details of the particular shipment which can be filled in in ten minutes. A form letter should be on hand to be filled in for each shipment and mailed to the receiving depot. This will take not over five minutes.

The duplicate temporary descriptions can be enclosed with it. With a book containing the details of the contract, the days acceptances can be entered against the contract and the status of the contract known in five minutes. If the contractor desire payment, which he will from time to time in order to carry on his contract, let him sign a voucher which is already filled out in the unessential details and make his check. The purchasing officer may not necessarily be the paying officer, in which case he has not even this detail to look after. But should he be, the details of his money transactions are not intricate and should not require an entire day per week. In the stress of emergency there will be no Saturday nor Sunday so far as the military service is concerned, and the sooner we train ourselves to simplify our present complicated methods of transacting business, and handle our business on a scale proportionate to a real army, the better will it be for the service.

THE PRESENT SABER—IT'S FORM AND THE USE FOR WHICH IT WAS DESIGNED.*

By First Lieutenant GEORGE S. PATTON, Jr., Tenth Cavalry.

EACH point, lunge and the charge saber taught in the Saber Manual, 1914, is also a complete parry for any cut or thrust delivered from the direction of attack. This being the case, it is clearly better to use the lunges now taught, which are also parries, than it would be to use simple negative parries, since this latter, as it does not threaten the enemy in any way, only raises his morale.

The fact that all the attacks taught are also parries, is a fact that is not understood by the vast majority of officers whose only knowledge of fence comes from reading the manual, not from practicing it. Since they see no complicated passive parries described, they think that the trooper is not defended. As just stated, this is not the case. The trooper has but to lunge at his opponent in the manner taught to not only threaten his adversary but at the same time to perfectly protect himself from either a cut or a thrust.

A study of the use of the sword from the beginning, shows that when the art of fence (*de fence*) first developed, that is, when the sword first began to replace armor and shield as a defensive weapon, the parries mentioned above were the only ones taught. They were then called "thrusts of opposition."

The complicated passive parries were invented by the various teachers for the use of duelists, where the contestants

*In addition to criticisms as to the balance of the present saber, many officers have favored a slight curve in the blade. More recently, certain troop commanders have contended that the Saber Manual (1914) should contain privision for "cuts" and "parries," and to that extent is defective. In explanation of the omission of these features from the Manual, Lieutenant Patton, who wrote the Manual and who is well known as one of the foremost authorities on fencing in the army, has prepared the following memorandum for the Commandant, Mounted Service School, which has been forwarded to the War Department as representing the views of the School.—*Editor.*

fought uninterrupted. In the *melée* such will not be the case, meetings between combatants will be brief and to gain success they must be bloody—for the enemy. A soldier who goes about defending himself is doing no good to the tactical issue and will soon be killed, as since he injures no one he will be set upon by several at once and dispatched.

Moreover, since our men carry a pistol, they will never use a saber as a weapon for single combat while out scouting or patroling. In the charge, in ninety-nine cases out of a hundred the initial impact will decide the day. Offensive, mordant troopers, imbued with the fierce desire to destroy the enemy by always attacking him, will break troops who, having been over-educated in self-defense enter the fight more desirous of escaping alive by the use of parries than of remaining victorious surrounded by slain opponents.

It is for the purpose of developing this idea of attack, that in the present manual so much time is devoted to running at dummies and so little to combats between men, and in these combats the time has been so reduced that only one attack is possible in each contest.

Cuts. In the charge, the point will always beat the edge. It gets there first. It is at least five times more deadly. The point utilizes to the full the momentum of the horse; it gives incisive emphasis to his impact. The cut is perpendicular to the motion of the horse and so only loses in efficiency by reason of it.

When Cyrus the Great first invented "shock tactics" (500 B. C.) he gave his men short pikes, pointing weapons, though for hundreds of years they had used cutting swords dismounted. From his day on, the point has been the weapon of the charge mounted. The charge of the Turk, so often mentioned by advocates of the edge, was in no sense a charge as we know it. They rode up close to their foe and by showers of arrows and darts, later by firing, induced him to break his formation and pursue; then they turned, and being better mounted surrounded and killed individuals. But from the day of Charles Martel on, there is no record of their charging with the sword as we know it.

In the *melée* of armored men, the edge could be used because protected by their armor; they could halt and circle about each other, hacking away, immune to the danger of some passing attack delivered from behind by a third party. Unarmored men cannot so halt, as, if they do, they will be disabled by some passing adversary.

Hence, the reason cuts are not taught in the manual is because to properly use them, the trooper must become immobile and be mounted on a horse trained to rear and turn on the haunches. No cavalry of today have such horses, nor, being unarmored, should they, for the reasons just stated, which prevent unarmored men from halting in the *melée*. In cuts delivered while at the gallop, an uneducated one is nearly as effective as an educated one and neither is so deadly as the point. Hence by not teaching cuts, we put off as long as may be that state of frenzy where the trooper will begin to cut. When he does start to cut, his untutored blows will be fully as effective under his then state of mind as his educated cuts would be under that condition. And by teaching only the point, we have made him use that most deadly form of action as long as possible.

I know personally only two men who have ever cut an enemy in war. One case occurred in the Civil War the other in China. In each case, the skull turned the edge and only a flesh wound was inflicted. Had the men in question used the point they would have killed their opponents, as in each case they were moving at a gallop and if a point touches a man while at that gait it will run him through.

But even were the cuts as good as the point in a *melée*, it still would not justify its use, as *melées* are very rare. It is the initial charge with the point which almost invariably decides the fight, often before even the lines have met, and the trooper has too much to learn to attempt to teach him the cut as well as the point when his defenseless state, so far as armor is concerned, precludes his pulling up to cut properly, when he is seldom if ever in a *melée*, and when, if he is so fortunate, the point is so much more deadly.

Criticism that the Manual of 1914 is designed only for the present saber is correct, in that the saber and manual were

both created at the same time, but whatever the form of saber, unless it assumed the shape of a cymiter, the present manual is far better than the old one, because it treats the saber as a tactical weapon, not as an arm for single combat. If I were to claim any originality in the manual, this statement would be most presumptious. I do not; it is an almost verbatim copy of the new French Manual and I spent six month practicing it and even instructing it in France. At that time, 1913, the French had three types of saber in their cavalry. One was very similar to our present saber, the other two were like the old issue saber. They used the same manual with all three and got good results. Hence my statement that the virtue of the manual is not dependent on the form of weapon absolutely. Of course, a straight saber is better for thrusting than a curved one, yet a curved one used to thrust will bring far better results than if it is used for cuts. Another fact not fully realized, is that a straight saber is just as good a cutting weapon as a curved one. I have ample historical proof of this statement, but to reduce space will simply mention the straight cutting sword of the Crusader and the deadly claymore of the Highlander. This latter had no point at all and was the most feared cutting weapon of its time.

France is the foremost nation of the world with the saber, and all Europe with the exception of Russia follows her lead in the use of the point. England even went so far that after years of devotion to the edge, she changed so completely to the French school that the present English saber has no edge at all.

In view of the foregoing, I am of the opinion that the present manual should be continued in force till after the close of the war in Europe, when it, in company with most other manuals, may have to undergo changes to conform to the lessons there to be learned. It seems to me an error to attempt changes now in the manual which was up to date when the war started, and it is my firm belief that when some of the officers and non-commissioned officers who have had instruction at the Mounted Service School have a chance to fully illustrate the use of the saber in the new manual, many who through ignorance do not now approve, will then be most favorably impressed.

THE TYPE OF CAVALRY HORSE FOR CAMPAIGN.

By Captain CLARENCE LININGER, Cavalry.

THE early period of the recent field operations in Mexico placed a very severe strain upon the strength, endurance and hardihood of the horses of the cavalry. Some became exhausted, others were killed to prevent suffering, while the remainder, almost without exception, were reduced in flesh to a marked degree.

In post life, with regular and moderate exercise and ample forage of a most nourishing variety, the majority of horses maintain themselves in much the same condition; but under the hardships of campaign there is a wastage that before long separates the weak from the strong.

Now if there is anything in the size, conformation, age, temperament or vigor of his organs that will bring a too early break down of an animal, we should know it before field work begins and should use such knowledge for the elimination of the unfit from our picket lines.

With a desire to ascertain why some horses of the troop endured and others did not, the information contained in Tables 1 and 2 was gotten together. All horses belonged to one troop. Table 1 represents the fourteen horses that appeared in best condition to the eye and had been most consistent in the performance of duty, those in best condition appearing at the top of the list. Table 2 represents those that were thinnest, weakest and obviously least capable of further exertion in campaign, the poorest ones being found at the bottom of the list.

The measurements were made in June but would certainly have been the same had they been made two months earlier at the termination of the Villa pursuit, as no change was noticeable during this period. However, shortly thereafter they began to pick up, due to increased forage allowances and the coming of the new grass.

Let us review briefly the work the horses did and the hardships they endured between Wednesday, March 15th and Wednesday April 12th. The distance covered was 545 miles, 18.8 miles per day, or 22.7 miles for each actual marching day, while two additional reconnaissances increased the mileage for some above that shown. Except for the shelter tents, they carried full pack, which included grain in grain bag and feed bag, and such rations as were obtainable. The grain fed was about equally divided between oats and corn, but as the horses were unaccustomed to the latter and none too fond of it, they ate but sparingly until forced by the pangs of hunger. Straw and wild hay were each fed once, and corn fodder seven or eight times, but usually it was necessary to depend for roughage upon grazing upon the wild grasses that at this season of the year were becoming dried out and fibrous. It was noticed that native stock was not in very good condition. After March 21st, the men did individual cooking and as they were very much occupied in bivouac, the grazing was usually done at favorable places along the line of march. The nights were cold, so that the horses shivered considerably especially shortly before dawn and this must have depleted their reserve powers.

The officers and non-commissioned officers were unremitting in their devotion and care for the troop horses. No opportunities for a swallow of water or a mouthful of grass were allowed to pass. When the character of the work disclosed itself to the individual trooper and he realized that his riding or walking, nay even life itself, might depend upon the horse assigned him, he became no less solicitous. Undoubtedly the applied skill and experience of the rider were of great benefit to the horse in certain cases; but passing from the realm of facts and figures to that of opinion, I venture to say that no horse is listed in one table or the other through that alone, but that he is where he is because he is inherently better or poorer than his mates.

Some of the marching was over dusty roads but not a small proportion of it was in the mountains along rocky and precipitous trails. In the beginning, when the roads were good, the trot was often taken up as on practice marches, but with the enforced reduction of the grain ration, the shortage of long

forage, and the gradual weakening of the horses, trotting became almost unknown. On the other hand dismounted leading was resorted to in a greater degree. There were only two night marches but they were severe ones.

Let us scan the tables and see what the averages reveal in regard to the horses of this troop. The best horses were, as compared with the poorest ones:

1. Younger in years.
2. Younger in service.
3. Longer of leg.
4. Deeper in body.
5. Taller in height at the withers.
6. Shorter of body.
7. Greater in girth.

Conversely the poorest horses were:

1. Older in years.
2. Older in service.
3. Shorter of leg.
4. Shallower in body.
5. Shorter in height at the withers.
6. Longer of body.
7. Less in girth.

In regard to age and years of service the balance did not fall heavily to one side or the other. All had been in the service long enough to be conditioned, and none was so old in years that his poor conditions could be attributed to that as the determining factor.

But when we come to consider the physical proportions, we see that it is the tall, long-legged, deep-chested, short-bodied horse that longest maintained his condition. We see also that he is a "square" horse. As it is put by *Gobaux and Barrier*, "What we have said in regard to these proportions naturally foreshadows that, with Bourgelat, we give preference to the square horse, one in which the height at the withers is sensibly equal to his length, and which therefore might be inscribed within a perfect square."

The average of the poorest horses showed a long horse mechanically incorrect for weight carrying, and a small horse not strong enough for the burden placed upon his back.

It is regretted that facilities were not available for weighing the animals, but unquestionably the poorest were the lightest.

A more detailed study disclosed a minimum of physical or temperamental defects among the best horses while among the others there were numerous ones that brought about or were contributory to poor condition.

For example:

No. 31, narrow chest, camper behind, molars wearing, forges, did not like corn, poor rustler for food on the march, interferes in front, teeth and digestion not good as evidenced by amount of corn passing through whole.

No. 49, long back, stocked up behind, parrot mouth, slow walker, blind in left eye.

No. 69, toes out in front, jigger, digestion not good.

No. 65, slightly sway-back, molars wearing.

No. 41, narrow chest, demands good water to drink, digestion not good.

No. 51, cribber, chews picket line constantly.

No. 29, parrot-mouth, slow walker, slow eater, loins long and weak.

No. 60, long back, parrot-mouth, digestion not good.

No. 8, loins long, molars wearing, slow eater, too peaceable, cribber, nervous habit of throwing his head.

No. 35, flat ribs, slow walker, would not eat when tired, digestion not good, spine convex toward left.

No. 67, tucked up.

No. 7, withers high and thin, loins long and weak, toes out in front, tucked up, rough trotter, too peaceable, stumbler.

This study does not bring out a single new fact, nor one not already known, but is merely another link in the chain of proof that our service mount must possess good teeth, good digestion, excellent power of assimilation, an omniverous appetite, soundness, size and strength to carry his burden easily, legs long enough to maintain regulation gaits without over exertion, and beautiful proportions.

TABLE I.—BEST HORSES.

Troop Number	Age	Years of Service	Color	When and Where Purchased	Height to Chest	Length to Body	Height at Withers	Length of Body	Girth
53	7	2	B.	1914—Ill.	33	29½	62½	68½	73
22	6	3	B.	1913—Ks.	34	30	64	67	74
40	8	3	Bl.	1913—Ill.	31	29	60	60½	72
56	7	3	Bl.	1913—Mo.	33½	27	60½	60	70
66	13	5	Bl.	1911—?	34	28	62	63	70
12	6	3	B.	1913—Mo.	34	29½	63½	63	74
68	6	2	Br.	1914—Mo.	35	29	64	67	71
36	9	5	B.	1911—Okla.	34	30½	64½	67	75
8	6	3	B.	1913—Mo.	33	27	60	61½	72½
16	11	7	B.	1909—Mo.	32½	28	60½	56	69
4	11	7	B.	1909—Mo.	33	31	64	62	74
54	12	7	S.	1909—Ill.	33	29½	62½	65	73
9	7	2	B.	1914—Ks.	31	29	60	65	70
10	11	7	B.	1909—Mo.	31½	30½	62	65	73
Averages	8.57	4.21			33.08	29.11	62.14	63.61	72.18

TABLE II—POOREST HORSES.

Troop Number	Age	Years of Service	Color	When and Where Purchased	Height to Chest	Length to Body	Height at Withers	Length of Body	Girth
31	15	10	Bl.	1906—?	32	28½	60½	63	70
49	11	7	B.	1909—Mo.	32½	30½	63	64	71
69	6	3	B.	1913—Mo.	34	29	63	63½	72
65	12	8	Bl.	1908—Nev.	32	27	59	64	69
41	8	5	B.	1911—Mo.	33	28	61	64	71
6	7	5	B.	1911—Tex.	32½	29½	62	64½	711
59	9	2	B.	1914—Ill.	33	30	63	65	73
51	7	3	B.	1913—Okla.	31½	28½	60	64	70
29	12	7	S.	1909—Ill.	31	28	59	63½	69
60	7	4	Bl.	1912—Mo.	35	28	63	63	73
8	12	7	Bl.	1909—Mo.	33½	29	62½	63	72
35	7	3	Bl.	1913—Tex.	34	27½	61½	63	69
67	8	3	B.	1913—Okla.	32	28	60	61	69
7	7	2	B.	1914—Tex.	33	30	63	63	73
Averages	9.14	4.93			32.78	28.68	61.46	63.75	70.85

NOTES ON OUR REMOUNT SERVICE.*

By CAPTAIN JAMES N. MUNRO, Q. M. CORPS, (CAVALRY).

THE experiences of the past six or eight months must have impressed, not only our mounted service, but the service at large, with the necessity for a properly organized, logical system for supplying our army with remounts. The following notes are hastily prepared on request, and are neither very coherent nor complete and will deal very briefly with the points that have especially appealed to the writer.

THE REMOUNT DEPOTS.

We have, at present, no remount system, contrary to prevailing impressions. We have three so-called remount depots, which are largely experimental and were established with a view to experimentation and not with the idea that they could, or would, supply all the necessary remounts to our service. It is therefore absurd to criticise the depots because they are unable to meet emergencies. The two western depots carry from 1,000 to 2,000 animals; the Front Royal depot a less number. Inasmuch as these animals were all purchased as young remounts only a small percentage of them are matured and ready for issue each year. There are only two officers on duty at each depot and they have under them a very limited personnel. The operation of a depot in itself is no light task, when it is considered that the two western depots are endeavoring to raise sufficient forage to carry their animals through the winter. This means the conduct of a large farm which would ordinarily require the undivided attention of one busy man with a considerable experience in agricultural work. But in addition to

*Many of the points covered in this article were discussed by me with Captain William H. Clopton, Jr., Q. M. Corps, my assistant at the Fort Reno Remount Depot. I am indebted to him for many of the best ideas therein.—J. N. M.

depot operations proper, the officers must cover a large remount zone, consisting of several States, search out breeders, secure suitable young horses for stocking the depot, and talk to breeders regarding the purpose of the depot with a view to arousing interest in the breeding of proper remounts.

Now this work is interesting, it is a step in the right direction, and will, if properly expanded and developed, eventually improve the character of our remounts. It has done so, to a limited extent, already. Officers have found that there is the liveliest kind of interest among ranchmen and breeders in the remount work, and many of them have done everything they could to try and produce the type of animal which seemed to meet with approval. There are several ranches in the Fort Reno zone from which some years ago the depot was unable to secure even one suitable animal, which are now furnishing from one to two carloads annually of very good remounts. There is no difficulty in arousing interest; the difficulty is in reaching throughout the entire zone yearly and maintaining the interest. I am convinced that our present depots are working along the right lines and that what we need now is an expansion of the system and a systematic training of officers for the work, so that there may be coöperation and a uniformity of ideas as to what the service requires in the way of remounts.

Briefly then, my idea is this: Several large central depots, each with a prescribed zone, for the receiving, training and distribution of animals. These depots ought to have a sufficient personnel so that the work would be continuous. I have thought that depot troops and batteries, one from each regiment, might be stationed at these central depots and solve the training problem, but this is a matter for the General Staff and not for an individual to decide. In any case, the training personnel should be made up of selected men who have had proper instruction in modern training, preferably at the Mounted Service School.

Each central depot should have a sufficient number of sub-depots to properly cover its zone at all times. The sub-depots need not be large establishments and the personnel could be very limited. The office of the sub-depots would be to keep a record of the breeders in their sector, the number of remounts

each breeder could probably furnish annually, and to advise with the breeders on matters pertaining to the breeding of proper remounts. When called on by the central depot, the officers of the sub-depots could promptly cover their sector and purchase a designated number of animals, hold them at the sub-depot until they had been prepared for shipment,—this to include the necessary protection against infectious disease, and then ship directly to the central depot. In this way the sub-depots would never at any time have a large number of animals on hand to care for, and the officers on duty there could be occupied in legitimate remount work. They could also keep a record of all animals of mature age which would be suitable in case of emergency. Such animals could be purchased by the sub-depots and shipped directly to the emergency point. In any case, the depot officers should consider themselves in the light of remount missionaries and endeavor, above all things, to raise the standard of animals in their zone; and not as philanthropists, accepting from breeders indifferent animals with the idea that they are encouraging the work of the depot. The higher the standard set, the closer will breeders attempt to attain it.

Something on the lines of the above system, would, I believe, work in peace, but for the emergency of war we must have something to supplement it. There must be prepared all the necessary plans for the supply of remounts along the lines of communication, there must be rest stations, hospitals etc., ready to expand and follow the army in the field. This can all be done, with plans of a uniform type covering the details of shelter, personnel, and other equipment. It need never be put in operation till the emergency arises. Officers with their proper personnel may then be detailed for this duty at the outbreak of hostilities and furnished a complete set of plans for their auxiliary depot, hospital, or rest station, with authority to go ahead and construct it, securing the material where most convenient.

Over the entire remount service should be an officer, call him the Superintendent of Remounts, or what you want, in whose office all the details of the system should be worked out and through whose office everything pertaining to the remount

service should pass. He should be absolutely in charge of the system and should be required to make frequent inspections thereof.

Another important feature of the remount system should be its veterinary service. I know of no place where the work of the veterinary surgeon is so constant or presents such a variety as at a remount depot. Only veterinarians who have a particular aptitude for remount work should be selected. They should be comparatively young, active men with confidence in their own skill, ready to take professional chances and with an unusual capacity for work. They should be kept on duty as remount veterinarians just as long as their work is satisfactory and their age permits. There should be a sufficient veterinary personnel at each depot to handle the work efficiently and economically. The loss occasioned by a sudden epidemic in an undermanned hospital would shortly pay for additional veterinary service.

Remount officers should be trained for the work and not selected haphazard from the mounted service. There is no use denying that our mounted service is woefully deficient in training for this work. Only a small percentage of our mounted officers give any attention to this phase of their work. Many of them have no natural ability along this line and do not hesitate to confess their indifference to it. They are in most instances, not to be blamed for this, when our method of assigning officers to the mounted service is considered. But immediate steps should be taken to correct this condition, at least in so far as it affects our remount system. We have a Mounted Service School and it has resulted in a vast improvement in our horsemanship, but it can do more. It is not working to full capacity, nor will it be until it has been expanded to reach a much larger number of officers and enlisted men and established a course of training especially for remount work. Such a course would at least result in some uniformity of opinion as to the type of service we should have and coöperation among purchasing officers as to methods and standards. That no such coöperation exists and that evil results therefrom will be touched on under "The Contract System."

Today we find officers selected for remount work without any regard to their training therefor and even in spite of the fact that they do not desire the work. There is no secret about this. Officers so detailed have objected to the duty, pointed out their own lack of training and interest, but were required to accept the duty. It is manifest that no matter what the professional zeal of such an officer may be, he is badly handicapped to say the least, and cannot be expected to secure the best results.

THE CONTRACT SYSTEM.

It is evident that for many years to come, we shall, in times of emegency be obliged to depend to some extent on the contract system of purchasing mature animals. Where time is a factor, we must look to the dealer who has all the necessary machinery already in operation for the prompt assembling of large numbers of animals at convenient shipping points. The question is, how this may be done to the best advantage and with the least loss. The dealer naturally operates from large stock yards where there are all the conveniences for shipping and for handling economically, and where he knows his territory. Stock yards in constant use for years are the most prolific breeders of disease, and under the stress of emergencies, such as large government contracts, they are crowded to capacity, increasing the chances of infection. This feature, at least, could be obviated.

To illustrate: The Fort Reno depot during the months of July, August and September, was purchasing under rather large contracts in Oklahoma City. All the contractors operated in the Union Stockyards. The pens were frequently so crowded that animals were dripping from perspiration and practically gasping for air. They stood in these close pens for days, without proper exercise and under the most favorable conditions for the spread of contagion. Thirty miles away was the Fort Reno depot, with all the necessary rail facilities for assembling, with more than 9,000 acres of range, sufficient shelter from the weather, a good hospital and all the conveniences for inspecting and handling. There was no reason why the contractors should not have assembled their animals at this depot. Both remount officers were there and their travel

and consequent absence from their depot duties would have been avoided. The work would have gone much faster, more economically, and the loss both to the contractor and the government would have been materially reduced. The contractor realises the loss he must count on as a result of handling in close and infected pens, and he must naturally bid that much higher on his contract to cover this loss. This example is given simply to show how we might handle our contracts at a considerable saving to the government and to the entire satisfaction of the contractor.

We have government reservations that could be utilized for this purpose, and where such reservation is not available it would pay to lease temporarily a tract of waste or cheap land at a convenient assembling point and erect the proper temporary equipment. The inspecting officers could be stationed there during the continuance of the contract and have under their supervision at all times the handling of the animals both before and after purchase. Rejects could be promptly and permanently separated from acceptances and fresh shipments, and the contractor could be required to ship them out in a given time after their rejection. Acceptances could be held until properly prepared for shipment, with the resultant loss from shipping fever and allied diseases materially reduced. The cost to the contractor would be no greater, in fact it should be less, and the results for the government would be vastly more satisfactory.

Under the contract system as it now exists, contracts are awarded from the O. Q. M. G. and assigned to various depots for purchase. Officers are detailed to purchase under certain contracts. These officers are entirely independent of each other or of any general head. They operate independently. What is the result? What *may* be the result is illustrated by what occurred at one purchasing point. There were several contracts awarded to as many dealers at this particular point. Officers were detailed to inspect under the several contracts and the inspections were practically continuous for a period of two months or more. The inspection points were, of course, as numerous as the contractors, and all in the vicinity of the Union Stock Yards. On one occasion some fifty-three or four

horses were inspected by one officer, who accepted only two from the lot. The remainder, all rejects, were led a distance of less than half a mile, presented under another contract to another officer and accepted to a horse. This occurred not once, but many times, until official cognizance was taken of it and means taken to stop it. Now this was entirely the result of lack of system, lack of coöperation, and failure to train officers for this particular duty. Also it was the result, as I stated above, of selecting officers for this duty without regard to their ability or aptitude for it. It is not necessary to waste time in suggesting a remedy for this. It should be obvious to any one.

If a proper remount service is organized and maintained, the contract system for the purchase of mature animals in emergencies may be made to work to the best advantage and made the means of promptly furnishing excellent remounts in large numbers, and it need not necessarily be nearly so expensive as at present. I found that contractors generally do their best to furnish as nearly the type of animal that their inspector will accept, as it is possible for them to do under the terms of the contract. One cannot expect registered stock or perfectly formed animals at $145.00. As a rule the quality of the animals shown, improved rapidly after the first inspection or two. At first a great many indifferent animals were shown. The contractor naturally did not know what his inspector would accept and he was not going to show a class of horse that was any better than he had to show. Just as soon as he learned what he had to do he tried his best to do it. At a rough estimate I would say that, of those contracts handled from the Fort Reno depot, acceptances were about twenty five per cent, of all animals shown. If anything, the percentage was less than this, lowering the standard and designating "small cavalry" and "small artillery" horses, as was done under the recent contracts, caused considerable difficulty. I am of the opinion that it would have been better to have maintained the regular standard in the specifications and then informed purchasing officers that they might accept undersized animals wherever the quality warranted it. One frequently finds an excellent animal between 14—2 and 15 hands; the quality generally is poor. You are presented with a lot of animals without bone, narrow

chested, cat-hammed, with all the indications of lack of stamina. This was the rule in the case of horses presented under the small cavalry class.

In the case of the small artillery class, we were shown a large percentage of horses which had no classification whatever. They might be described as little draught horses; small horses with draughty lines, and all the faults of crossing a heavy draught stallion on an undersized, small boned mare without constitution; practically useless for any purpose. Inasmuch as I was without any practical experience with artillery horses, I made every effort to get the opinion of artillery officers as to their requirements. I received a variety of opinions equal to the number of officers consulted. I was therefore reduced to the necessity of using my own judgment entirely. We found that in the heavy class (horses weighing above 1,300 pounds), the quality of those shown was uniformly good. In many instances we were agreeably surprised at the uniformly good quality of certain lots presented. There was little difficulty in securing a good heavy horse. Contractors finally found so much difficulty in purchasing horses of the small cavalry class that would pass, that they began presenting specification horses. They stated that they were simply obliged to do this in order to fill their contracts. It is for this reason that I have said that it would have been much better not to have specified a small horse in the contracts, but to have left the acceptance of the small horses to the inspector.

Many good horses were secured under the small horse contracts, due to the fact that contractors were obliged to present specification animals in order to fill their contracts, but this is not fair to the contractor and would result in his bidding much higher in the future on this class of animals. The contractor has many things to contend with. He is practically at the mercy of his corps of field buyers. It is remarkable, however, and should be a good object lesson to us, the coöperation between the contractor and his best buyers. They very shortly discover the type of horse which will be accepted and the accuracy with which some of these men are able to select this type in their buying shows long training and a thorough understanding with

their employer. The same coöperation and understanding should exist in our remount service.

What the quality of the animals purchased under contract during the past summer was in general, I cannot say. I saw many of these animals early in November at Ft. Sam Houston and Ft. Bliss, but they were not generally in first class condition, and not under conditions which would have obtained had they been issued to organizations and cared for individually. I also saw the animals of two new cavalry regiments which had been mounted from these contract horses. While I did not see the entire mount of these regiments, I consulted officers as to their quality and found that they believed that they had an excellent mount. The commanding officer of one of thse regiments stated that he was specially proud of his mount and that they had developed under training so that they performed well under all the tests of garrison training. I noted that the type of mount in this regiment was pretty uniform. It was the small, close coupled horse, rather short of leg with somewhat heavy bone, broad quarters with a tendency to draughtiness, and plenty of food space. I inquired if this type was generally satisfactory to the regiment and was told that it was. When I say that these horses were small, I do not mean that they were ponies, but that they were under rather than over 15—2. I was also informed that many good mounts were being issued from the small cavalry class which had originally been purchased especially for issue to the militia. The small cavalry class were being picked over and many of them re-classified as specification cavalry, and I was informed that many good cavalry mounts were found in this class. On the whole, perhaps the game was worth the candle. We learned something, anyhow.

Regarding the percentage of loss due to shipping diseases and their after results, all the remount depots on the border agreed that the shipments from the Kansas City zone, especially those from the St. Louis yards, had the largest percentage. This I know is true of those received at the Ft. Reno depot. The horses purchased in this zone (K. C.) are the finest looking animals we receive. The quality is uniformly good and their condition on arrival excellent, but they do not seem to be able

to withstand exposure and many of them are apparently infected with one or other of the diseases, commonly classified as "distemper," on their arrival. It is also from this zone that all the mouth disease, or *stomatitis*, apparently comes. There was an epidemic of this at the Ft. Sam Houston Depot when I was there in November. While this is not in itself fatal, it is very infectious, and seriously interferes with the animal's eating. The result is that many of the infected animals run down in flesh and become a prey to other diseases.

FOREIGN BUYING.

There have been various opinions as to the effect of the purchase of horses and mules in this country by representatives of the Allies. Many have been inclined to view this so-called purchase with alarm. Others have taken the stand that, on account of the class of animals purchased, the Allies were really doing us a service by removing this horseflesh from the country. Though neither of these views is quiet correct, I believe that the latter is more nearly the true one. In the first place, what percentage of the total number of horses in this country are the Allies buying? According to official figures published some months ago, the total number of animals purchased by the Allies amounted to only six per cent. of the total number of horses in the country. This is hardly an alarming figure and the rate of purchase has since fallen off considerably. Now then, what part of this six per cent. were desirable animals and should not have been allowed to leave the country? Those of us who had a chance to observe the foreign buyers at work and look over the animals they purchased, know that the percentage of desirable animals was small. In many instances they took our rejects almost to a horse. This was one reason why our contractors were able to furnish us as good a class of animals as they did. Had they had no place to dispose of their rejects, they would, in some cases, have lost rather heavily. In this way the Allies' buying helped us.

So far as the mares purchased by the Allies are concerned, I may say that I saw but few desirable mares purchased, and these were all of the heavy type. We know that they bought a large percentage of defective animals, not that they did not see the defects, but simply because this class of animal came cheaper and was not so affected by his defect that he was not good for a few months at least. This was simply business on the part of the Allies.

Taking everything into consideration, I do not believe that foreign buying has hurt our horse supply to an extent worth considering. In a few localities where the foreign buyer purchased young horses, he did cause a shortage of colts and a small rise in price, but I know of only a few such localities. In other instances, breeders refused to sell their colts to the depot this year on the grounds that they had disposed of so much of their mature stock to the foreign buyer that they would need their young stock for work. These instances are very few in number and have practically no effect on the general condition of the young horse market.

In any future contingency where foreign buying becomes general, it would be a very simple matter to require all animals inspected and accepted by such buyers to be passed on by government inspectors and require the buyer to turn back to the contractor or owner, all animals which it was deemed were too valuable to be allowed to leave the country. All foreign buying should be under some form of government supervision in any case, and subject to regulations which would prevent injury to our horse supply.

GOVERNMENT BREEDING.

The question of breeding animals for the service and what part the federal government should take therein is still a long way from settlement. There is nothing more certain than this, the federal government must at no very distant day, regulate and control the breeding of all live stock, if we are to maintain our place in the world market. This is being done in some cases by the states and many of our states have excellent laws regulating stock breeding, but to be effective and produce uniform results, the regulation must come from the center of government. In no branch of live stock breeding is regulation more important than in the case of the horse.

So far as the service horse is concerned, I do not favor strictly government breeding, that is where both sires and dams

are the property of the United States. Such a course would not tend to quickly or generally improve the horse standard of the country, which after all, is the important point. When we have succeeded in raising the standard of the horse in the country at large, there will be no difficulty in finding service mounts in abundance. The part which I believe the federal government should take, ought to be more in the line of advice and encouragement. For instance, I believe that government owned stallions stationed throughout the country with strict inspection of mares presented for service, would assist in arousing interest in the service horse and result in a decided improvement in the quality of colts available for remount work. I would not make the services of the stallion free, but would charge a nominal fee, sufficient to cover expense of maintainance. Gifts of this character are never appreciated. Neither would I advise an option on the colts. This creates a spirit of opposition on the face of it. A careful registry of the colts with their location should be sufficient. After the system had been operating for a few years, there would be an ample supply of desirable animals so that an option would work rather as a disadvantage.

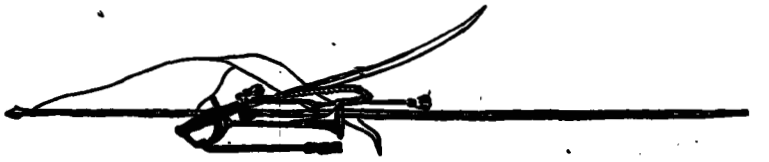
The other method which might be made equally practical, would be for the federal government to either supply stallions of selected type to individual breeders of repute and known responsbility, or to groups of breeders in one locality and then advise with the breeders as to methods of breeding to secure the type of horse wanted and inspect frequently to see that instructions were carried out. Frequent visits from a remount officer would greatly encourage a sincere breeder and arouse his interest in the work. I know a number of such men in my remount zone who are right now so interested in the matter that they would enter into almost any agreement for an opportunity like this. A number of the breeders in my zone have said to me that they didn't ask for anything except advice; all they wanted was for the federal authorities to say what they wanted them to do, what type of stallions they should buy, what mares, how they should be bred, and that they, the breeders, would furnish the capital.

As one of them remarked, "*Hell! I've got the money; all I want to know is what you fellows want, but I'll be damned if I can find out.*" And there is the whole thing in a nutshell, somewhat pointed, to be sure, but true. We don't know what we want, or rather we are not agreed on what we want, which amounts to the same thing.

In the case of supplying stallions to breeders, the government could easily protect itself against loss in any one of a dozen ordinary business way, and I thoroughly favor business methods in this entire matter, and not charity. Where a breeder is found, who plainly shows indifference or lack of interest, let the stallion be taken from him promptly and placed in proper hands. The details of such a system would have to be worked out from experience, but it could readily be done at a moderate cost.

THE SERVICE HORSE.

What shall the service horse be? Are we to look for him in the pure bred of some standard breed, or must we develop a type by selection and crossing? It would be absurd for me to enter into a discussion of this question. Any such discussion is simply a signal for a storm of criticism in which it is impossible for anyone to get the best of the argument and which eventually arrives nowhere. One man's opinion is as good as another's and none of them are worth anything until put to the test. I think I may safely say however, without fear of assassination, that I am convinced that we will never mount ourselves with any one recognized breed. I have my own idea as to what we want, but I carry a very small accident insurance, and cannot afford to take chances. I am still a comparatively young man and have something to live for!



BALANCE IN HORSES.

By Captain EMIL ENGEL, Seventeenth Cavalry.

SOME ANATOMICAL REASONS.

THE term balance is used here to describe a feeling that the rider experiences, of his horse being in balance. In reality it is no more than the coördinate action of a great many muscles which to the rider give a feeling of equilibrium or balance.

The impulsive power of the horse rests in the coördinate action of the muscles of the hind legs, the back, and the muscles of the forehand. Many riders on equitation seem to ignore the impulsive power of the muscles of the forehand as they lack the power of those of the hind legs, but their influence on the feeling of balance of the horse is far greater than usually supposed.

To transmit a force to another body, it is necessary that the body have enough firmness to resist any compression of itself when the force is applied. If it lacks sufficient firmness, some of the force will be used in compressing the body until enough resistance is found to transmit the remaining force. When a horse transmits the power of his hocks and stifles to his body, its economic transmission depends upon the coördinate action of the long muscle of the back (*longissimus dorsi*). This muscle is the lagrest muscle in the body of the horse and extends from the fourth cervical vertebræ to the pelvis. It is attached to every vertebræ and in contracting furnishes the resistance necessary for a proper transmission of the power of the hind legs. The more powerful the stride the more powerful should be the contraction of this muscle. The power of muscular contraction depends upon the number of muscular fibers that are contracted. It is possible that many fibers remain inactive and allow themselves to be compressed or bent by the fibers that do contract.

The neck of the horse is very flexible. Many muscles are attached to certain vertebræ of the neck thus giving them a point of support from which to act. Suppose some of the vertebræ of the neck to which these muscles are attached, are distorted by some external power like the hand of men, and the muscular fibres placed out of line, thereby making them inactive and preventing their action upon the bones to which they are attached, thus materially weakening the power of the muscle by lessening the number of fibers available for contraction, and later causing a wasting away of muscle due to non-use? This is exactly what happens when a rider by means of the bit, distorts the neck of the horse, thus preventing full contraction of the long muscle of the back, and other important muscles, such as the *serratus magnus*. We can now accept as a principle in equitation, the avoidance of distorting the neck of a horse along the fourth to seventh cervical vertebræ by pulling the head towards the face of the rider or sinking it into the breast of the horse.

The law of association is the basis of control of the horse by man. The mind of the horse is taught to associate forward movement with pressure of the legs of the rider or a touch of the whip, while he associates checking the forward movement with the pull on the bit. This is the most elementary equitation and is probably the limit attained by nine hundred and ninety-nine riders out of a thousand.

There is, however, a more refined application of the law of association in which the rider still associates forward movement with the touch of the legs but refines the checking of forward movement by a refined use of the hand. It has been stated that the long muscle of the back should contract in a coördinate manner with every impulsive step, in order that the force may be correctly transmitted. Now suppose we could feel every contraction of the long muscle of the back on the hand? We could then associate in the mind of the horse a more refined control in controlling every impulsive step. By what means can we transmit the muscular contraction of the back to the hand of the rider? If this muscle is coördinating properly, its muscular contraction will reach up to the fourth cervical vertebræ (its most advanced point of attachment), but this is about half the length of the neck away from the top of the head,

and it must be transmitted to the lower jaw to reach the hand. Just as it is necessary that the long muscle of the back contract in coördination with the muscles of the hind leg in order to transmit the force, so it will be necessary to have some muscular contraction coördinating between the fourth cervical vertebræ and the jaw with the contractions of the back muscle. This is accomplished in refined equitation by teaching the horse to associate in his mind with a touch of the bit, an opening of the mouth, which is done by a very weak muscle, easily fatigued, thus compelling him in order to get relief, to put his upper jaw against the bit so that he can close his mouth. As the bit does not move, the horse shortens the distance between the bit and the hand by arching his neck. There are three ways in which he can shorten the distance between the hand and the bit, so that he can close his mouth, viz.:

1. By curving the whole neck along all the cervical vertebræ. By doing this he distorts the fibers of the long back muscle; also, of a very important shoulder muscle (*serratus magnus*), interfering very seriously with their action and the balance of muscular coördination of the horse. To do this he must lower his head towards his breast.

2. By raising the neck and curving the cervical vertebræ in an opposite manner thus interfering with the proper action of the same muscles.

3. By a flexion at the *atlanto occipital* joint, and further shortened by a flexion between the second and third cervical vertebræ which is produced by a contraction of the *rectus capitis ventralis* major muscle, which originates at the fifth, fourth and third cervical vertebræ and is inserted about the junction of the occipital bone with the sphenoid bone in the upper part of the skull. By this means we have sufficient muscular firmness to transfer the muscular contractions of the long back muscle to the upper part of the skull and through the masseter muscle, which the horse uses to close his mouth, to the bit and thence through the reins to the hand of the rider. This brings the horse truly *in hand* and we can now feel on the hand very distinctly, every step of the horse. As this feeling is produced by muscular contraction there is a decided but very slight backward and forward motion to the hand which keeps time with every step of the horse and enables us to slow each step by delaying the duration of the *feel*, thus *collecting* the muscular forces of the horse. It also enables us to associate in the mind of the horse a meeting on the hand of each step, with an increased muscular effort, stimulated by the legs of the rider, and retarding it by delaying the time of duration of the feel of each step as in collecting the horse, thus storing up muscular energy, which is absolutely the limit of refinement in equitation and is called the *rassembler*.

THE ECONOMIC VALUE OF BALANCE IN A MILITARY HORSE.

"From the extensive investigation by Kuntz on work in horses, it is shown that as a mere machine the horse compares favorably with the best of modern engines. With animals at moderate work, the part of the energy which appeared in external work varied from 28.8 to 36.6 per cent of the total energy expended. The best steam engines have about 19.6 per cent, while the average engine falls below 10 per cent. Gasoline engines range in efficiency from 10 to 27 per cent.

"In addition to performing external work, the body must prepare and transport its own fuel, store it until needed, make all repairs, and maintain a definite temperature, as well direct, move, and control itself."

When the daily food consumed by the animal machine is insufficient for the daily work the latter lives upon itself. It calls on its reserve in first the fat, then on the muscular tissue itself. When an engine runs out of fuel it stops. You cannot rip the fender off your automobile and put it in your gas tank and run along.

"Kuntz found great variation in the energy expended by different horses of the same weight in traveling upon a level track; a lame horse expended 99 per cent. more energy than a sound one. In the work of climbing a grade he found a variation with different horses of as much as 52 per cent. in the proportion of the total energy which appeared as useful work. An animal which is able to accomplish one form of work most economically, may have to expend an unusual amount of energy at other kinds of work. For example, horses bred for genera-

tions to the saddle, can carry the rider with smaller expenditure of energy than those whose breeding, form, and qualities, specially fit them for draft purposes. Fatigue causes an increase of from 14 to 41 per cent. in the amount of energy expended in performing a given amount of work. This increased expenditure of energy is largely due to the fact that with increasing fatigue the muscles normally used, and which are the most efficient in performing the given work, are put out of use. The other less used muscles are called upon to a constantly increasing degree, and these cannot perform the work so efficiently or economically."

From the above statistics we can safely assume that about 40 per cent. more efficiency is gained when we teach horses to go in balance and ride them in balance. In campaign, with horses that have been balanced during peace training, and this balanced way of moving has become *reflex*, we find the greatest efficiency. We get out of them the most for the least. Their muscular development being uniform, they carry the greatest amount of animal reserve, and their way of moving being most economical, they expend the least energy in daily work. When ration issues are necessarily cut, and work is increased, we find such horses standing the work. When the period of rest occurs they recuperate quickly, store up reserve, and are soon ready for another drive.

MILITARY HORSE TRAINING.

"Without sufficient cavalry your victories are without result," seems to hold as good today as in the time of all previous great masters of the art of war.

A great military leader seeks a complete victory when he engages an enemy. He seeks to destroy him entirely and to do this he endeavors to surround him and to cut him off from all assistance, long enough to give time for his complete destruction. To do this, the element of time is the most important. We assume he has vigor and valor in his troops and splendid coördination in the various working parts. Just as he seeks a complete victory, so his opponent finding himself out classed, seeks to prevent a complete victory by never allowing himself to be surrounded. He therefore secures safety through flight.

Clausewitz says that no matter how small his command, a leader always has an eye on his get-away. No machine yet has been invented that will equal the horse in economic efficiency to carry out the principle of obtaining a complete victory by surrounding the enemy, and any system of military horse training that over looks getting the greatest economic efficiency out of the horse is wrong in principle.

It has previously been shown that a balanced horse gives us the greatest economic efficiency. Hence a system of military horse training should be "a search for balance," and the best system will be that system which will give us that balance in the shortest space of time. It is a fact in physical training, that if you practice repeatedly a certain movement in an inefficient manner you confirm yourself in this incorrect way and make it very difficult to change to the correct manner. You confirm yourself in a bad habit and you have to break off the bad habit before you can acquire the correct habit. The work is trebled at least. Hence it becomes of the greatest importance to put your horse in a balanced position from the very beginning and never allow him to assume an incorrect position. When he has acquired the correct way of going, and it has become *reflex*, his training is complete; but he must continue to be ridden correctly or he may acquire an unbalanced way of moving.

It is supposed by many that if a horse is ridden and left to himself, he will have a natural balance which will be correct. This reasoning is false. The weight of the rider is sufficient to cause new conditions of muscular coördination. It varies with the individual and this so-called natural balance is a misnomer. Natural balance is the muscular coördination without a rider or any weight and uninfluenced by man. The influence of man may be good or bad and remains with the horse even when without a rider, so that a horse badly balanced, remains badly balanced even when turned loose and untroubled by man.

We read in books of the necessity of altering the position of the center of gravity by bringing the head near a vertical position. This reasoning is correct, provided in so doing the muscular coördination of certain very important muscles attached to the neck are not interfered with. The position of

the center of gravity is a minor detail compared to perfect muscular coördination in a military system of horse training.

Military systems of horse training may therefore be divided into two classes:

1. Systems which leave the horse to himself and trust to chance to secure balance.

2. Systems which put the horse in a balanced position from the beginning.

You may have your choice.

AN IDEAL IN HORSE TRAINING.

The military riding schools of the great powers are continually changing their manuals of equitation. They do not seem to be settled as to what is correct and why. There is one authority however whose principles have been adopted by a great power in its military riding school, whose expression of principles has been unchanged. M. Clemenceau is given credit by Hayes for putting into writing the principles of one of the best if not the best authority on the balanced horse. These principles are expressed in two books—*Breaking and Riding*, translated from French into English by Hayes; and *Journal de Dressage*, translated but not published by the same authority. Both books are by James Fillis. The Grand Duke Nicholas of Russia had Fillis come to the Cavalry School at St. Petersburg as chief riding instructor, where he remained for ten years. His principles are the basis of the Russian Manual of Equitation.

Let us now see what is expected of a horse trained by insisting on balance from the beginning. A translation of an appendix in *Journal de Dressage* on the "Cavalry Schools of Europe" is quoted: "I must speak of the Russian School. We have twelve riding instructors and we have only twelve schooled (capable of being reassembled) horses to give our *reprise*. This is insufficient because we have none to replace those horses that are indisposed.

"Then our horses are used for everything. After being worked in the riding school from October to May, they are trained for six weeks. They are raced in July (Military Course); in August they go on a raid of 160 miles in two days, bearing 176 pounds; and in September they are hunted.

"This is proof of the usefulness of such a system of training, as these horses bear themselves well in all these tests."

When the horse is trained to go in his so-called *natural balance*, his impulsive powers are only stimulated to increase his gait. The hand of the rider is really no hand, as it feels nothing although it may have contact with the mouth of the horse. The neck of the horse is extended and supported principally by the *ligamentum* muscles. The shoulder is moved by the muscles attached to the funicular portion of the *ligamentum* muscle, instead of by the more powerful *serratus magnus* muscle, which is attached to the last four cervical vertabræ. As the neck of the horse is extended, undue weight is put on the forehand, which with the imporper coördination of the muscles of the shoulder, tend to strain of the ligaments of the front legs, thus prematurely breaking the horse down. The animal's reserve is lessened, as the long back muscle and the powerful shoulder muscle waste away fron non-use. The animal loses in hardiness and control, because there is nothing in the hand to control. The horse is trained by *routining* him and not by control of the muscular impulses. In conformation, he loses the fullness of back and neck muscles. This method has the advantage, however, of entailing practically no work on the part of the trainer, who simply acts as a *passenger*, day after day, until the animal is routined to his work.

When the trainer, however, insists on balance from the beginning, he demands vigorous impulses, bringing into play the powerful back muscle, thus furnishing the fixity in the last four cervical vertabræ necessary for the proper action of the *serratus magnus* muscle, the principal shoulder muscle. To handle this vigorous impulse, flexions at the jaw and poll are necessary; otherwise the horse will go beyond the hand. These flexions require skill and care to do correctly, and false flexions which bend the entire neck, may make the horse a "jigger" and a "rubberneck." The rider is busy all the time feeling the horse, so as to keep the impulses normal, and maintain correct position of the head and neck. "Position and impulses are everything." He is no longer a simple passenger, but is

busy all the time with his legs and hand, and the results are shown in the smooth flowing gaits, the handsome appearance, easy control, and all around even muscular development. It is exact, carefully accurate work, and requires skill and experience, but the results are fully worth it.

We have a riding school at Fort Riley, and have selected a system of training which trusts to luck to secure and maintain balance. Imagine, under the system adopted at the Mounted Service School, subjecting your first or even your second year training colt to the test described in this paper, and securing satisfactory results!

A REMOUNT DEPARTMENT VERSUS THE CONTRACT SYSTEM.

By R. VANS AGNEW, Veterinarian, Fifth Cavalry.

THE following extract from an article that appeared in the February 24, 1917, number of the *The Thoroughbred* seems to be worthy of consideration by our mounted organizations:

"Nothing could give a more lucid or expressive condition of affairs in this country in connection with the horse breeding industry than the following letter from John F. Ryan, the head of the Canadian Breeding Bureau, the leading spirit in the Oversees Export Company of Canada, and principal in the International Exportation Company of New York. The experiences of Mr. Ryan have placed him in touch with every detail in the horse breeding world.

"The figures quoted are gathered from official sources to which Mr. Ryan has every access. His description of the horse needed for military work has been gleaned from practical connection with the inspectors of almost every belligerent country as well as American experts.

"His letter shows the actual need of horse breeding encouragement and determines that preparedness in time of peace. Under the existing fretful condition in this country and the probabilities of war it is almost to learn that if the United States needed military horses few are to be obtained. The excessive call upon this country has depleted the stock to such an extent that it has deprived us of nearly all the good material in that line. We have sold our last loaf, as it were, and nowhere to turn to buy another. The horse situation has become a matter of most serious importance and demands the immediate consideration of the Federal and State governments.

"Mr. Ryan gives the following interesting and impressive facts: 'Regarding the total number of horses shipped from

the United States during the war, my estimate is that France and England alone have taken 1,815,000 horses from October 8, 1914, to February 1, 1917. In addition to this the Italian Government has taken about 160,000 head and the Greeks about 30,000.

" 'The proportions of cavalry and artillery horses have changed from time to time during the war, these varying with the developments on the west front and in the Balkans.

" 'The first contract issued by the French Government called for fifty per cent. cavalry, forty per cent. light artillery and ten per cent. heavy artillery. This was in September, 1914, and the contract was executed in October, November and December. The next contracts were for thirty per cent. cavalry, fifty per cent. field artillery and twenty per cent. heavy artillery. The third set of contracts were for twenty per cent. cavalry, sixty per cent. field artillery and twenty per cent. heavy artillery. The 1917 contract which I signed a few days ago, is for ten per cent. cavalry, fifty per cent. field artillery and thirty per cent heavy artillery. These changes were due to the mode of warfare. The trench method reduces the need of cavalry, whereas the enormous amount of shell fire in this war has increased the need for field gun horses.

" 'It is important to note, however, that as the war progressed the French buying commissions got to the point where they took a field gun horse that could easily be used for cavalry purposes and the cavalry horse strong enough to help pull a field gun.

" 'By April, 1915, or after seven months of buying, there were no real cavalry horses available in America. I was the first to get into Kentucky and secured 6,250. At the present time I could not hope to get more than a car load a week of the *real stuff* in that State. The same holds true in California, Virginia, Tennessee—in fact all over the country.

" 'The heavy horse is very plentiful because he is produced in the ordinary work of the horse industry.

" 'For the field artillery the French and British are now accepting a small farm chunk, weighing from 1,050 to 1,200 pounds, and are continually bemoaning the fact that America has no thoroughbred blood in this class of horse. As near as

I can figure, after having watched many thousand horses branded, I believe that thoroughbred blood is necessary in both cavalry and field artillery horses. I know that whenever an inspector, French or English, sees a gunner which looks though he might have a dash of thoroughbred blood he selects him at once and asks for more of the same kind.' "

* * * * * * *

Unfortunately for us there is very little doubt that Mr. Ryan is only too right in stating the deplorable fact that there is a great dearth of the "*real stuff*" in the form of a well bred cavalry or light artillery horse of the proper type.

This fact also has been observed by many men who tried to buy army horses last summer, and by the army man in general who received those animals that were bought. All good judges speak with regret on the absence of quality and substance in the remounts. To change this state of affairs necessitates a complete reversal of our present system.

Horsemastership in all its branches takes years of experience and thinking to attain to any degree of exactitude and if it is to be entered upon on a large scale it requires a complete and concentrated system to be applied to its fulfilment

Our remount system cannot be worked by a happy-go-lucky individualism it requires the best efforts of the best men of the mounted organizations of the service. And these men must assemble where they can be taught to think and work in complete unison with the purpose in view namely the best way of obtaining satisfactory animals for war purposes. There must be a selected body of men who are proved experts in their special knowledge.

A man may be a wonderful rider or a fine instructor or a great cavalry leader or a grand talker and yet can be a poor judge of a horse. Some men never learn, others can be taught how to choose the proper type. Therefore since the personnel of our mounted organizations have to live with and use horses it is "up to them" to devise some settled, organized and sufficient scheme in regard to obtaining proper remounts.

The mounted branches of the service need a specially organized department in the Quartermasters Department, com-

posed of the best and most experienced horsemasters in the service or retired.

This remount department should be commanded by a Colonel-Inspector. The personnel should collect in some central place; arrange on a settled policy; perfect themselves into a singleness of opinion on their subject and then carry it out in the best way.

Major C. E. Hawkins in his careful article on remounts in the January, 1917, CAVALRY JOURNAL, speaks favorably of the contract system, and states that the large contractor generally collects a better grade of animal.

This no doubt is true, but it does not prove that the United States Government cannot get the same grade in other ways. The Quartermaster's Department is a fairly large ontractor itself and experience proves that sellers will alwaysc come to buyers no matter where they may be.

The dollar is a mighty magnet.

Also, it is doubtful if one central inspecting board that has to travel to and fro many times is any more economical than a board that has, say three, collecting stations to which the animals can be brought. But the Remount Department will have to do more than let out contracts and inspect the result if Mr. Ryan and other authorities are right in their warnings as to the scarcity of army horses.

It will have to teach the farmer and breeder how to breed the proper type of animal. This can only be done by giving sufficiently large premiums for the best sires, dams and progeny; by personal instruction, advice and by paying a fair price in an open market. The middle man must be the Remount Department.

All the large contractors would be only too glad to sell their animals for a fair price in the open market. A low contract price and many "rejects" is the expensive part of their business. A good price and no, or very few, "rejects" is good business for all parties. In order to get good horses this government will sooner or later have to pay the public these breeding premiums.

The War Department ought to insist on this method as a part of the necessary preparation for war.

The mounted organizations ought to invite the attention of the War Department to this fact.

In a few states the farmers and some breeders are catering to a few wealthy peoples' tastes and desires for hunters. But the bulk of the farmers of the nation know nothing about hunters and army horses and care less. They simply breed their light mares to the nearest and cheapest stallion, and when a contractor's agent comes around they sell to him at a miserably low figure, consequently they become discontented and in many cases stop breeding.

The Remount Department should get laws passed giving good substantial premiums for sires, dams and progeny. Its personnel should be distributed over the states on a properly organized plan, should travel over their territory, should come in contact with the horse breeding public, should judge on the premium winners, should put up collecting stations and have the animals brought there at the most suitable seasons of the year.

The contract system has been in effect for a number of years and evidently it was thought to be wanting in some essentials for remount stations were started into existence.

It is too soon to say if these are successful or not, but indications point to the negative. But consensus of opinion that is worth considering, is most emphatic in saying that the horse question of last year was not a success in any part, in buying, care, or efficiency. So let us drop the old methods and try something new that can be brought to a higher state of knowledge and efficiency.

This is a serious question and the very existence of the mounted arm is threatened unless it keeps up with the improvements that are being brought out every day. It is not logical to publish a philosophical theory of the kind of horse wanted and then accept a much inferior animal.

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Reprints & Translations

THE INFLUENCE OF HORSE SHOWS.

(The *New York Times*.)

ONE of the most enthusiastic horsemen around Madison Square Garden during the show was Alfred B. Maclay, chairman of the Executive Committee of the National Horse Show Association. He is a member of the famous Millbrook Hunt, one of the organizers of Squadron A and a Spanish War veteran, and is also fond of the standard bred horse, the noted roadster Auditor B., winning championships for him in the days when the trotter was one of the big attractions at the Garden.

The fact that Mr. Maclay has served as a judge of hunters, saddle, and light harness horses at nearly every show of prominence in the East, and that he has visited and made observations on horse breeding in practically every country in Continental Europe should render him specially competent to pass on horse conditions in the United States. Upon being asked what medium he considered the most important for the distribution of knowledge pertaining to the horse, Mr. Maclay said recently:

"The horse show is unquestionably the greatest of all educators, for it is there that type is illustrated in living form. Those who are intelligent and progressive have an opportunity to see what others are producing, and they can learn to avoid not only their own errors, but those of their fellows as well. The horse show, which is now a feature of social life everywhere in the United States and Canada, has done more to develop

certain types of horses than any other influence that can be named. This is particularly true of the saddle horse, hunter, and harness horse of every type.

"Racing I would place next as a contributing factor. Without the tests on both the running and trotting courses our breeding ventures, which nature renders uncertain despite all science, would be still less satisfactory. It's the only way to show up structural and other weaknesses, and we cannot hope to make progress without these competitions. There is no more stirring spectacle, aside from the economic principle involved, than a rousing contest between well-matched horses which are trained to the minute. We had such a race in our point-to-point steeplechase at Millbrook last Saturday. Such men as Ambrose Clark, Bryce Wing, Harry Smith, and Skiddy von Stade took part. The course was over a natural country that is as beautiful as anything in Leicestershire, and there was a thrill for the thousands who watched it every foot of the four and a half miles."

Mr. Maclay was very enthusiastic about the system for the production of all army horse types in France, Germany, Russia, and Austria-Hungary.

"All these countries have surpassed England in the production of the army horse," said Mr. Maclay, "and this despite the fact that England had the material at her very doors, but failed to avail herself of it. Every year the agents of these foreign Governments came to the Dublin Horse Show and carried away the best of the animals. The Irish horses have the bone and other qualities which have assimilated so perfectly with those of our lands. England would not pay the prices such horses commanded, while the agents of the Continental powers had practically *carte blanche* when they found something desirable."

"Doesn't the experience of England convey a parallel to conditions here?" Mr. Maclay was asked.

"We have certainly permitted a lot of very useful horses to leave the United States," was the reply, "and there is no argument as to the quality of the horses now at the border. They are very poor indeed. What can you expect when the experimental appropriation is so sparing and will only pay a

maximum of $175 for a three-year-old? That figure should be increased to $250 at once, and as many desirable three-year-olds as can be obtained should be bought and sent to the various training stations for development.

"My type of a cavalry remount is a big-bodied, short-legged horse, with a good shoulder and a nice rein. He should not be under 15.2 nor more than 15.3—15.2½ would be the ideal size, and I believe he would stand the test better if he is a combination of thoroughbred and trotting strains. The sort of horse which is being bred in the Genesee Valley, where the Jockey Club's Breeding Bureau has its best sires, should answer every question."

TWO BUGLE CALLS.

By O. W. NORTON.

THE bugle was much used in the army. The carrying quality of its tones made it possible to convey commands to a great distance in times of quiet, and even in the roar of battle its shrill notes could be distinctly heard. The reveille which waked the soldier from his slumber in camp or bivouac and the order to put out the lights at night were sounded on the bugle. There were calls to breakfast, dinner and supper. Men in camp unfit for duty were summoned to the surgeon's tent by the sick call. The skirmish line in battle was ordered to deploy, to advance, to commence firing, to lie down, to cease firing, to retreat, to rally on the reserve, and to execute many other movements by various calls on the bugle. There were calls for sergeants to report to the adjutant, for officers to report to the colonel, for companies to form for roll call, for regiments to form line of battle on the colors, to advance in line of battle and to retreat, to change direction in marching, to strike tents and prepare to march, and many others. No cavalryman will ever forget the stirring call of "Boots and Saddles."

When General McClellan was organizing the Army of the Potomac near Washington in the autumn of 1861, the

camps along the line were very near together, and the constant drilling, to the sound of the bugle, of the various regiments and brigades often caused confusion in understanding orders. General Daniel Butterfield, who organized a brigade at this time, known at first as "Butterfield's Brigade," saw at an early date the necessity of doing something to prevent this confusion. Butterfield had a genius for military matters, which later secured for him high rank in the Army of the Potomac and in the western armies. He could himself sound the bugle calls when occasion required. Shortly after he assumed command of the brigade, he composed, and taught the writer, then serving as his brigade bugler, a bugle call for his brigade. This consisted of three long notes on one key, and a catch repeated. It was sounded twice before each call for any operation or movement and indicated to the officers and men that the call to follow was for the troops of this brigade. General Butterfield also prepared different calls for the regimental bugler of each regiment in his brigade. The men were accustomed to sing various words to the accompaniment of the bugle calls when they heard them. Most of these words were explanatory of the meaning of the call, or were jocose comments on the command. When the reveille was sounded men could be heard through the camps singing:

"I can't wake 'em up, I can't wake 'em up, I can't wake 'em up in the morning,
I can't wake 'em up, I can't wake 'em up, I can't wake 'em up at all.
The corporal's worse than the private, the sergeant's worse than the corporal,
The lieutenant's worse than the sergeant, and the captain's worst of all.
I can't wake 'em up, I can't wake 'em up, I can't wake 'em up in the morning,
I can't wake 'em up, I can't wake 'em up, I can't wake 'em up at all.*

*It is sometimes heard as follows:

I can't get 'em up, I can't get 'em up,
I can't get 'em up in the morning,
I can't get 'em up, I can't get 'em up,
I can't get 'em up at all.

These words exactly fitted the notes of the bugle. When the sick call sounded, the men sang, "All ye sick men, all ye sick men, get your calomel, get your calomel, get your calomel, get your calomel." Sometimes they sang, "Doctor Jones says, Doctor Jones says, come and get your quinine, quinine, quinine, come and get your wuinine, qui-i-ni-i-ine."

When, on the march, the general halted his brigade intending to give the men an opportunity for a few moments' rest, the brigade call was sounded, then the call to halt, then a most welcome call of three short notes repeated, to which the great chorous responded along the line, "All lie down, all lie down." When the march was to be resumed the brigade call was again sounded, followed by the less welcome call, "attention!" To this the men responded in words well suited to the music:

"Fall in, ye poor devils, as fast as ye can,
And when ye get tired I'll rest you again."

Words were set to many other calls, but one which lasted from Arlington Heights to Appomattox, was the interpretation of the brigade call. To this the men sang:

"Dan, Dan, Dan Butterfield, Butterfield,
Dan, Dan, Dan Butterfield, Butterfield."

The general used to say that sometimes in trying circumstances, when the brigade was called up from a too short rest, he thought he could distinguish the words, "Damn, Damn, Damn, Butterfield." This is not very probable. The men of that old brigade so much admired their gallant leader that nothing he could do would cause them to use such disrespectful language.

The general calls were used throughout the Union army. The music of the calls was printed in the Tactics where they

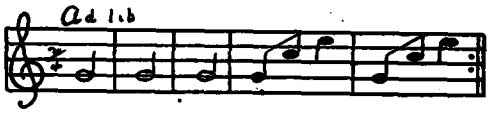
---

Get up you sleepy monkeys,
And wake your lazy bunkies,
Put on your working breeches,
And go and do your work.
I can't get 'em up, I can't get 'em up,
I can't get 'em up in the morning,
I can't get 'em up, I can't get 'em up,
I can't get 'em up at all.

[EDITOR.]

could be studied and learned by officers whose duty it was to understand them and repeat in words to the men under their command the orders indicated by the bugle. This brigade call was used only by Butterfield's brigade and was not printed in the Tactics.

BUTTERFIELD'S BRIGADE CALL.



Dan. Dan. Dan. Butterfield. Butterfield.

This special call for an organization was useful in many ways. It had no small effect in arousing and maintaining an *esprit de corps* in this brigade, second to none in the army. It was known by all troops of the Army of the Potomac, and the brigade was marched to its music, was always respected and welcomed by its comrades in arms as an organization to be trusted, and sure to give a good account of itself under all circumstances.

The rout of the Union army at the second battle of Bull Run was for a time much greater than that which occurred at the first battle, although the men having become veterans, order was more quickly restored. After making a gallant charge which was received by masked batteries and musketry in front, the line also being enfiladed by a large part of Longstreet's artillery, the men fell back in confusion. At the turnpike all trace of organization was lost. Darkness came on and the blockade at the Stone Bridge broke up whatever semblance of order remained. Between the Stone Bridge and Centreville the turnpike was filled with a disorganized mass of infantry, artillery, ambulance and wagon trains. General Butterfield, riding in the midst of the *melée*, ordered his bugler to sound at short intervals his brigade call. It was received with shouts from all directions, and the men of this brigade, rallying to that call in the darkness, were formed into column, and marched into Centreville in better order than that prevailing in almost any other command.

In September, 1889, one of the regiments of this brigade met on Little Round Top, Gettysburg, to dedicate its regi

mental monument and to hold the annual reunion of the survivors of the regiment. Few of them had seen the battlefield since July, 1863. The writer, attending this reunion, took with him a bugle, and standing among the rocks and trees sounded once more the old Dan Butterfield Call. The men were scattered about over the hill and in the lower ground at its foot, some seeking the rocks where they fought, others going further to see how the position looked from the place where the enemy advanced. When the bugle sounded, a great shout came up from the men, who recognized the old familiar call, although many of them had not heard it for a quarter of a century. They came charging up to the spot where the bugler stood, some with tears in their eyes, asking to have it repeated. That familiar sound echoing among the rocks where they had fought, brought back, perhaps more vividly than word could do, the memories of the days when they had answered so often to its sound. Few men of the old Third Brigade can hear that call today without emotion.

One day in July, 1862, when the Army of the Potomac was in camp at Harrison's Landing on the James River, Virginia, resting and recruiting from its losses in the seven days of battle before Richmond, General Butterfield summoned the writer, his brigade bugler, to his tent, and whistling some new tune asked the bugler to sound it for him. This was done, not quite to his satisfaction at first, but after repeated trials, changing the time of some of the notes which were scribbled on the back of an envelope, the call was finally arranged to suit the general. He then ordered that it should be substituted in his brigade for the regulation "Taps" (extinguish lights) which was printed in the Tactics and used by the whole army. This was done for the first time that night. The next day buglers from near-by brigades came over to the camp of Butterfield's brigade to ask the meaning of this new call. They liked it, and copying the music returned to their camps, but it was not until some time later, when generals of other commands, had heard its melodious notes, that orders were issued, or permission given, to substitute it throughout the Army of the Potomac for the time-honored call which came down from West Point.

In the Western Armies the regulation call was in use until the autumn of 1863. At that time the Eleventh and Twelfth Corps were detached from the Army of the Potomac and sent under command of General Hooker to reinforce the Union army at Chattanooga. Through its use in these corps it became known in the Western Armies and was adopted by them. From that time it became and remains to this day the official call for "Taps." It is printed in the present Tactics and is used throughout the United States Army and Navy, the National Guard and all organizations of veteran soldiers.

General Butterfield in speaking of the reason for changing the call for "Taps," said that the regulation call was not very musical and not appropriate to the order which it conveyed. He wanted a call which in its music should have some suggestion of putting out the lights and lying down to rest in the silence of the camp, and musing over airs and musical phrases which might better represent this idea, he composed this call and directed its use in the camps of his brigade, the only troops over which he had at that time any authority. It made its way by its intrinsic beauty to a permanent place in the minds and hearts of the soldiers.

In accordance with the custom of attaching words to such calls as had a significance to which words were adapted, the men soon began to sing to this call, "Go to sleep, go to sleep, go to sleep, go to sleep, go to sleep. You may now go to sleep, go to sleep." This was the last regular call of the day or night in camp. About half an hour after the formation of a company for evening roll-call, to which it was summoned by the "Tattoo," this call was sounded as a signal to put out all lights in tents, stop all loud conversation, and everything which would interfere with the quiet rest and sleep of the men. Sometimes they sang, "Put out the lights, go to sleep, go to sleep, go to sleep, go to sleep. Put out the lights, go to sleep, go to sleep."

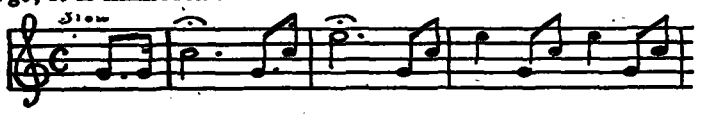
General Butterfield in composing this call and directing that it be used for "Taps" in his brigade, could not have foreseen its popularity and the use for another purpose into which it would grow. Today whenever a man is buried with military honors anywhere in the United States, the ceremony is concluded by firing three volleys of musketry over the grave

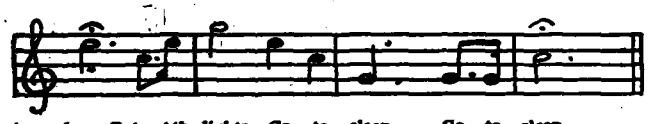
and sounding with the trumpet or bugle, "Put out the lights. Go to sleep." At the Soldier's Homes, when the worn-out veterans of the Grand Army of the Republic lie down to their last rest, while their comrades stand about the grave with bared heads, some comrade bids farewell by sounding on the bugle this call to "Go to sleep."

At all posts of our little Regular Army, whether in garrison or at the distant frontier camps, a soldier who is buried by his comrades receives this last salute. When General Butterfield was buried at West Point a few months ago, the solemn strains of this call bade the last farewell to its author. It consigned to their last rest Sheridan at Arlington, Sherman at St. Louis, Grant at New York, and McKinley at Canton.

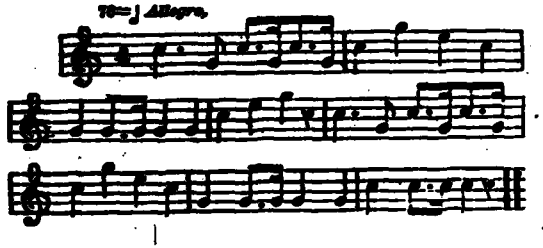
In addition to the use of this call by the army it is now used for the same purpose by the navy. In every port around the world visited by our vessels of war its sweet tones float over the water the last call of the night, and it is the farewell to every Blue Jacket buried at sea.

There is something singularly beautiful and appropriate in the music of this wonderful call. Its strains are melancholy, yet full of rest and peace. Its echoes linger in the heart long after its tones have ceased to vibrate in the air. Like Handel's *Largo*, it is immortal.*





*It was given in the old "*Tactics*" prior to 1867 as follows:



Editor.

MILITARY NOTES

WHAT HORSE FOR THE CAVALRY?

KINGFISHER.

THIS little horse (he is 14 hands 3 inches) crossed the international boundary line into Mexico March 15, 1916, in pursuit of Villa and his outlaw band.

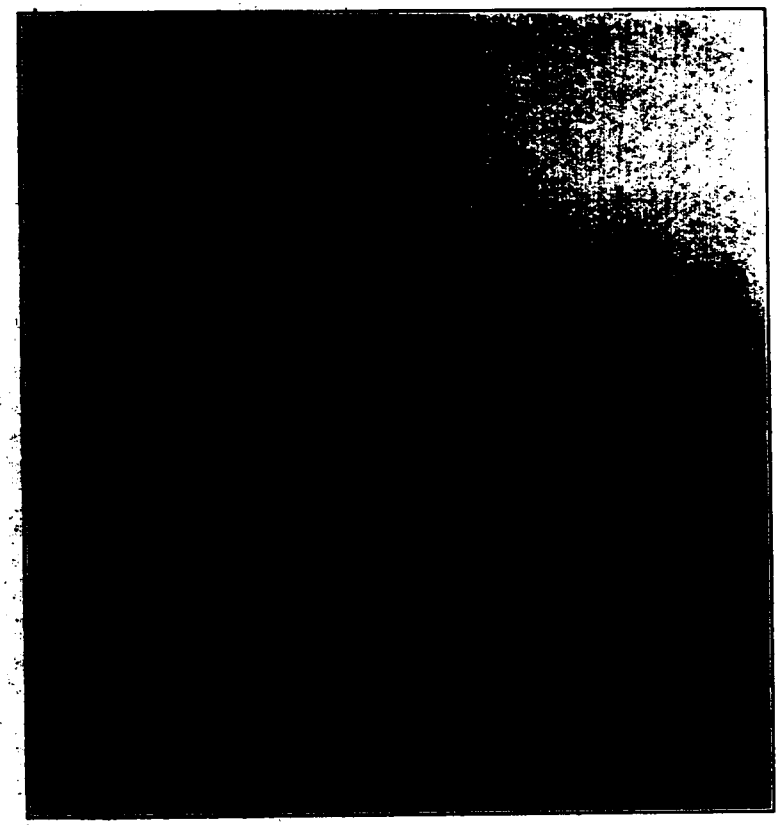
From March 15th to March 26th he was ridden 219 miles, and from March 31st to April 12th, 362 miles, across the deserts, over the mountains, and through the waterless wastes of northern Chihuahua, carrying his rider, food for man and horse, in addition to the usual pack an officer must take when operating in a hostile country far from the base or line of communications; a load well over 200 pounds.

After marching 219 miles in eleven days on less than half forage, on March 31st he lead a small band of horsemen in a dash after Villa which ended in the fight at Parral on April 12th, covering a distance of 362 miles in thirteen days. In this drive he had but little grain, and that corn which he had never before eaten, no hay, and what dead grass he could get during the night while tethered to a short chain. He negotiated the snows of the mountain passes, he sweated through the noon day heat of the lower levels, and he shivered at night from the icy winds of these high altitudes.

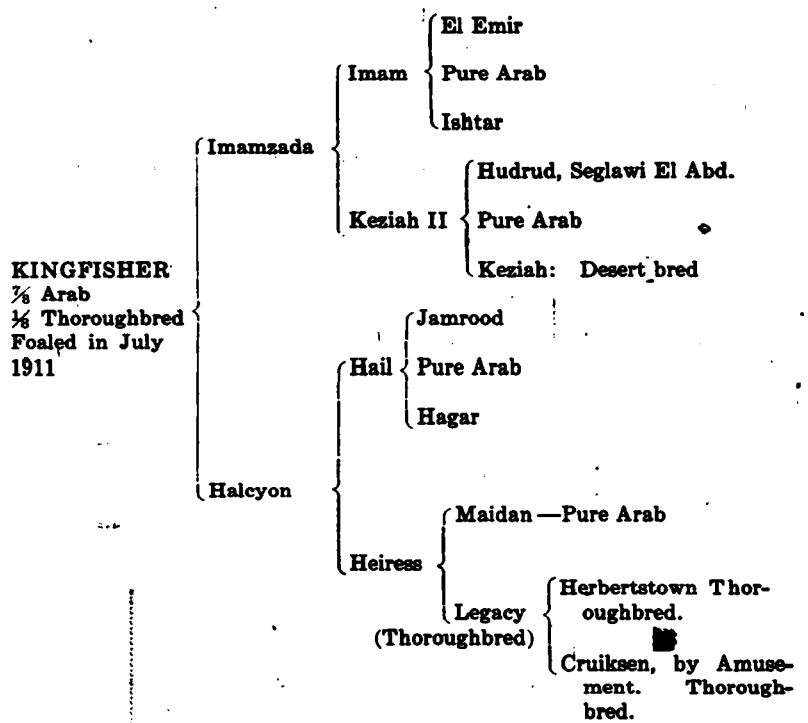
He never showed any signs of fatigue, never lost courage, and was a constant inspiration to his rider. He lost but little flesh always moved with a quick springy step with head and tail alertly raised, animated and watchful. In battle he was fearless, being quite content to keep on the firing line without fuss or objection.

From April 22d to June 9th he was ridden 300 miles, but under better conditions than he experienced previous to April 12th.

He went lame but once due to a thorn in the frog. But he did his work just the same. He was never sick, was always ready, and twenty-five thousand dollars cannot buy him.



KINGFISHER.

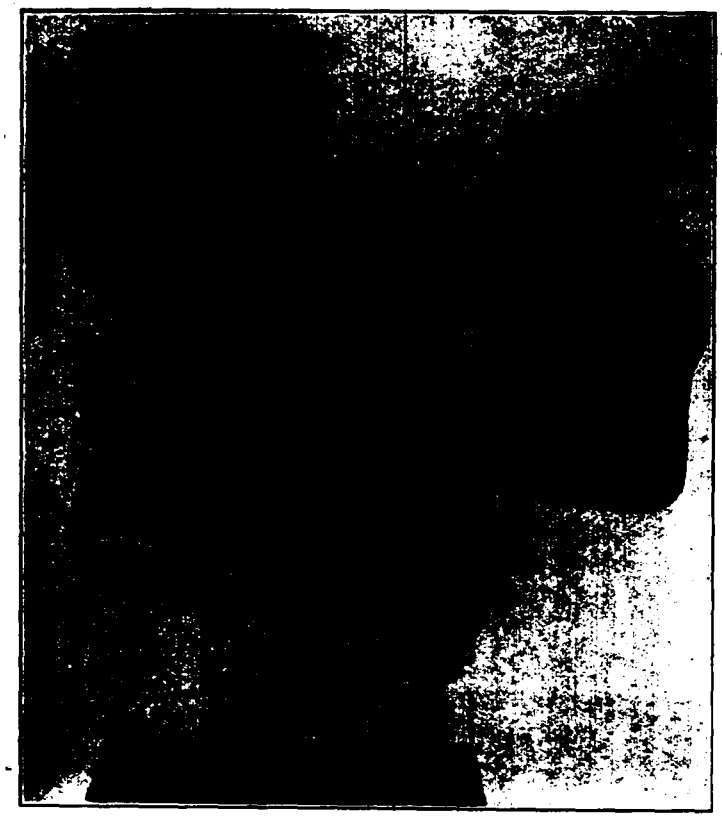


NEW CAVALRY EQUIPMENT.

WE reproduce herewith three cuts showing the enlisted men's saddle and saddle equipment developed by the Cavalry Equipment Board, and recently tried out in a semi-final test at Fort Riley, Kansas.

ENLISTED MENS' SADDLE, No. 4.
Cavalry Equipment Board, Rock Island Arsenal. Stripped. Off Side.

The saddletree is of laminated wood and basswood reinforced at pommel and cantle with steel arches, and covered, as was the McClellan, with rawhide and leather. Arsenal tests show it to be stronger than the McClellan saddle.

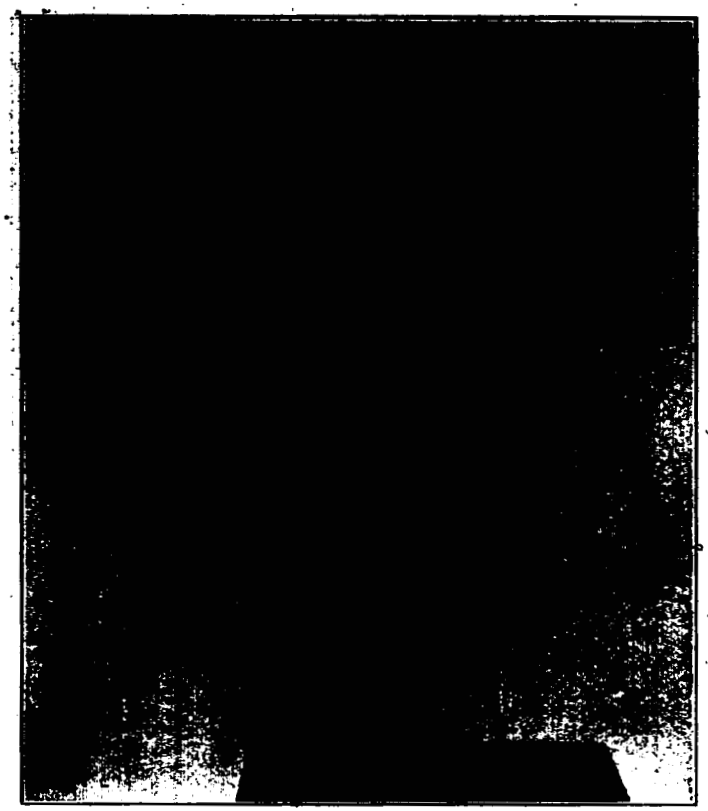


ENLISTED MENS' SADDLE, No. 4.
Packed. Near side. Cavalry Equipment Board, Rock Island Arsenal.

The packing of the saddle follows in general that prescribed for the 1912 equipment, but contemplates carrying the rifle on the trooper's back—the small of the stock being held in a steel clip on the cartridge belt in rear of the right

hip, and the sling-swivels on the rifle being changed to bring the *flat* of the stock against the trooper's back.

The recent test consisted of a 220 mile march in five days, the horse carrying an aggregate load of 162.5 pounds, includ-



ENLISTED MENS' SADDLE, No. 4.

Packed. Off side. Cavalry Equipment Board. Rock Island Arsenal.

ing trooper, equipment, three days rations, and eight pounds of grain. The first three days marches were 33.3 miles per day; with 58 miles the fourth day; and 62 miles the fifth day. The result of the test seemed to warrant the manufacture of a

hundred sets of this equipment for trial under service conditions. There is also shown a cut of the officers' saddle.

C. D. R.

OFFICERS' FIELD SADDLE.

Ordnance model-1916. Fabricated at Rock Island Arsenal under the supervision of the Cavalry Board. Photopraphed after having been ridden over 800 miles in Mexico and on the border by First Lieutenant John T. Kennedy, Sixth Cavalry.

THE SERVICE BLOUSE.

THE so-called service blouse as now issued is again on trial as a *service* garment due to the discontinuance of the issue of sweaters.

Looking back a little it is found that the sweater was issued to be worn in lieu of the blouse in the field as it gave greater freedom of movement. It has proven unsatisfactory in that it is an extra article.

It does not wear. It does not give the expected protection from cold or wind. Then the question arises; if we are back to the *service* blouse why was it ever abandoned as an article of clothing for use in the field? The answer is because it was found confining, tight in the chest and the standing collar extremely uncomfortable. Then why was no effort made to overcome these objections?

Now in favor of the blouse we have the following points:

1. It is as warm as the sweater.
2. It protects from the wind.
3. It has four spacious pockets in which to carry note books, pencils, maps, etc.

As regards the objections could not the patterns be cut to make a blouse of a given size a little fuller in the chest and freer in the armholes? Certainly. Could not the blouse be made with a turn down collar similar to the collar on the British blouse? Such a collar would be neater than our present standing collar which on issue blouses rarely fits the wearer, and would be vastly more comfortable. Why is it that at drill in garrison the blouse is practically never worn? Because it is too uncomfortable. On guard where the blouse is compulsory how many men have been noticed with their collars unhooked while walking post?

How many officers have been able to lie down in a blouse with the collar open even, without the sensation of wearing a wide dog collar.

It is a fine thing to cling to old traditions and customs of the service and high collars for dress, but in these days of preparedness and border service could not the high collar, that relic of barbarism, which in fuedal time was of chain, be sacrificed for the good of the service.

In plain English let the service blouse be a service blouse in fact as well as in name.

WILFRED M. BLUNT,
First Lieutenant, Eleventh Cavalry.

TO FIGHT—IS THAT ALL?

BY CAPTAIN H. J. MCKENNEY, TWELFTH CAVALRY.

DOUBLE rank or single rank, with pistol, saber or gun. What difference is it how we fight, just so the fighting is done right and troops don't break and run.

But, if surprised, troops have been known to break and run and how can fighting be *done right*, without proper information of the enemy, terrain, and what-not?

Napoleon said that: "The art of war has its unchanging principles." Those principles have not changed since 1831, when General de Brack wrote: "Every military operation rests, first, upon a thorough knowledge of the terrain in its offensive and defensive aspects; and, second, upon that of the position, strength, and, so far as possible, the intentions of the enemy. It is to obtain this knowledge with some degree of certainty that officers are sent on reconnaissance."

General de Brack not only calls attention to the importance of reconnaissance but accentuates the importance and delicateness of the duty when he says that "officers are sent on reconnaissance." Today, the type of enlisted men we are getting in the cavalry can be trained in scouting and reconaissance. Yes, even the men from the cities. Why not? Boys of the Boy Scouts, in cities, are learning wood craft, trailing, etc.

As it is, in the average troop of cavalry, how many men are those who could be trusted, under all conditions which might arise, to carry out the mission of a scout, that is: "*To get the required information and report it to the proper authority in time for it to be of use.*"

It seems simple enough to tell a man to go look at a thing and come back and tell what he saw. But, in any troop, take several men at random and send them out to report on the military features of some common place object nearby. For example, select a nearby house, a bridge or a hill and see how useful their reports would be in a crisis. Try them on trailing over a trail which had been made for the purpose. See how many of them can tell what happened when the tracks were being made; what speed was being made by the person, animal or vehicle, which made the tracks or when the tracks were made. These are only a few of the things which might be mentioned. But, how many of them would stand these simple, rudimentary tests? Are such scouts as these to be the "eyes and ears of the army?" Can such men make reports upon which a commander may base a decision of any importance? No. We still will have to send out officers, as the French did in 1831. This is not the fault of the individual trooper. The fault lies in the lack of his training along these lines, not in his lack of ability to receive such training.

The end of a war will find us with cavalrymen who have been trained in scouting. Trained in the school of experience. But, what is needed is men trained in scouting at the beginning of the war—before contact. Are we prepared for this? Is this training being given? Has it ever been given, adequately, except in war? Let us look at the last example of our pressing need for scouts. The American army never needed scouts more than when General Pershing's Punitive Expedition went through the International Barbed Wire Fence and started after Villa. So, we got them. We hired civilians to do our scouting and Apache Indians to help them do the trailing. Really, it seems that this should not be recorded in these pages. What a commentary it is on our methods of training. Doubtless, there were individual cases of troopers who did efficient work as scouts. If so, such men were born that way. Few of them, if

any, can attribute their ability as scouts to systematic training, received in the ranks.

As the new Cavalry Drill Regulations were required to be rushed to the Public Printer before such matters as trailing and scouting were touched upon, the matter of instructing men in these subjects is still in the hands of organization commanders.

Why the matter of training in these subjects has been left, so consistently, in such a nebulous state, or entirely ignored, is incomprehensible. The necessity for reconnaissance and scouting goes without saying. Stress is laid upon it in the Field Service Regulations. To quote from the 1914 Regulations: "* * * reconnaissance must be depended upon to obtain the information upon which all tactical movements of troops should be based." Again: "Reconnaissance in the theater of operations is best made by cavalry, which from the beginning of the campaign seeks to determine the enemy's strength and dispositions." Then, why is it that the procuring of the very material with which a commander must work, in arriving at his decisions, is left to chance? I refer to the procuring of information—military information which will be of use. This is a subject in itself, a separate and distinct line of training; because, it is one of the rôles of cavalry, equal, in importance, to the rôle of fighting.

We train in the rôle of fighting. Why leave the rôle of scouting to chance?

A SUITABLE MOUNT.

IN the last number of the CAVALRY JOURNAL (Page 458), we published a cut of Colonel W. C. Brown's horse but without his pedigree.

It is given herewith below:

GILDEROY.

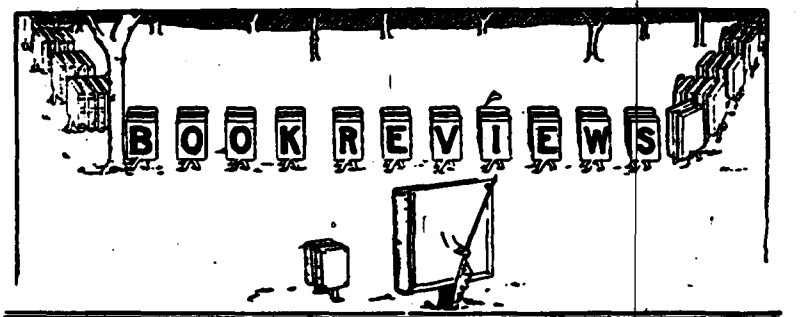
Registered Virginia Thoroughbred Gelding. Owned and trained by Captain C. S. Babcock, Tenth Cavalry, November, 1909, to October, 1915, and while ridden by him won prizes as follows:

First Prize.—Officer's Charger Class, Winchester, Va., 1913.

First Prize.—Officer's Charger Class, Panama Pacific Exposition, San Francisco, October, 1915.

Third Prize.—Best trained charger. Panama-Pacific Exposition, San Francisco, October, 1915.

Owned by Colonel W. C. Brown, U. S. Cavalry.



Machine Gun.*

This is a book for the professional soldier. It is the last word on the machine gun and its tactical use.

The authors, who have had actual service with machine gun units, really divide their subject into four parts (though not so marked in the text), viz.:

1. History and evolution of machine guns and their tactics.

2. Machine gun tactics as practiced in European armies today.

3. Training of machine gun units.

4. Appendices. These include eighty-five illustrations of machine guns, arranged in chronological order, and a bibliography of authorities consulted (also arranged chronologically) with notes indicating the scope and value of each work listed.

The authors state that "* * * in elaborating our theory of what the theory of machine guns should be, we have freely quoted from the writings of soldiers of many nations,

*"THE BOOK OF THE MACHINE GUN." By Major F. V. Longstaff, late 5th Battalion East Surrey Regiment, and A. Hilliard Atteridge, late Captain London Irish Rifles. Hugh Rees, Ltd. London. Price 8 shillings, 6 pence, net.

after having previously told how machine guns had actually been used in battle, and traced the evolution of the gun itself."

One is surprised to note that the first article listed as a work consulted is "1862—Vandenburgh, General. (U. S. A.)" quoting a lecture published in the Journal of the Royal United Service Institute.

The reviewer recommends this book as being sound tactically and up to the minute. Every officer who commands a machine gun unit and every senior officer who has such a unit under his command needs it and needs it at once.

ELTINGE.

Tactical Training.*

This remarkable book of 360 pages, by Lieutenant Colonel V. A. Caldwell, U. S. Infantry, is a manual for teaching tactical training.

The author points with emphasis to the fact that we must begin at once to train a numerous citizen soldiery, and that such military plans as we have made, must be modified accordingly. This line of action calls for short enlistments and intensive training; the former, in order that the greatest possible number of instructed men may be present in the country, and the latter, in order that the reserve thus created, may be composed of efficient soldiers.

Lieutenant Colonel Caldwell points out that all effective tactical training must be founded upon a proper consideration of the five great tactical principles and that all others are merely subsidiary to these. These principles as laid down by him are:

1. A correct grasp of the situation as a *whole*.
2. Act according to the circumstances and the nature of the terrain, *i. e.*, act according to conditions as they are.
3. Team work, *i. e.*, concentration of working forces.

*"CATECHISM OF UNIFORM TACTICAL TRAINING." By Lieutenant Colonel V. A. Caldwell, U. S. Infantry. The George Banta Publishing Company, Army and College Printers, Menasha, Wisconsin, 1916.

4. Fire superiority, *i. e.*, concentration of energy.
5. Simple and direct plans and methods, *i. e.*, efficiency.

The author has firm confidence in the individual intelligence of the rank and file of our men, who are available for military service; and his system contemplates training all who may be under instruction, from the private to the general, in the practical application of these five principles.

Much space is given to the subject of "fire superiority," and how troops may be trained in the means of bringing it about on the field of battle.

The tremendous importance of standardizing all tactical training is set forth and a method is laid down for bringing about this desirable condition.

Many subjects are taken up in detail, such as deployments, the use of echelon formations and field firing. A number of problems are given in order to more fully explain the author's methods.

Lieutenant Colonel Caldwell also prescribes a system of examinations, for use in testing the efficiency, in tactical training of infantry commands, from the squad to the brigade.

One chapter of twenty-five pages is unique. It relates to tactical charges and specifications that may be preferred against military leaders, from the corporal to the general, for violations of the five great tactical principles.

Another chapter consists of a number of military maxims, presumably collected from the sayings of great military leaders. Among these, we recognize some from those great Americans—Stonewall Jackson and General Grant.

The following probable typographic errors are noted:

Page 45, "When the flag is waved, you are being waved upon." The last "waved" should doubtless be "fired."

Page 226, "Let L Company be cover" probably means "M" Company.

The book is about the size of the Infantry Drill Regulations and is bound in red cloth. It will prove a valuable adjunct in training to the infantry and the Cavalry officer.

N. F. M.

Military Sketching.*

Regarding this text, we quote from a representative officer of the Tactical Department of the Army Service Schools:

"It is by far the best publication that I have seen for beginners because it teaches the elementary principles simply and concisely, shows exactly how to apply each principle, and how to take each step in the preparation of a sketch. It contains everything necessary to know in the preparation of a sketch, and contains nothing that is not necessary. Its statements and illustrations are so easily understood that, without the aid of an instructor, the student of this text will be able to qualify in map reading and sketching. It will, consequently, be of the greatest value, not only to the officers and non-commissioned officers of the Regular Amry and the National Guard, but peculiarly to those who have comparatively little time to spend on the subject, as in the institutions for reserve officers and in the Summer training camps.

Its suggestions for use in the study of "Minor Tactics" and in connection with the "B–H Map" are valuable. If followed, tactical instruction and a knowledge of ground forms and their proper representation on paper will be acquired at the same time and in an interesting form."

This text must not be confused with "Military Sketching and Map Reading for Non-commissioned Officers," by the same author. The text referred to in this review was published last month, and is issued by the U. S. Infantry Association, Washington, D. C.

Century of War.†

This is really an enlarged and somewhat amplified *index* of the armed conflicts that have taken place since the fall of Napoleon and before the present Europan War.

*"MILITARY SKETCHING AND MAP READING." By Captain Loren C. Grieves, U. S. Infantry, 1917. U. S. Infantry Association. Price, $1.00.

†"A CENTURY OF WAR. (1815–1914). A Précis of the Worlds Campaigns." By Captain G. D. G. Stevenson, Royal West Kent Regiment.

The subjects are arranged in chronological order. Each war is outlined under the headings "Origin," "Narrative" and "Results." Only the main features are mentioned, though usually the commanders of each side are named and the approximate strength of each side given or each battle described.

This is not a history. One must know much about any war mentioned to be able to understand what the text relates. One could use it to refresh his memory or to obtain a sufficient outline of any event to enable him to know just what he desired to look for with reference to any of the events named.

Small affairs like our Indian Campaigns are not recorded unless they possessed unusual political or commerical importance, nevertheless ninety-three wars are treated of in the text.

A handy little volume as a reference index.

Defense and Foreign Relations.*

A discussion of the problem that faces Canada and the other Dominions when they desire to translate into actual practical form their desire to participate in British foreign affairs without giving up any of their present autonomous character.

This particular monograph is a reply to "The Problem of the Commonwealth" by Lionel Curtis, and, particularly to Mr. Curtis' conclusion that if the people of the Dominions want to take part in the control of their Foreign Affairs they must either join in the task of governing the great Dependencies (such as India) or assume their independence and renounce forever their status as British citizens.

An interesting discussion of the close relation that must exist between the Department of Foreign Affairs and the Departments relating to the Army, Navy, Finance and the Colonies.

*"DEFENSE AND FOREIGN RELATIONS." Bs Z. A. Lash, K. C., LLD. The MacMillan Company, Toronto, Canada. Price fifty cents.

Army Regulations.* This is a small, paper covered book of 135 pages—4¾" x 5½"—that is intended mainly for those who are going up for an examination for a commission in the Officers' Reserve Corps. It includes all parts of the Regulations mentioned in G. O. 32, War Department. The text includes the Change No. 50.

Infantry Drill Regulations.† This is a book of the exact size of the Infantry Drill Regulations and is a reproduction of that excellent drill book, with the following additions:

"The index, the illustrations, the author's notes, the paragraph headings and the paragraph numbers (in parenthesis) inserted in various places." It includes Change No. 16, August 25, 1916.

BOOK NOTICES.

"OPERATIONS ORDERS. FIELD ARTILLERY." A study in the Technique of Battle Orders. By Lieutenant Colonel H. G. Bishop, Eighth Field Artillery. This book is on the line of Captain von Kiesling of the German Army, with the exception that von Kiesling deals with German units on a difficult foreign map, and relates almost wholly to infantry. The Collegiate Press. Geo. Banta Publishing Company, Menasha, Wis.

*"EXTRACTS FROM ARMY REGULATIONS." Prepared for Officers' Reserve Corps. Published by Burdick & King, New York.

†"INFANTRY DRILL REGULATIONS, UNITED STATES ARMY." (Including the Manual of the Bayonet). Simplified with Annotations, Illustrations and Index. By Major Jas. A. Moss, U. S. Army. Price 75 cents.

"SEA WARFARE." By Rudyad Kipling. "A collection of vivid verse and prose pictures of submarines and destroyers—and of those who man them—while playing their perilous games in frigid seas among hidden mines." Price, $1.25, net. Doubleday, Page & Co., Garden City, New York.

"FLYING FOR FRANCE. With the American Escadrille at Verdun." By James R. McConbell, Sergeant-Pilot in the French Flying Corps. Price 60 cents, net. Doubleday, Page & Co. Garden City, New York.

"BREACHES OF ANGLO-AMERICAN TREATIES." A study in History and Diplomacy. By John Bigelow, Major, U. S. Army, Retired. Author of "American Policy," "World Peace," etc. Price, $1.50, net. Sturgis & Walton, New York. 1917.

"THE PLATTSBURG MANUAL." A text book for Federal Training Camps. With a Foreword by Major General Leonard Wood, U. S. A. By Lieutenant O. O. Ellis, U. S. Army, and Lieutenant E. B. Garey, U. S. Army. 303 pages. 155 illustrations. Price, $2.00, net. The Century Co., New York.

Editor's Table

FIELD OFFICERS' MOUNTS.

When Congress in its wisdom granted to officers below the grade of field officer, an annual allowance for the up-keep of official mounts, most field officers felt that an invidious and unfair distinction was made in the premises, and that equal allowances to all mounted officers should have been the rule.

The correct reason advanced at the time for the drawing of this line of demarcation between field and troop officers, was that the former's pay was considered more than sufficient for all military and personal necessities, without the allowance. While the action of Congress was disappointing, field officers were more than glad that their subordinates had received an additional stipend for mounts. And it may truly be said that field officers of the mounted services—including their comrades of the infantry, accepted the situation philosophically and even cheerfully, and have as a rule taken more than ordinary pride in maintaining mounts far above the former mediocre standards of past years; and that there is even demonstrated a very growing inclination to own and maintain the best obtainable chargers, oftentimes purchased by vitrue of some rigid economy in standards of living or of entertaining or what not.

But if true of field officers of the mobile army, is this equally true of field officers of the staff corps and bureaus, who if war comes, will take the field with units of the mobile army? If war is declared tomorrow, how many of these staff officers would be found properly mounted, even though detailed from the mounted branches? Or, what is more to the point,

perhaps, how many of them would find themselves physically fit for mounted duty in the field, the efficient performance of which might be fraught with grave consequences to the mobile units under their administration?

Ask the question of such field officers in New York, Boston, Philadelphia, Washington, San Antonio, St. Louis, and San Francisco, and most of them would readily reply that while riding was their greatest recreation formerly, they had now absolutely no time for it after office hours. Or that while they would be only too glad to get out daily, the city offered no facilities for it. Or that they preferred to keep up their physical fitness by other kinds of exercise—golf, tennis, bowling, bridge, walking to and from home, etc.

We wonder how many of these excuses are legitimate; how many of these reasons would be wiped off the slate if proper conditioning for mounted work in the field, were made a part of the efficiency-rating of all field officers of the staff, as well as of regimental officers who are always expected to be in condition.

At any rate, a valued correspondent and keen observer, who has recently completed his first detail at the Nation's capital, sends us the following interesting impressions:

"To maintain a private horse in Washington costs an officer ten dollars a month if stabled with the Depot Quartermaster's Stables, or five dollars per month, if cared for at the War College Stables at Fort Myer. It is not probable that there is an officer on duty in Washington owning his own mounts, who does not keep them at one or the other of these places.

"The total of officer's mounts kept in the two stables today (January 24, 1917), is sixty-nine. Of this number many officers own two mounts, and one is known to own five, so that the number of officers who own and maintain mounts is trifling compared with the number of field officers on duty in the city—cavalry, infantry, field artillery, and staff-officers, of all corps and departments (209).

"This cost of keeping private mounts, disregarding the capital tied up in the value of the horse, represents the tax paid by certain officers for the privilege of keeping themselves in physical condition for mounted duty in the field, and inciden-

tally too, for the pleasure they get out of it. It is a tax escaped and shirked by every officer supposed to own a horse who does not own one. And the obligations to keep oneself in trim for mounted duty, in the field, rests no more strongly on the field officer of infantry, cavalry or field artillery, than on his brother of the staff departments. One needs the money represented by the tax, escaped and shirked, fully as much as the other.

"For example, and as a matter of interest, there are nine field officers on duty in the Adjutant's General Department in Washington. It is known that but one of them owns his own mounts. At the Army War College, only two cavalry field officers out of six, own their own mounts. And the same proportions run through the various staff corps and departments, the infantry, and the field artillery. Of a small army of surgeons, quartermasters, ordnance officers, engineers, etc., a trifling number own mounts or ride any.

"Why should such officers be exempt from the requirement that field officers own their own mounts? Riding is becoming a lost art among field officers on staff duty, and we need someone to stir things up with a test ride.

"Riding is an easily lost habit. Men of middle age, employed in sedentary pursuits, quickly find excuses for not riding—and in fact for not taking any exercise whatever, except the walk between home and office. The passing raincloud, a threatened cold wave, a bit of mud, a tea, a little delay at the office followed by another delay at the club, and the eternally springing hope that tomorrow will bring no obstacles to a ride—all these combine to make the riding days few and far between.

"Is riding to disappear among field officers of the mobile forces—line and staff, until the official mount for a leader of soldiers shall become a jitney? Why not enforce the orders requiring officers to own their own horses?"

While no doubt the attitude of the War Department is and has been not to enforce the requirements of existing orders in regard to mounts too rigorously in the case of field officers whose *peace* duties do not ordinarily require them to be mounted, the letter just quoted offers to much food for thought.

Would a crackerjack army organization, an army continuually on its toes to jump in and fight at the sound of the gong,

waive such a requirement in peace or in war? Would not its rigid enforcement, like the proposed institution of universal training, ultimately bring about such improved physical and even mental efficiency, that we would never be willling to go back to the old order of things?

Who would not rejoice to see the general officers and others at the head of staff corps and departments, knock off office work early once or twice a week, and lead their officers in what might ultimately be made an interesting and instructive tactical—or staff-ride. A couple of hours in the saddle over the Virginia or Maryland hills, would certainly be forehanded preparation for the physical requirements of war, and would do much towards wiping away the cobwebs of administrative duties.

While not posing as having the divine gift of prophecy, we venture to predict that the day may come when the corridors of the War Department will be thronged with general and their staffs in boots and riding breeches; and when so-called annual test rides will be unnecessary, for the simple reason that they will come onec or twice each week, with unfailing regularity.

MOVEMENT OF THE JOURNAL TO WASHINGTON.

It was the expectation to have the CAVALRY JOURNAL moved to Washington before this issue of the JOURNAL. Some time in February the Vice-President Colonel N. F. McCLURE wrote to the effect that he had been unable to procure an Editor for the CAVALRY JOURNAL and a Secretary and Treasurer for the Cavalry Association, and asked if it were not possible to get out the April number of the CAVALRY JOURNAL at Fort Leavenworth. This has been done with the assistance of Lieutenant Colonel C. D. Rhodes who has kindly taken an active interest in the JOURNAL.

From a recent letter received from the Vice-President, we learn that he has not yet been able to fill the office of Editor. Of course in these war times, no active officer would consider

being tied down to an Editorship and a retired officer who is able to do duty is likewise unwilling to take this job as long as there is a chance of his being detailed on active duty.

At any rate none has been elected as yet and there seems to be a chance that there will be no one appointed.

What will become of the JOURNAL no one knows and it is probable that its publication will cease during the war. It is certain however, that the health of the present Editor will not permit of his continuing the arduous duties of the office.

Major General Hugh L. Scott, Chief of Staff, declined the position of President to which he was elected at the last annual meeting and for the reason that he was Chief of Staff. Inasmuch as the Executive Council have failed to elect a successor, General Parker, under the Constitution, remains President of the Association.

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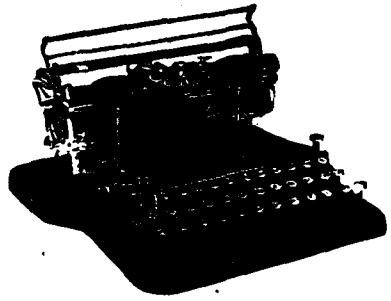

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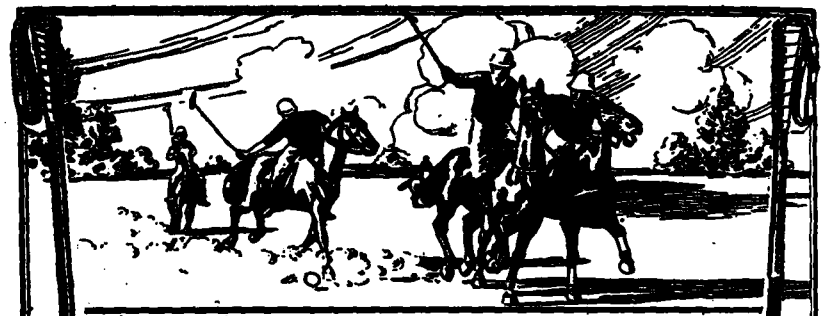

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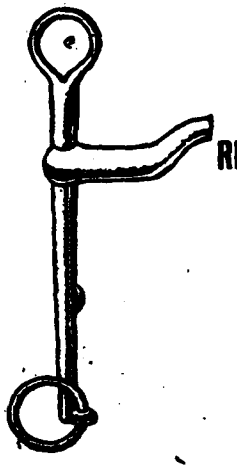

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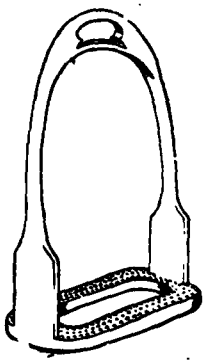

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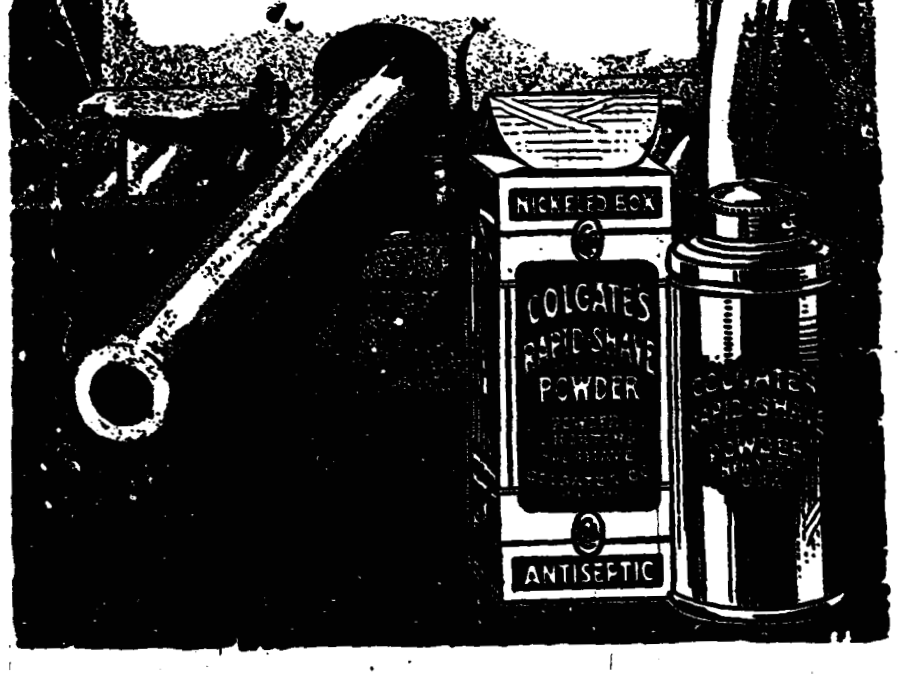

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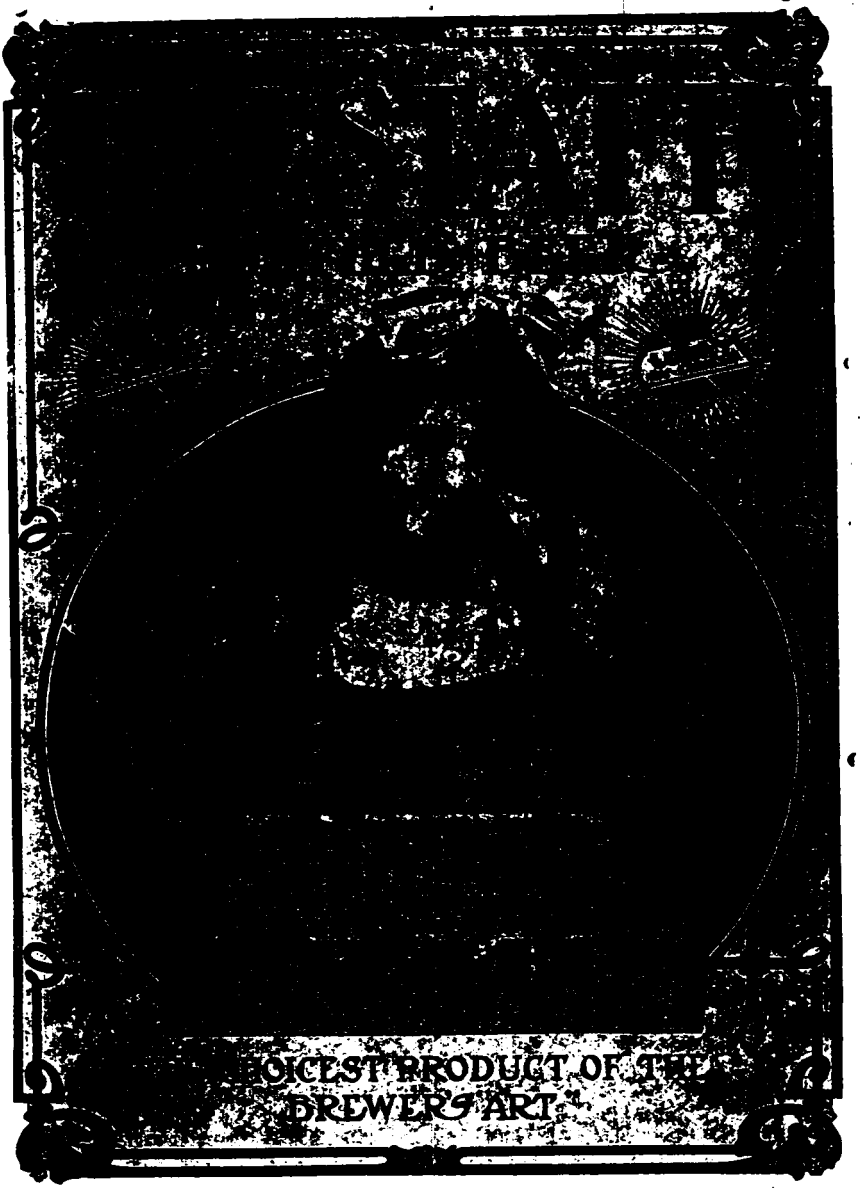
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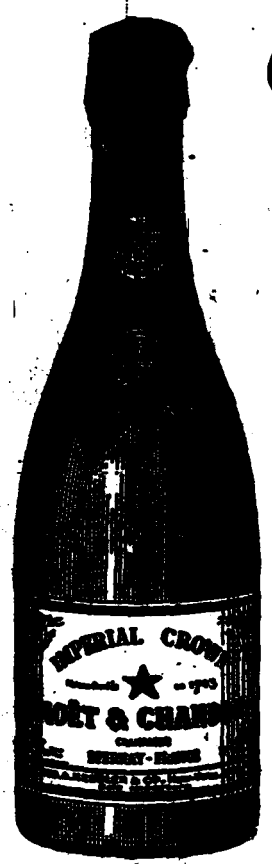

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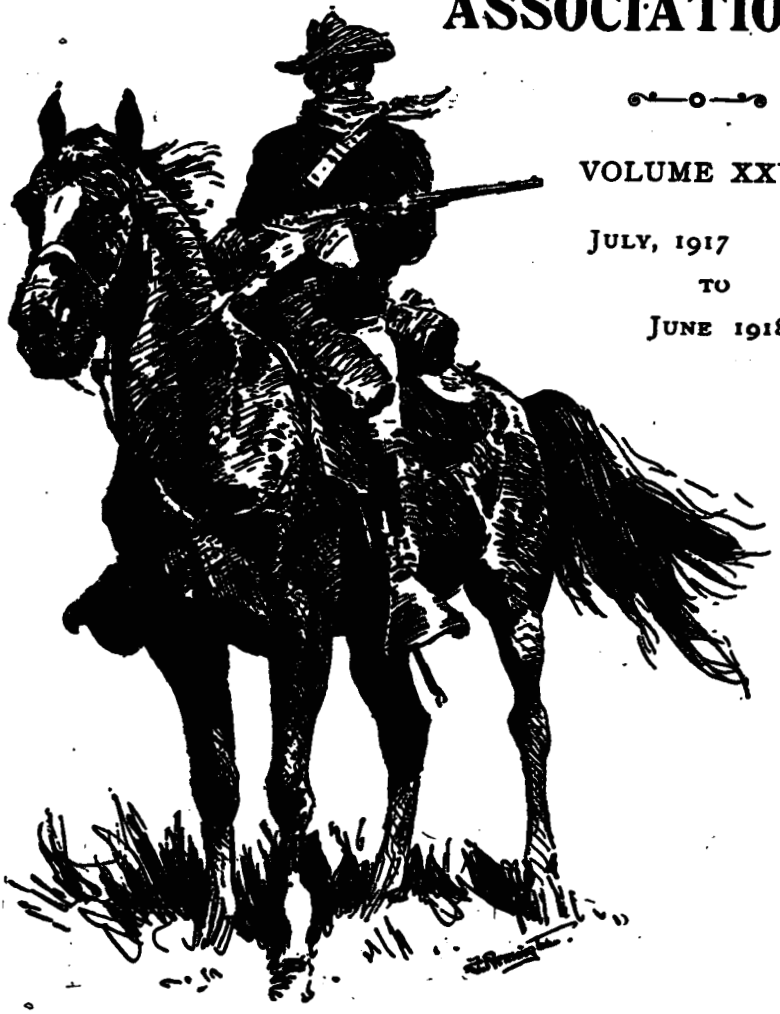

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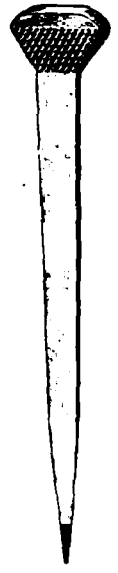

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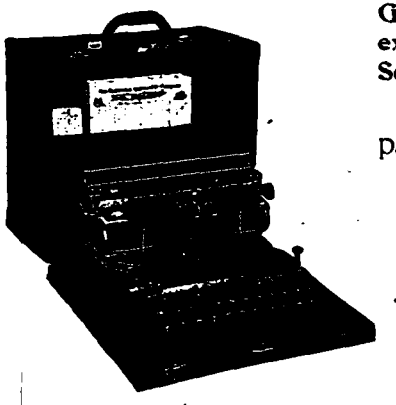

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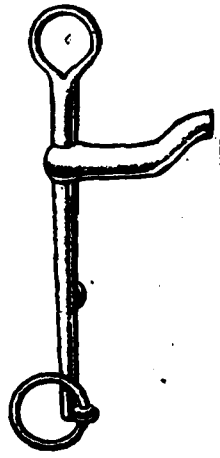

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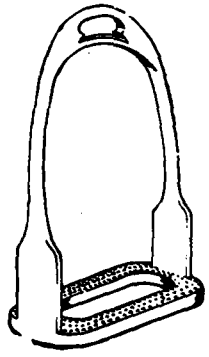

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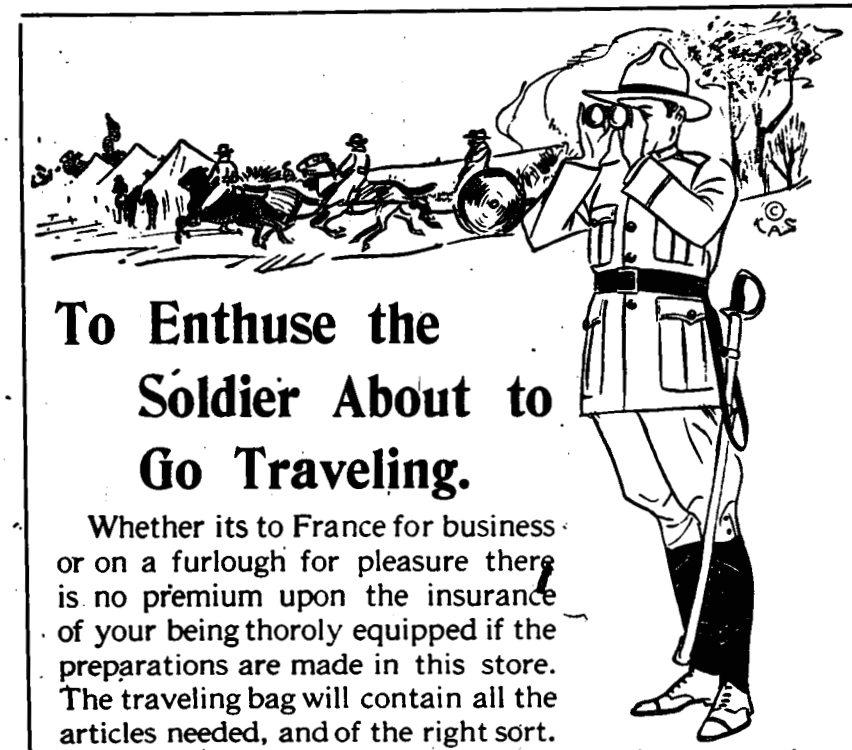

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TRAINING NATIONAL GUARD CAVALRY.

BY CAPTAIN GEORGE GRUNERT, THIRD CAVALRY.

WHILE on college duty, when intervention in Mexico seemed quite probable, I spent my spare time in evolving a scheme or system, for the rapid training of cavalry. Knowing that, in the event of intervention, there would be a demand for mounted troops and that our peace strength troops would rapidly be increased to war strength, I anticipated using trained men and horses to train the increment. The material for my notes was gathered from text books, pamphlets, notes on lectures and from ten years' experience under General Parker. My system was modeled after a pamphlet prepared by Major F. C. Marshall of the Fifteenth Cavalry, now colonel, Fifteenth Cavalry, which he termed, "Preparing for a Campaign in Twenty Days." This pamphlet was of great value to me and I incorporated it in my system of rapid training. I repeat below, practically verbatim, certain extracts from this pamphlet and for the first three weeks I used his horse exercise and horse training program with excellent results. My notes on this system of rapid preparation and training were intended primarily for National Guard cavalry

troops and I took for granted that such troops would have a full complement, at peace strength, of partially trained men and horses and the necessary clothing and equipment for a war strength troop. That I was wrong in assuming such ideal conditions has since been proven, as will be shown later. My notes were nevertheless of great value to me as they set forth in detail, the ground that had to be covered and how best to cover it in the shortest possible time. In brief the program was as follows:

First day: Settle camp, issue clothing and equipment, assign horses and give instruction in grooming, feeding and watering.

Second to Eleventh days, inclusive: In the morning—horse exercise. During which both men and horses were hardened and the men taught how to properly sit the saddle, march discipline and routine, care of horses on the march, watering on the march, etc. Also handling arms on horseback. These marches to average about ten miles each morning with the first five days at a walk, and the last five days at the walk and trot alternating. In the afternoons—horse training, position and aiming drills, gallery practice, pistol and rifle firing and dismounted drills.

Twelfth to twentieth days, inclusive: Field training. Pistol and rifle practice to be continued.

Each day's program was then explained in minute detail and covered not only the above outlined work, but included all manner of military work such as camping, routine duties, sanitation, arrangement of tents, division of duties, responsibilities of each officer and non-commissioned officer, stable duty, care of property, care and treatment of animals, fitting of saddles and bridles and duties of special grades, such as farrier, blacksmith, wagoner, cooks, etc. Horse exercise and horse training were thoroughly described. Ground to be covered in dismounted drills was outlined. The field training and the plan of the pistol and rifle were thoroughly discussed and set forth in detail, in order to obtain the maximum of instruction in the minimum of time.

Such notes were of great value to me in the training of the First Illinois Cavalry, especially so, because early in July we still daily expected a call to cross the border.

In reviewing these notes, as preliminary to this talk, I noted for extract certain paragraphs which I thought would be of interest and which I want to read before relating my

experiences with the regiment to which I was assigned as Inspector-Instructor. These extracts are only of general interest and have no connection with any progressive system of instruction.

DUTIES AND RESPONSIBILITIES OF OFFICERS AND NON-COMMISSIONED OFFICERS.

(*a*) The stable sergeant is to be held responsible for putting up the picket line, for the care and issue of the forage supply, and for the care of the horses. The farrier, saddler, horseshoer and two wagoners are his assistants and all orders or directions to them should, whenever practicable, be given through him. His responsibility should be a definite one, and it is due to him that he receive and transmit all orders and directions bearing on his duties. He is assisted further by two stable police, detailed daily from the privates of the troop, who, in addition to their instruction duties, help the stable crew in cleaning the picket line, in feeding, and in any other work that may have to be done at the picket line.

(*b*) The mess sergeant is in immediate charge of the mess, and directly responsible for its management. Under direction of the captain he draws or purchases all rations and other supplies, including the meat, bread and ice required for the troop mess. He will prepare all bills of fare and submit them to the captain for approval. He will submit to the captain a daily statement showing the exact financial condition of the mess. He is responsible for the care and preservation of the rations. He will see that all utensils are thoroughly cleaned and put in their proper places when not in use, and that the kitchen is prepared for inspection at the time appointed by the captain. He is responsible for the orderly conduct of those present at meals. He will be responsible that the food be not wasted by the men taking more on their plates than they can eat. He will see that the garbage and slop cans are frequently emptied, and are not allowed to stand in the kitchen or in the vicinity. (Extract from paragraph 138, Manual for Army Cooks.) The mess sergeant is assisted by two cooks, and by two kitchen police, detailed daily from the privates of the troop.

(*c*) The supply sergeant is responsible for the troop property. He draws and issues fuel, illuminating supplies, ammunition, cleaning materials, clothing an equipment of all sorts.

(*d*) The company clerk assists the first sergeant in keeping the records of the troop. He prepares the correspondence, reports and returns.

(*e*) The first sergeant has general charge, under the captain, of the troop. He prepares the details for all duties. As far as possible he should transmit the captain's orders and instructions to the non-commissioned officers who are to superintend the execution of them.

(*f*) The chiefs of squads are responsible for the cleanliness, order, and to a certain extent, the discipline and instruction of the men of their squads. The police of the tents and the grounds around them is in their charge.

(*g*) The lieutenants are the captain's assistants. They should be his close friends and his loyal supporters. Each officer should regard the others as having identical interests, and all of them are equally involved in the troop's

welfare. The captain should consult his lieutenants on all matters of troop policy and troop administration, and should so distribute the supervisory and instructional duties that each of the lieutenants will feel that he is an active and important factor in the development of the troop's efficiency.

In a permanent or semi-permanent camp, the picket line should be elevated and drained. The picket rope at every camp should be raised about four feet from the ground and stretched quite tightly. This will save your horses feet from rope burns, and their halters from getting entangled in their legs. A ground line is a lazy man's device.

The horses, of course, must be gentled, hardened and trained; the men must be taught to ride and to care for their horses, to shoot with rifle and pistol; they must be taught obedience; they must be disciplined. If either man or horses are worked too hard at first the risk is run of so disabling them that a part of the twenty days will be lost to them.

The immediate cleaning of equipment should always be insisted upon, after every mounted drill. Fifteen minutes then will accomplish as much as a half hour will, if the cleaning is delayed until the dirt dries on the equipment.

In conducting a drill the following principles in my judgment cannot be improved upon:

(*a*) Never give a command until you are certain that your men know how to execute it. Better explain before than after.

(*b*) Always give your commands in a clear strong voice. It is embarrassing to have men make errors which are chargeable to the leader.

(*c*) If you find that your are getting your squad into difficulties command: IN PLACE HALT!

(*d*) Make your drill varied enough to retain the interest of your men. A limited number of movements will be prescribed at first, these must be thoroughly mastered, but as time passes there will be an increased number of movements which have been studied and which the squad should review every drill. If it seems very difficult to have the men or horses execute a movement correctly after several trials, drop it and go to another, but return to the poorly executed movement before the drill ends.

(*e*) *From the beginning know what is right before you order it, and know it so well that you will note the mistakes of every man in your squad, and after noting them do not lose an instant in making the necessary corrections. This is the secret of successful drill instruction.*

If you and your officers and non-commissioned officers conduct your drills according to these principles you will find the results most gratifying. If you do not follow them, have some scheme of your own, and adhere to it. *Do not go to drill without a definite plan for the drill, or without thoroughly preparing yourself for it.*

In training any body of men you must always expect to find a few drones, a few men who, through lack of interest, indolence or incapacity, never progress beyond a certain point. These men will be useful to you however. Often they are honest and faithful. They simply lack that personal quality that distinguishes successful men from those that are unsuccessful. They will be useful as horse-holders, and for guarding the led horses, when the troop is dismounted in action. You must be patient with them, and develop what talents they do possess, rather than discourage them by ridicule or disparagement. Study your men closely, most men have some peculiar talent or aptitude. Find what it is and use it.

In your control of the troop I strongly urge avoidance of giving many orders governing the conduct of your men and, above all, never give an order that you cannot enforce. It is not a difficult thing to work up an *esprit* in your troop so that the men will have a pride in keeping its reputation high. The men should be encouraged to think their troop the very best, and to regard it as a privilege to belong to it. Such a spirit once developed, relieves the officer of nearly all concern for the discipline of the troop. Therefore do not issue voluminous orders governing your men, but control them according to the established code of right and wrong. Lack of neatness, drunkenness, absence without leave, insubordination, shiftlessness—these are things that need no definition, and no man needs more than a general warning, when he first joins the troop, that you will not tolerate any line of conduct that mars the good name or impairs the efficiency of the troop.

Above all things play no favorites in the troop. Treat all offenders from the First Sergeant to the last recruit, with the same unswerving impartiality.

I was assigned to duty with the First Illinois Cavalry as Inspector-Instructor July 6, 1916. The regiment had arrived July 4th, and was busy getting established in its camp in West Brownsville. During the summer 1915 I was on duty with this regiment during its annual ten days encampment and therefor knew its colonel and a number of the officers. I didn't have to waste any time in getting acquainted and wanted to inaugurate my system of instruction at once. In studying conditions to ascertain the obstacles, or objections, to my system I found the following:

That instead of having a full complement of partially trained men and horses, at peace strength, and the increment to war strength of recruits with the necessary equipment, they had no horses, except some officer's private mounts; of the 1,172 enlisted men, 337 were brand new recruits, 245 others had been in the Guard for less than two months, and 679 had never attended an encampment and knew practically nothing of camp life, and there was a large shortage of equipment of all kinds. That practically the entire regiment was just receiving, or had just received, the first inoculation for typhoid fever. That two troops (known as the down state troops) had to be vaccinated for small-pox, and upon being vaccinated, practically every vaccination took and, as is the case when vaccinated for the first time at their age, they took with a vengeance.

Further the camp site needed considerable work to put it in shape for occupancy. The site selected was a good one, provided the weather, that had prevailed for the previous fourteen months, continued. It had an unusual number of shade trees for this section of the country and there was ample room for horses and men. Its isolation was also advantageous as it discouraged loafing about Brownsville and encouraged early bed hours. Unfortunately heavy rains and storms set in and the camp proper had to be drained. In addition to providing proper drainage for the camp itself the drainage system had to care for the drainage of the surrounding country which naturally drained into the camp. To prevent the camp from

becoming a lake a large ditch was dug to carry all the water for fully 500 yards to a natural lake nearby. Until all ditches and drains had been constructed, street walks made, picket lines elevated, etc., the regiment suffered many inconveniences and some hardships but they gained some needed experience and were taught to take care of themselves. These handicaps naturally delayed training. Although the water and mud were not considered handicaps, the inoculations and vaccinations were serious ones.

For the first few days after my arrival in camp it rained every day and the large majority of the men were still being inoculated and vaccinated so we spent three days in ditching, issuing equipment, physical exercises and short drills in the school of the soldier, together with frequent talks to officers, non-commissioned officers and privates. In these first days I sized up the officers and the enlisted material and decided that all must rapidly be hardened so as to endure the drill schedule I had in mind. I consider this a problem that will always confront an Instructor in the early stages of training National Guard volunteers. You get about 1,000 young men most of them from the city and not used to camp life and strenuous work, but filled with enthusiasm and wanting to push the training as rapidly as possible, you are very liable to overdo it and stagnation will result later. The youngsters with their undeveloped hearts can't stand the grind although they think they can and really try too hard.

In the early stages of the training the doctors on several occasions came to me to let up a bit on my programs because the sick report showed cases of exhaustion. The doctors told me that the men were not getting sufficient rest and in the morning didn't show up with enough pep, so we had a consultation and decided that the long hours (5:00 A. M. to 11:00 P. M.), inexperienced cooks and lack of system in troop fatigue, were responsible. We remedied this by having the doctors lecture to the cooks and have daily classes in the preparation of food; by systematizing the troop fatigue work and advancing "Taps" to 9:30 P. M. Great improvement was noticed. It seems to be a fact that inexperienced men will not go to bed to rest until the last call has blown for fear they will miss something. An

early "taps" also discouraged the habit of running to town. Upon investigation I found that troop officers, first sergeants and non-commissioned officers gave the men no rest between drills and, on account of the lack of system, they wasted energy in useless work.

Pending the arrival of the horses all efforts were put forward to discipline the men, to instruct them in dismounted drills, handling the rifle, saber and pistol, position and aiming drills and gallery practice. The intelligence of the enlisted personnel encouraged frequent talks, lectures, etc. We early adopted General Parker's scheme of spreading broadcast copies of all lectures, memorandums of instruction, etc., and to facilitate this we wired for and received, a mimeograph. In this manner every squad could have a copy of all instructions and the officers did not have to be trusted to transmit so much information.

The first schedule of instruction was published July 8th, and went into effect July 10th, this provided for ten minutes setting up exercises at reveille followed by five minutes double time. After breakfast there were two hours dismounted drill with twenty minute rest period between. Troop schools, which all officers and men attended, were conducted late in the mornings. In the early afternoons officers and non-commissioned officers' schools were conducted followed by one hour dismounted drill. At retreat all arms were inspected and this was followed by about an hour's manual of arms, position and aiming drills, saber exercise, etc.

Gallery practice and firing special course "B," were conducted by the lieutenant-colonel, who had as assistants two officers and twenty-four experienced sergeants.

On July 9th before starting the schedule I talked to the officers somewhat as follows:

Actual training will start tomorrow morning according to G. O. No. 1, issued today. All officers should carefully follow that schedule. Routine work and improvements in your camp must be done outside hours of instruction. It is important that the training be pushed forward as fast as consistent with the health and strength of the men and horses. The order calls for two dismounted drills in the morning for all men who

have not been detailed to exercise the new horses. These drills are about an hour each. All drills should be short and snappy with frequent rest periods. The rest periods may be used for explanations and criticisms. The attitude, position, tone of voice, earnestness, etc., of the instructors will communicate itself to the men and they will progress just as rapidly as the proficiency of the instructors will permit.

When your officers go to drill you should have a clear outline of the definite steps you intend to take in the drill. Do not under any circumstances go to drill and after you commence your drill decide what to drill in. Have a definite program. You may not be able to follow it out completely but what you do follow out will be of more real instruction than a haphazard drill. Start all men from the ground up whether they have had the drill before or not.

All officers should be present at all drills and active and busy all the time. Carefully explain all movements and steps, then give your commands correctly and insist on precision and exactness. The manual of arms must be perfect and to attain perfection each movement must be perfected before combining them. When combining movements it is well to, at times have all the men count aloud. Keep your men's attention at all times—hands down in ranks—shoulders back—head and eyes to the front. Be very careful of your commands. Men cannot get together on a simultaneous movement unless they clearly understand your commands and properly interpret them. Practice giving commands. Don't walk around looking wise. Most anyone can do that. Correct irregularities on the spot. Handle yourself and your saber with snap. All cavalry dismounted drills must be extremely snappy or else the men will obey commands as if on horseback the result being slowness and no getting together.

I also talked to the majors somewhat as follows:

In order to have the list of calls work out properly it is necessary that all your officers get up promptly at reveille and have their meals promptly. Troop cooks must have meals ready on the exact hour with no leeway before or after. Men must be required to attend mess call on time and working details should be turned in so that the actual dealing out of

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food, except possible guard, should be at the line up at mess call. Men waste so much time dawdling around whereby if they were on time at mess call and promptly washed their mess outfits they would have no difficulty in getting out for the first drill. When first call for drill is sounded it means "get ready." At the assembly each man should be near his place in ranks. The officers should be in the near vicinity. The lieutenants take their posts when the first sergeant reports to the captain. No troop should ever be required to await the coming of the captain. Certainly if the men with their duties are required to be on time the officers should also be on time. I have always found that better results are obtained by immediate supervision than by trusting each organization or detachment to follow out the orders. A troop commander is going to stick more strictly to the text and get more out of his men if the major is around observing. Same with non-commissioned officers if the officers are nosing about.

In order that majors may best supervise it is well to have the captains conduct their troops immediately to the squadron drill grounds at assembly and there drill them under the eyes of the major. Each major should have with him several trumpeters, as orderlies, whom he can use as messengers. When an irregularity is observed despatch a messenger to the captain to have it corrected at once. In this way trumpeters can also be instructed in properly carrying messages.

Towards the close of each drill call your captains together and while the lieutenants are drilling the troops call the captains attention to all irregularities. The mistakes of one troop will benefit another. When troops are drilling they ought to drill with a will and when resting, rest completely, no half measures. Frequent short drills and short rests are best. The march to and from the squadron fields is beneficial in hardening the men and getting them into the marching swing.

During the privates and non-commissioned officers' schools it would be well to call attention to the mistakes of the past drills and to announce the plans for the next drills.

For the incoming batches of horses, when the number does not exceed forty per squadron, I would suggest that each squadron commander detail a competent lieutenant and the

necessary number of men for their exercise in the morning and their training in the afternoon. When each troop gets twenty or more a platoon from each troop can attend to that. When over seventy-five per cent. of the troop is mounted the morning dismounted drill will be discontinued and horse exercise and marching will be substituted.

I would recommend to the colonel that each squadron commander be appointed the summary court officer for his squadron and that the lieutenant-colonel be appointed summary court officer for such cases as do not fall within the respective squadrons. In this way squadron commanders can more effectively handle their squadrons and know the condition of discipline therein. Courts-martial should be resorted to only when other disciplinary measures do not remedy matters.

The matter of instruction is greatly handicapped by absenteeism. Every available man should drill, and all men except the sick, guard, cooks, one kitchen police, stable orderly, horseshoer and non-commissioned officer in charge of quarters and, at times, the quartermaster sergeant, troop clerk, mess sergeant, stable police and other absolutely necessary fatigue details should be at drill. It is well for squadron commanders to occasionally require captains to submit to them a list showing the number at drill, number absent and for what purpose absent. Cases of absentees should then be investigated and needless absence forbidden. The progress of troop instruction is limited to that of individuals and if there are absentees, who do not receive the daily instruction they fall behind and hold back the troop.

With reference to the talks to the majors I had quite a time convincing the colonel that his field officers were to be used for the purpose of instruction and not as figure heads. The colonel was certain that my system would disrupt his regiment and that I was taking his command from him and was giving each major a third of it and thereby legislating him out of his job. He delighted in calling his troop commanders to him and personally looking into their affairs. His squadron commanders were of no use to him and his regiment consisted of so many distinct and separate units with no coördination and instead of holding his majors responsbile, he held individual officers

responsbile. He finally gave in and said, "Well if General Parker wants it so be it." Several months afterwards he spontaneously came to me and admitted his former error and was heartily in favor of the system of training.

Another point in my talk has since impressed itself upon me. This phrase used was, "they (meaning the men) will progress just as rapidly as the proficiency of the instructor will permit." The intelligence of the enlisted personnel was such that they progressed very rapidly and in most respects soon learned all that their officers could teach them and then, realizing that their officers had exhausted their fund of military knowledge, the progress ceased and inattention and laxity resulted. In fact in some cases the men knew more than their officers. I noticed this rather early in the training and thereafter I endeavored, even by night schools, to improve the officers. In my opinion this is a point that all officers should note and strive to so perfect themselves that at no time will their commands come quite up to their knowledge of instruction.

The horses of the First Illinois Cavalry arrived in driblets and upon their arrival many were sick and, like the men, had to be babied along during the early stages. Their sickness and lack of condition probably saved many a broken bone. They were worked according to their condition and when they showed too evident signs of the value of government oats, their ration was cut down to curb them and to hurry the hardening process.

During July horses were received as follows:

July 8th to 12th	122
July 13th	113
July 14th to 21st	224
July 26th	184
July 27th	104
A total of	747

Of this number over 100 had shipping fever in its various stages and had to be trained according to their strength. The horses coming in such driblets made the process of training a

slow one because while some were on their second week's work others were just starting.

With respect to their training I followed my twenty-days' schedule as nearly as possible and published the following memorandum:

HORSE EXERCISE PROGRAM.

(*Mornings.*)

First Week:

Marching on the road in column of twos, at a walk. Length of march about ten miles.

Conduct of march: Move column off slowly. Keep men quiet so as not to excite horses. March one-half hour. Dismount where men may relieve themselves. Make much of horses—pat them, lift feet, etc. Adjust saddles and give instruction in tying cincha knot—proper placing of saddles, proper bridling. Teach men to mount and dismount. Each squad leader should inspect his squad. Then march fifty minutes and halt ten minutes and in this way cover the number of miles ordered, arranging so as to reach camp at the end of a fifty minute period.

Second Week:

If horses have had practically ten miles exercise at a walk every morning for a week they are then ready for faster work.

After leaving camp walk for one-half hour as on previous exercises. Halt for twenty minutes as before, then mount and move out at a trot, for this fifty minute period alternate the trot and walk, five minutes each. Rest ten minutes and then resume the trot and walk alternately every five minutes. Arrange so that the fifty minute period just before reaching camp will be at the walk.

Third Week:

Practice marches with packed saddles—making and breaking shelter tent camps and problems on the march and in shelter tent camp.

HORSE TRAINING PROGRAM.

(*Afternoons.*)

First Week:

Gait—at the walk.

1st. Two days:

Moving forward	Par. 212 to 224 Cav. D. R.
Halting	
Change of direction	

In this drill the horses should be given every encouragement and handled with the utmost patience.

2d. Two days: (Add to 1st two day's work):

Rein back	Par. 225
By trooper by right and left flank	Par. 229
Right and left into line	Par. 230
The squad mounted	Par. 291 to 307 incl.

3d Two days: (Add to preceding):

Turn on the forehand and haunches	Par. 259 and 260.
To passage	Par. 261.

Second Week:

1st. Two days: (Add to preceding):

Movement at a trot	Par. 233 to 240 incl.

2d. Two days: (Add to preceding):

School of the trooper	Par. 291 to 338 incl.

3d. Two days: (Add to preceding):

School of the troop	Par. 449 to 535 incl.

Third Week:

1st. Three days: (Add to preceding):

The charge	Par. 339 to 347 incl.

2d. Three days: (Add to preceding):

Extended order:

Squad	Par. 375 to 447 incl.
Troop	Par. 536 to 585 incl.

Using this method we had very satisfactory results. The mornings' exercise quieted the horses for the afternoon's work, and we were therefor not troubled with an excess of spirits at the slow training work.

In addition to this program troop and squadron leading in close column and mass formations, was much practiced over all sorts of ground and this taught men and horses cohesion and conforming to the movements of the leader. The value of this work was shown later in parades and reviews.

Throughout the training and in fact at all times the snaffle bit only was used, except in a few cases where they did not at first have a sufficient supply of snaffle bits. I attribute to the use of the snaffle the eveness of gaits attained and the fact that but few horses failed to hold their natural gait, the trot.

August 1st, realizing that the prospect of going into Mexico became more and more remote, I dropped the rapid training scheme and worked up a program of more intensive training, using as a guide General Parker's book "The Mounted Rifleman." The horses and men at this time were hard and in fit condition.

In order to assure myself of their state of training I conducted a series of tests in the first week in August and from the results of these tests made up my new program.

At the end of each week I would publish a program for the instruction for the following week in which was set forth, in detail, each morning's and each afternooon's work. Troop and squadron commanders were required to submit their programs to conform to mine and at the schools each day the past day's work was discussed and the following day's work outlined.

To attempt to give in detail the varied instruction of a regiment of cavalry would require a book so I will be content to read you a copy of a weekly instruction memorandum, selected at random, so as to give you an idea of some of the work and I will briefly outline some of special work taken up.

SCHEDULE OF INSTRUCTION.

September 25th to September 30th.

Monday A. M.—7:00 to 11:00:

1 hour—Troop—Individual horsemanship.
Saber exercise.
Manual of pistol.
Close order drill and troop leading.

1 hour—Troop—Extender order.

Special attention to rapid dismounting and opening fire (use rattles); dispersing and seeking cover; coupling and circling and leading horses; and, firing dismounted holding horses.

2 hours—Troop—Ambush problem. Troop against troop and alternate.

P. M.

Officer's school—1:00 to 2:00—Examination Spanish.
Privates' school—2:00 to 3:00—Nomenclature of horse and grooming (on picket line).
Squadron parade—4:00 P. M. (with band) (3d Squadron).

Tuesday A. M.—7:00 to 11:00:

1 hour—troop—Individual horsemanship.

Practice rapid and accurate saddling and unsaddling and forming troop.
Troop close order and leading.

1 hour—Troop—Practice rapid unsaddling and pitching shelter tent camp and arranging equipment for inspection (circling horses)—(Bring out shelter tent rolls without extras).

While dismounted in camp instruct in estimating distances and rifle sight setting.

2 hours—Repeat ambush problems of Monday.

1:00 to 2:00 P. M.—N. C. Officers' school:

Writing messages.
Squadron Review (2d Squadron) 4:00 P. M. (without band).

Wednesday A. M.—7:00 to 11:00:

1 hour—Saber and pistol exercise.
Troop close order.
1 hour—Troop extended order.
2 hours—Squadron practice in swarm, encircling and direct attacks of a wagon train convoy. Supply officer to furnish each squadron with three wagons for the purpose.

Officers' school 1:00 to 2:00 P. M.—Practice in writing field orders.

Privates' school 2:00 to 3:00 P. M.—Care of arms and horse equipments.

Squadron Review (1st Squadron) 4:00 P. M. (without band).

Thursday and Friday:

One squadron (selected by the commanding officer) to proceed with two field kitchens and necessary forage, make a short march (not over eight miles) and establish a shelter tent camp for the night. On the march instruct in scouting and patrolling any necessary guards for security of the command. Establish outposts for the command. The camp may be attacked at any time after it has been established until 10:00 A. M. Friday, when the squadron should return to the main camp. The camp should be selected in a certain defined district. The other two squadrons will be instructed later as to their work and as to the hour they may start scouts out to find the camp. While in camp instruct men and officers in estimating distances, writing messages, carrying verbal messages, signalling and use of cover. Also a careful instruction in establishing and relieving the outpost and in outpost duty.

Saturday A. M.:

Inspection and muster—1½ hours.
Troop school (entire troop) 1½ hours.

Troop commanders will carefully explain here the necessity for and the correct execution of the pointing and aiming drills, rifle and pistol, and take up other subjects concerning the efficiency of the troop.

4:00 to 6:00 P. M.—Officers' class in equitation.
Sunday A. M.—8:00 o'clock—Officers' cross country ride.

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The following special classes will also be conducted:

(*a*) Lecture by a veterinarian (designated by the C. O.) to stable sergeants and stable orderlies. 1:00 to 3:00 P. M., Monday.

(*b*) Mounted drill for squadron adjutants, guidon sergeants and guides by the regimental adjutant. 3:00 to 4:30 P. M., Monday and Wednesday.

(*c*) Instruction in first aid to four selected privates from each troop (these men not to be changed) by a medical officer. officer. 1:00 to 3:00 P. M., Monday and Wednesday.

(*d*) Troop buglers to report to Lieutenant Cutter, chief of scouts, every afternoon at such hours as he may designate until proficient in semaphore signalling and carrying of verbal messages.

REMARKS.

In order to prepare troops, squadrons and the regiment for contemplated district tests in October, it is necessary to thoroughly cover the course outlined. The Third Squadron should pay special attention to the new saber exercise and manual. All troops on leaving the picket line for drill should ride over the saber course in two lines and use the saber in proper cutting and thrusting. In returning from drill they should ride over the course using the pistol. Further, once or twice during the first two hours they should ride over the gaiting course (which will be laid out by Lieutenant Shannon on the country club road) at a walk and a trot so as to properly gait the troops and squadrons. Also each troop should be put over the ditch and brush jump (to be constructed) but not to exceed three (3) times.

Sabers should be carried drawn about forty per cent. of the time you are drilling in close order.

Drill entirely by use of signals. No more shouting and noise. If an occasional command is necessary make it a low voiced one.

When jumping, absolutely require the men to knot their reins and drop them as the horse rises. No exceptions.

Men must ride with snaffle bit and no jumping with curb allowed.

The new horses may be used in the drills this week but favor them for the slower gaits and least work. Watch them carefully for signs of sickness or weakness.

Squadron commanders should use the sergeant-inspector instructors for all practical demonstrations and to assist troop commanders at N. C. Officers and Privates' Schools.

Pay special attention to the rapid dismounting to fight on foot, opening fire and getting led horses under cover.

To insure uniformity of instruction and the same degree of progress, I found it necessary to outline in detail all programs of instruction and at times, to publish definite instruction just how to perform certain duties. Absenteeism from drill has a hard subject to handle and it acutally took a threat of court-martial to convince officers that all men must receive instruction and that it was not necessary to use one-third of a troop to do the daily routine camp work for the troop. The weekly newspaper published under the colonel's direction was of great assistance in disseminating information of an instructional character and although it took a number of men away from nearly all military work, I believe its value fully compensated the loss.

One very disturbing factor delayed our training. The regiment upon its arrival had with it a total of two competent horseshoers. The horseshoer's union of Chicago forbade its men to enlist in the National Guard, unless they received the proper scale of wages. All horses that arrived needed shoeing and some had never worn shoes. It took four weeks of the hardest kind of training both in camp and with the regular horseshoers at Fort Brown to change a lawyer or a clerk into a horseshoer. But it had to be done and was done. One prominent lawyer to this day bears the imprint of a husky mule's foot on his anatomy and he is proud of it. On account of the shoeing I had to take three days out of the mounted work and lay the horses up to avoid wearing their hoofs to the quick. These days were used in digging trenches.

The following special subjects were taught and practical instruction given:

First Aid.
Hospital Corps work for the band.
Lecture on sanitation and preventative measures.
Signalling.
Cavalry drill signals and signals for use on the firing line.
Troop paper work for captains, first sergeants and troop clerks.
Messing and mess accounting for mess sergeants and cooks.
To assist in this instruction I sent to Fort Leavenworth and procured a sufficient number of the "Mess Sergeants Handbook," so that each organization had a copy.
System of supply for supply sergeants.
Care of animals for stable sergeants and stable orderlies.
Troop officer's school.
Field officer's school.
Spanish, etc.

The record made by the medical officers with the regiment is an enviable one. Their foreword was prevention and they worked night and day always preventing. Particularly noteworthy was the fact that during the regiments three and one-half months stay here not a single case of venereal disease developed. The doctors followed out the usual methods of registration, inspections, etc., but their success, I believe, was due more to their earnest talks to the men. To prevent fevers they were rabid about the use of the mosquito bar and several night inspections per week disclosed men who were not using the bars or else did not have them properly tucked in, so the doctors would route out their troop commanders. This method succeeded as troop commanders hated to get up at 2:00 A. M. to have a mosquito bar tucked in.

We paid special attention to the subject of scouting and patrolling. Although all cavalry men are supposed to be trained in patrolling and scouting, I have found that but few really become efficient. Early in September I organized in the regiment a regimental scout detachment and selected as the chief of scouts an officer who has served as an enlisted man in

the regular cavalry and who was especially well fitted for the position and much interested in scouting. I selected, by an oral examination, two sergeants as his assistants. Both these sergeants had been woodsmen and were peculiarly well fitted for the positions. I then had detailed two men from each troop, selected for their fitness and intelligence and then put this detachment through a course of training for nearly two months. The results were astonishing. I also improvised a bugle call known as the "Scout Call." The program of instruction included all manner of things military. To assist in the instruction I sent to Fort Leavenworth for a sufficient number of copies of McKinney's Scout Manual so that each scout had a copy. At the end of the instruction the chief of scouts submitted an outline of the work and with it an excellent set of maps. To give you an idea of their work I will read short extracts from his report.

"The scout detachment thoroughly explored all the surrounding country within twenty (20) miles and acquainted itself with all trails, landmarks, military topography, etc. Also, all fords and crossings of the Rio Grande besides noting valuable cover on both sides.

"With the assistance of United States Marshal Herring the detachment became acquainted with a large number of natives on the river line and received much valuable information and learned Mexican customs, methods of combat, etc.

"The detachment received theoretical and practical instruction in the following: Equitation, jumping ditches and hurdles, first aid to the injured (until proficient), Spanish (daily classes), signalling (semaphore until proficient), patrolling, scouting, tracking, horseshoeing, ambush problems, memorizing messages, maps and landmarks, road and position sketching, concealment, care of self, arms and horses, message writing, reconnaissance, pursuit, finding way through unknown country, concealing tracks, estimation of distances, developing hearing and eyesight, marksmanship, cooking, swimming (men and horses), map reading and orientation, first aid to horse, rapid cross country work, locating and avoiding outposts, accurate estimation of strength of commands."

Night Work:

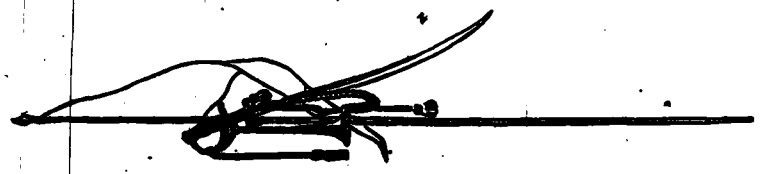
Scouting, patrolling, orientation at night, developing night hearing and eye sight, learning night noises and sounds, judging distance at night, cross country work, approaching the outposts of a camp.

Contests (day and night):

Flag stealing contest, mapping contest, tracking contest, cross country race, approaching outposts, examination Spanish, crossing country from different points and regulating progress so as to arrive at certain places at exact time set, estimating distance tests, swimming contests.

McKinney's Scout Manual was used and proved of great assistance.

The regiment spent a week at Point Isabel and I there found the only decent regimental drill grounds we had had so I devoted most of the week to regimental drills and maneuvers. Regimental drill was something new to both officers and men. At their annual ten days encampment there never was time for regimental drill, the ten days being used up somewhat as follows: Two days marching to and making camp, one Sunday, one Governor's day, two days troop and squadron work, two days field problems and maneuvers, two days breaking camp and marching home.



OUR ANNUAL PROFICIENCY TEST.

By Captain Jno. J. Boniface, Fourth Cavalry.

IT is felt that we may make the statement, without fear of much difference of opinion, that the practice and training obtained in our annual proficiency test is invaluable; and this, notwithstanding the opinions of various officers as to the value of the tables furnished us in the "Little Red Book," and the "Little Green Book," and the pamphlets from the School of Musketry; however, any attempt to judge of an officer's qualifications to command an organization by the results he secures in this one annual fifteen minute test as required by Par. 235, S. A. F. R., is unreasonable. We all know that, under actual battle conditions, distribution and hits vary between wide limits; one officer has expressed to me the opinion that we may, under such conditions of real war, expect about one hit out of 2,000 shots due to some men becoming more or less "rattled," and their attention diverted from the purely ballistic problem.

On August 12, 1899, one troop of the Fourth Cavalry, two companies of the Twenty-first Infantry and three companies of the Twenty-fourth Infantry, at San Mateo, Philippine Islands, advanced, under a heavy fire, against an intrenched position, moving in this advance, across some 1,800 yards of open rice fields almost knee deep in mud and water, under a tropical sun; the advance was made at the start in one long column of fours, with our advance guard some 300 yards to the front on the one elevated road that ran towards the enemy's lines. As soon as the enemy opened his heavy fire we deployed as skirmishers and moved forward by rushes of platoons, our losses becoming heaviest at about 800 yards range; the fight lasted from about 9:20 A. M. until 11:30 A. M. The enemy was believed to have about 2,000 against our 800. Results—

eighteen hit on our side and where troop "B" crossed the enemy's trenches we counted some twenty-three of their dead, with probably more farther up the trench. Everything inured to the advantage of the defense, according to our good books, but nevertheless those were the results, to which we must add that the enemy broke out of their trenches when we got within some 200 yards of them and ran away to a second line of trenches about a mile in their rear, where we had another fight later in the day and drove them away to the foot hills. We must ascribe our victory to good leadership, courage, determination in our advance, high morale and steadiness of fire; General Parker, then Captain, Fourth Cavalry, commanded our side. General Parker had assembled us the night before and urged us all to lie down when the fight opened; actually, he stood up throughout the whole fight, most of the rest of the officers and platoon leaders did the same, lying down occasionally only for the purpose of rolling in the mud and water to cool off from time to time as we advanced. We had hard work to keep our men down. To sum up according to distribution, our 700 rifles (counting out about 100 who were the usual controllers and therefore did not fire), made about twenty-three target hits; the enemy's 1,000 rifles (counting out their other 1,000 as under cover and not firing all at once), eighteen made target hits. Our expectancy in hits might be worked out from the table; the actual hits were not counted. My recollection is that we started in with ninety rounds in the belts and one bandolier of sixty rounds per man and used up about two-thirds of this. General Parker's recollection regarding the ammunition may correct this statement. It is believed that other officers, recalling their own experiences under fire, will, if they still have their notes, probably find their results somewhat in the same proportion.

The pamphlets being sent to us from the School of Musketry make it very plain to us that, in judging our own results in these proficiency tests, we must recall that the standard laid down in the tables are the standards arrived at on a known range, with the actual ranges determined carefully before firing that the rifles were *all*, every one of them, fired by selected men rated as "average shots" as defined in the little red book.

Also, that these selected men, under these as-near-perfect conditions as could be secured, firing with every advantage of daily practice and much study of details, did not attain their own standards every time they fired a problem; as often as they exceeded their own standards they fell below them; had their rating been guaged, therefore, by their performance on any one of the days when they failed to reach their own standards, they must have been declared unsatisfactory, using that word as meant in the Small Arms Firing Regulations. Also, we must remember that their standards, given in the tables, are standards for distribution and expectancy of hits and rate of fire only. In other words, where a fine problem, involving tactical handling of troops in the field and on the battle field against an enemy (targets) might be prepared and efficiently solved by a troop commander in such a test, his tactical handling of the situation, his troop's conduct of fire (platoon leaders control), the team work of his units (platoons and squads) and other essentials would, using only the tables, be entirely ignored, no matter how difficult or involved be his problem. While we find some authors of authority in the military world stating that only hits, after all, count in the final analysis of war, I think most of us regard these other matters as being of great importance to each one of us, and that the tactical handling of the proficiency test should be included in the final rating.

On the "B" range, with no return fire, with good weather, no hurry, no mud and water, we should rightly expect higher standards than under any real battle conditions; we should conform to the following rules, in general:

1. Use proper formations during the entire advance.
2. Utilize cover the best possible.
3. Assume for each man the best firing position at each halt.
4. Make the preliminary reconnaissance.
5. Use the voice little and signal much.
6. Adjust our sights carefully at the range named.
7. Aim where ordered.
8. Concentrate our fire within our own sector.

9. Not blanket anybody's else fire.

10. Move on the designated objective.

11. Deploy when necessary due to enemy's fire.

12. Use reference points, fingers, targets, ranges, etc., in making our target designations.

13. Give rate of fire every time.

14. Understand horizontal and vertical clock methods.

15. Use field glasses for all they are worth.

16. Use range estimators constantly.

17. Use observers, sight inspectors, time keepers when training our men.

18. Read carefully the problem and explain it to our command.

19. Think ourselves into the imaginary parts of our problems.

20. Remember what the flags on adjacent hills mean—so many of the enemy, etc.

21. Imagine other firing lines in their positions when there are such in the problem.

22. Listen to the officer who is to tell us under what fire we are from time to time during our advance.

23. Remember we are *part* of a firing line, probably, and not all of it.

24. Keep in touch with these imaginary firing lines through our buglers, etc.

25. Keep in touch with our major, through our bugler.

26. Keep in touch with our platoon chiefs through our other bugler.

27. Make the captain, other officers and platoon chiefs keep under cover.

28. Have all our men well instructed in the forty-seven details given in the pamphlets from the School of Musketry.

29. Develop excellent fire discipline throughout our force.

30. All must have the signals down pat.

31. Conform to all the other rules of the game.

All of the above make a long list, but not one thing can be omitted if we are to do our best; these must occur to us not by stopping to recall them, but by much practice, so that they are mechanically thought up at the right moment. Hohenlohe says the rule for artillery is to "hit, hit, hit;" ours must be "practice, practice, practice," in all weather, over all sorts of ground, confronting ourselves with situations that vary constantly.

Now, we go to our one annual "Waterloo" test, which generally consumes from fifteen minutes to a half-hour, with all of these matters in our minds and dread in our hearts lest we be rated "Unsatisfactory." Have we the opportunity to do our best under our present methods? Have we such preliminary training on the "B" range, leading up to the final Proficiency Test, that we go forward to it with a feeling of confidence? Do the Instruction and Record Combat Practices prepare us enough to expect high results in the Proficiency Test? Does our individual firing on the "A" range at 600, 800, 1,000 yards and the telescopic sight firing have all of the benefit we think? Could this ammunition be better expended in a number of preliminary Proficiency Tests, several per organization? I do not feel that we are making the best use of our ammunition along these lines. I believe shooting individually at these ranges (600, 800 and 1,000 yards and with telescopic sights) should be eliminated and the cartridges spent in many instruction proficiency tests.

That the result of one annual fifteen minute proficiency test shall be used as an instrument of torture by putting the result "Unsatisfactory" on a captain's record should be stopped; it kills enthusiasm, creates an anxiety that is far more apt to interfere with good work than to improve it and should have about the same dread effect that is now obtained by the privilege of a commandant to express unfavorable opinions of an officer on his Efficiency Report and keep the opinions so expressed secret except to superiors. I think we have a right to assume, regarding our proficiency tests, that our captains are energetic, efficient, interested, studious, anxious to hold up the reputations of themselves, their troops, their regiments and their arms; also that they intelligently train their organizations

along right lines; also that they are supposed to have the assistance of efficient lieutenants who are equally interested in their work; also that, in judging the final result in any proficiency test under the Small Arms Firing Regulations and the pamphlets we give the captains "average shots" as therein defined and not poorer shots (those who have had no shooting or merely Supplementary Season); that the final rating of an organization be made only after taking into consideration the percentage of poor shots (as described above) and the tactical handling throughout. The captains should also have the pamphlets of the School of Musketry long enough to carefully train their organizations; some of us this year received none or but part of these pamphlets and Pamphlet No. 5, especially important, some of the captains only saw a day or two before the test and had no time to train their organizations thereunder.

The captains should also be informed just what system of marking is to be used and just how the figuring out of the final ratings is to be done, for officers here have been found who either do not agree as to the use of the various tables and results or have their own methods which they believe correct. At least one captain this year has figured his organization out as "Satisfactory," and does not agree with the figures of those above him who have found his organization "Unsatisfactory;" there are probably many more captains this year who are in the same state of mind. It took those "average shots," under favorable conditions, a long time to finally establish their "Standards;" an organization has just *one* chance per annum. It is believed that many of the deficient organizations of this year could, if allowed to repeat their test, qualify; this does not mean they have been stupid or inefficient; it simply means that where they fell under the standard one time they would equal or exceed it on another trial; we all know the variablity of such tests. The little red book defines "average shots" as "those usually found in a well instructed troop;" this can only mean that every man in that troop has gone through at least one complete season on the range.

If the monthly combat practice now required, which must mean *not* a monthly combat practice but a monthly profinciency test, is held thoroughly, with much troop instruction

in between times, and we can use the long range ammunition, as suggested, we shall show far higher results next year, by which time we shall all have been furnished the complete pamphlets from the School of Musketry and had time to train our troops accordingly. For this year we have little ammunition left over, if any, from our past season's training.

The prescribed annual proficiency test has been held, within the last month or two, practically all over the service, no doubt; it has been held here, four regiments taking part. It should be interesting to note, in the light of our drill books and the new School of Musketry pamphlets, any features of our tests that are of permanent value. I have personally observed the working out of the test by seven companies of infantry here, belonging to two different regiments, and have taken my own troop through the test (before I saw these companies hold their tests); also, all twelve troops of my regiment have taken the test. I have been informed that all troops of my regiment have been declared "Unsatisfactory;" that all the companies of two of three of the infantry regiments have been declared "Unsatisfactory" and that all companies of one of the infantry regiments here have been declared "Satisfactory."

It may prove interesting and helpful to state what I saw during these tests. It may be summarized as follows: Each of three companies marched out of a gulch in column of squads, then advanced about 100 yards more in rushes by platoon, each platoon as skirmishers, no targets yet in sight, and then lay down in skirmish line; the targets then appeared in two groups, one about 950 yards to the front and one small group about 500 yards to the left front. The company then opened fire at will and continued until out of ammunition. This ended the problem. Each company would then march off the range. There appeared to be no preliminary reconnaissance, no advancing in line of small columns, little attempt made to utilize cover, men fired standing, kneeling and lying down, at these ranges, captains, buglers and platoon chiefs were often standing erect behind their firing lines, the method "Reference Point, fingers, target, range, rate of fire" did not seem to be generally followed. The ground was open, rolling and almost devoid of brush where the firing lines halted to fire; the critique appeared

very brief and seemed to consist merely in an announcement that the figures (percentages) would be given out later, with a remark or two on the work. As a mere test of distribution and expectancy in hits, everything tactical left out, these above tests may have possessed some value; but in the light of the School of Musketry pamphlets it occurred to me that we had only derived about ten percent. of the value of the Proficiency Test; and I concluded that each organization commander out of those three companies walked back to the garrison in a disappointed state of mind. I was even told, later, that one company, before it had fired a shot, was directed to leave the range, that it's proficiency test was ended, the reason seeming to be that, trying to advance to a nearer firing position, the captain assumed too much time and was ruled off. In real action his time would not, it is believed, have defeated his company so entirely. The profit that captain and that company got in this year's Proficiency Test might be spelled in just one word, "Humiliation." I later heard that all three of these companies were declared "Unsatisfactory" and I heard, still later, that all of the companies of that regiment were declared "Unsatisfactory." I also heard that one other infantry regiment here declared all of its twelve companies "Unsatisfactory," thus making, out of three infantry regiments and one cavary regiment, all the cavalry and two of the infantry regiments "Unsatisfactory" and one infantry regiment "Satisfactory." I tried to get the distribution and expectancy of hits and actual hits of these companies, but only succeeded in part. So I cannot give it all here. Later on I will give *some*, which may prove interesting.

When the next four companies of infantry took their tests I had more time and therefore could make more complete notes; they follow herewith:

First Company.—Deployed as skirmishers from the very start; advanced to a ridge about 950 yards from the targets and knelt down; country covered with rough, thorny brush; advanced again as skirmishers to about 850 yards; walking upright; then moved to right flank about 75 yards and opened fire at will, as skirmishers, kneeling; no advances by small columns; no preliminary reconnaissance; little advantage taken

of cover; no crawling; final firing range 700 yards, some men standing, some kneeling and several lying down; problem consumed about eleven minutes from start to finish.

Distribution expected, 38, made 39.
Expectancy in hits, 62, made 72.
Tactical handling of company, not marked.
Final rating, satisfactory.

Second Company.—Deployed as skirmishers from very start; no preliminary reconnaissance; then 950 yards from supposed location of targets; skirmishers halted, stood both upright and kneeling, on a ridge, for two minutes, with no firing; then moved forward in skirmish line, all upright, halted and knelt at 850 yards, men on left stood up and were bunched; fire at will opened, nearly all standing up; left platoon now obliqued to left front, moving forward about 50 yards, all upright, walking mostly, then opened fire standing up; left platoon again obliqued to left front for another 50 yards, slowly, all standing up; fire at will now opened, standing; rushes by platoon now began and at each halt fired standing and kneeling; intervals between platoons now about 100 yards; captain knelt and chief of one platoon walked up and down behind his platoon; final firing range, 760 yards, where skirmishers fired either standing or kneeling; if they had all knelt or lay down they could have seen nothing 100 yards to their front. If, on the range, during our known distance firing, we make the soldier lie down at 600 yards and give him a sand bag rest and don't shoot him at 800 yards at all unless he qualifies very high, then just how efficient will a fire at will at 760 yards, standing up, against a small target, be? Practically every organization I observed opened fire standing at a long range and only two days ago I have seen another organization repeat this. Is it effective or isn't it?

Distribution expected, 38, made 35.
Expectancy in hits, 58, actual hits, 68.
Tactical handling of company, not marked.
Final rating, Satisfactory.

Third Company.—Company moved forward in squad columns under unaimed fire for about fifty yards, then deployed

as skirmishers and continued to move forward to the right front; in skirmish line, slowly, most men upright, pace very slow; no creeping; very little stooping; no preliminary reconnaissance; at about 950 yards company halted and most men now knelt down; captain and platoon chiefs all stood up; charged front so as to face the targets as they appeared; did this at double time, as skirmishers, then halted, knelt and then moved forward as skirmishers, halted on a ridge at about 900 yards. Captain and platoon chiefs standing up; opened fire at will, many men standing up while firing; only twelve men kneeling; fired one minute, then advanced by rushes of platoons from right; little or no advantage taken of cover; no creeping; left platoon now halted, stood up and opened fire at will in that position at 800 yards, part kneeling; left platoon made one more rush, slowly, to 725 yards and fired at will, many standing; almost total absence of cover taken; actual range 690 yards.

Distribution expected, 36, made 36.
Expectancy in hits, 57, made 57.
Tactical handling of company, not marked.
Final rating, Satisfactory.

Fourth Company.—Deployed at once as skirmishers at 1,000 yards from targets; then assembled in close order, company front, then moved forward in column of squads, halted and knelt on a ridge; moved forward as skirmishers, halted at 900 yards on a ridge; captain and chiefs of platoons stood up; under unaimed fire; no preliminary reconnaissance; moved forward as skirmishers and halted at 850 yards, knelt down, many standing up; opened fire at will, knee ing and standing and fired four minutes; then advanced by rushes of platoons from the right; practically used no cover at all; during rushes, each platoon upon halting, fired at will mostly standing up; ceased firing at about 850 yards; actual range 860 yards; captain and chiefs of platoons generally remained standing behind firing line.

Distribution expected 33, made 26.
Expectancy in hits, 48, made 45.
Tactical handling of company, not marked.
Final rating, Satisfactory.

I did not personally witness the other eleven troops of my regiment take their tests; I have heard they generally deployed as skirmishers almost at once, under unaimed fire, that little advantage was taken of cover, that captains and chiefs of platoons were generally seen to stand up behind their lines, that some troops advanced while in small columns; some forgot what the enemy flags meant and were therefore caught under fire in wrong formations; some did not march straight to the front, some were slow, some too fast, etc., etc. I recall, generally, what my troop did and the main points in the critique and give them below for what they are worth.

Dismounted to fight on foot as soon as I was informed we were under unaimed fire; advanced a short distance in line of platoon columns, jammed together through faulty leadership of a platoon chief; then opened out correctly by my direction; halted just below a ridge; reconnoitered through my field glasses, directing my chiefs of platoons to do likewise; overlooked my range estimators entirely and estimated the range myself; took range to be about 1,000 yards; deployed as skirmishers to let all the men see the targets, which were then very plain from the ridge we were on; moved forward after the chiefs of platoons had pointed out the targets to their men; advanced by rushes of platoons from the right; double timed during rushes; took poor advantage of cover; land heavy with thick, thorny brush about three feet high, same as in problem last four companies on infantry; left platoon now veered too much to the right, making right platoon yield more and more to the right, this being due to the left chief of platoons failing to guide on the reference point I gave him at the start. I could not see the single sitting soldier who, to my left front was supposed to represent the right of the line of our troops which was already firing at the enemy (in theory) and I forgot to direct the chief of left platoon to look for him and so that chief of platoon never saw him either. My line continued to move forward by rushes, men stooping and running, until we reached the 800 yard range; then the left chief of platoon, for no known reason, commanded "right oblique" and marched his platoon directly in front of the right platoon, which all the time he had been crowding to the right anyway, thus completely blanketing any

fire of the first platoon; the right platoon then gave way to the right, at command of its chief, in order to get far enough to the right to be able to fire. The flags on the hills in front were supposed to indicate to me when my line was under heavy fire, etc., these were almost forgotten by me until I was finally reminded of their meaning when my line was at about 700 yards distance from the targets. I then had my platoons make one more rush and commenced firing at will, in each platoon, at about 650 yards, giving battle sight because I had some twenty men, practically recruits, in my line, and knew they would fire high anyway and they did. During the firing my men lay down; captain and chiefs of platoons generally stood up; captain's signals were plainly observed by our observers behind the targets. When asked by our statistical officer what the estimated range was, I gave 500 yards, real range 650; all firing was "fire at will" in each platoon; beyond the brief field glass reconnaissance mentioned at the start, which was done by myself and chiefs of platoons, there was no preliminary reconnaissance. There did not appear to be any need of a more extended reconnaissance, for through our field glasses we plainly saw the targets, the intervening ground, our line of best approach, the general location of our (theoretical) firing line already in action against the enemy, and any more extended reconnaissance would have delayed my advance when, under my orders. I was supposed to be reinforcing a firing line that was not only in action against the enemy, but whose fire was being held down by that enemy's fire and the need of my pushing forward without undue delay was imperative. One combat patrol covered my right flank; due to the fault of the left platoon marching in front of the right platoon, as shown above; the right platoon found, when opening its fire, that nearly half the targets were now hidden by a clump of trees near the targets; our rate of fire was found to be much too slow for the range; bugler stood up in plain view of enemy; bugler failed to connect with my major and myself, so when our major blew his whistle "Attention" I failed to note it; I had been informed that I had a major early in the fight, but forgot all about him thereafter; during the firing my left platoon fired, without orders, at a second line of targets that soon appeared to my right

front. This secondary target I had already covered by assigning the right squad of my right platoon to it; the left platoon was specifically informed that it must not fire on any targets to the left of a certain road passing through the targets; nevertheless it actually made eleven hits on the six targets outside of its own sector, on the forbidden targets; the lieutenant in charge of this left platoon had never before seen a Proficiency Test and had not seen the pamphlets from the School of Musketry.

Under Pamphlet No. 5 an advance in skirmish line, under unaimed fire, is the worst possible; this mistake we all appear to have made so consistently as to impress an observer with the fact that we must have had it drilled into us by years of training and that we must relearn our advance under this new Pamphlet No. 5; the position my line finally occupied was considered faulty, due to the left platoon veering so much to the right and pushing over my right platoon until half the targets were hidden from the right platoon as shown.

Distribution expected, 39, made 25.

Expectancy in hits, 108, made 77 (not counting eleven hits on wrong targets).

Tactical handling of troops, not marked separately.

Final rating, Unsatisfactory.

I have referred, in the early part of this article, to the difference in method used by various officers in using the tables in the Red Book, and in the Green Book; this difference becomes noticeable in my own case, for another way of arriving at expectancy in distribution and hits gives my troop the following:

Distribution expected, 25, made 25.

Expectancy in hits, 57, made 77 (not counting the eleven hits on wrong targets) which of course, would, if accepted as correct, make my troop Satisfactory instead of Unsatisfactory in final rating.

There are, of course, so many points that have arisen in connection with these thirty-six organizations being marked "Unsatisfactory" that such a discussion could not go on indefinitely; some of us agree with some of our marks and not

with others. We all feel each commander could advance fair and just reasons why he should not have been cut so much here and there; we all probably feel that we had not had the School of Musketry pamphlets long enough, or preliminary training enough, to coördinate our work according to them; but we had officers of exceptional ability, and unquestioned fairness in charge of our tests and therefore must try to see it largely from their viewpoint. Any system must be poor that after years and years of use, can result in twelve troops of cavalry and twenty-four companies of infantry being rated "Unsatisfactory" this year, after all the training these organizations have had during the past countless seasons. What I mean is just this, that *one* test, once per year, with all men present, whether they are "average" shots or recruit shots, is absurd, acknowledging, as we do, the unquestioned benefit and importance of proficiency tests, we are making a mistake to have it just once, for fifteen minutes, each year; there is no one form of athletic or mental training which, limited to the amount of actual work done during the present proficiency test, could be expected to accomplish high results. We should have proficiency preliminary tests over and over again, during the whole year, in all weather and over all ground available, and finally reach our test satisfied with ourselves and our past work along these lines. We can "equitate" and talk cavalry charges and shoot away countless thousands of cartridges at 600, 800, and 1,000 yards individually, and we can fire off millions of rounds through those eye-bruising telescopic sights, but when we get up against a real, live enemy we will all agree that we should have spent most of that time and all of that ammunition in preliminary proficiency tests, rain and shine, winter and summer, over all kinds of ground. The officer has not yet been born who will honestly acknowledge or believe that a rating of "Unsatisfactory" given him for one fifteen minute proficiency test shows his real ability to handle his outfit in a fight.

When some forty-eight organizations of the Regular Army deploy as skirmishers almost as soon as they come under unaimed fire, when they advance by rushes of platoons, when they use fire at will, when they neglect creeping and cover, when they fail to use small columns during the early advance,

when they fail to keep straight to the front through waist high thorny brush, when they make but brief preliminary reconnaissance during such problems as those above, (advancing to reinforce a firing line several hundred yards in front), when they use long range fire standing up and kneeling, due to high brush, then we should begin to get together and talk these matters over and come to some clear-cut decisions as to the best methods to use under like conditions. Conference with other officers has brought out a feeling that, instead of "getting together," for these discussions, we should assume an attitude of support for all the training and experiments and results attained at the School of Musketry as shown in the pamphlets therefrom and use those methods unquestioningly, much as we now utilize the training and pamphlets from the School of the line and the Staff College and the War College, feeling that the work at those schools is along right lines and that we can not do better than to adopt what those schools have found best. I am in full accord with that idea, so far as adopting and believing in the methods used are concerned, but I, for one, feel a desire to hear my brother officers discuss the points that come up in combat training, touching on proper formations for advance and for firing, etc., and I believe that an hour a week so spent, with our field officers giving expression to clear-cut methods of attack, advance, firing at the different ranges, etc., can be profitably spent. As an illustration along this line, I may refer to our last regimental problem in the Officers' Post Graduate School here, it was to solve Captain Boyd's problem at Carrizal; there were some twenty-five or thirty officers solving the problem here and we had a large number of varying solutions, all the way from a quick cavalry charge with pistols to a dismounted advance as skirmishers, from one line advancing to several lines advancing, from direct attack to turning movements, and the resulting discussion (that continued for several days wherever several officers were found together) proved that good must have sprung from it. If true in tactical problems of this sort, why not good in combat problem work? Few of us, except the "very learned" would object to giving an hour a week to such work and even those few "very learned" gentlemen would finally admit they learned a few

things. For the "very lazy" who would begrudge the one hour a week, I have nothing to say. When every officer and soldier comes to feel that the day's work lies betwen 6:00 in the morning and 5:00 at night there will be no trouble in finding the one hour per week. Therefore, I say *get together*, in one room once a week, for an hour, and discuss all points of combat training; this will coördinate it in the troop, in the squadron, in the regiment, in the service.

After my own Proficiency Test and after I had watched those other organizations meet their several "Waterloos" and after studying over the pamphlets some more, I took my troop to the same ground and tried again, without ammunition, to do just what I believed the pamphlets and the various critiques I had heard would have us do. I had non-commissioned officers designated as observers (to lie up in the hills behind the targets and with field glasses, study our advance); others who, as sight inspectors behind the firing lines, inspected the rifles after firing began and saw what sight adjustments had been made by the men themselves. Others who, as time keepers behind the firing lines, counted the rate of fire actually used by different men and thereby determined if the announced rate of fire was being complied with; from these data I could, with the little "Green" Book, determine very well what effect we shou'd have had if actually firing, etc. The line of targets was about 1,500 yards away, across a deep gulch, and my advance had to be made across fairly rolling ground covered with thorny brush some three feet high; I had some twenty recruits in my troop. The problem assumed that the enemy had halted our advance guard of one troop, that this troop, deployed as skirmishers, was fighting them at a range of about 650 yards (across the gulch); that the led horses of that troop were under cover well in the rear; I was to move forward with my troop and reinforce this advance troop on its right. At 1,200 yards I came under unaimed fire, dismounted, linked horses in couples behind a ridge, left two men with them by order of the major and then moved forward in line of platoon columns, *creeping every foot of the way* through the brush; in this way, putting green twigs and leaves in our hat bands, observing the ground and the enemy through our field glasses, we advanced some 400

yards, the chiefs of platoons keeping in touch with me, one bugler acting as connection between us any my other bugler connecting me with my major, all of us concealed and crawling forward. At about 800 yards we mounted a ridge across our advance and from there could see where the enemy was supposed to be but not where he actually was, due to the ground in front rolling somewhat and the enemy's ground being lower. To see the enemy would have required our standing up, just what we had been criticized for during the tests. All crawling again, we continued to move forward, still in line of platoon columns, use of voice barred, signals employed constantly, the captain and chiefs of platoons creeping also. In this way we reached the 700 yards point and from there we could see the targets as we lay down beneath the bushes; still crawling flat, we deployed as skirmishers without the least difficulty; by signals our range estimators now got together quickly by crawling and estimated the range; while they were doing this I communicated by signs and signals with my platoon chiefs, indicating reference point, finger right and left, the targets, and the range as soon as I got it; by signs and signals and in very low voices the platoon chiefs pointed out the targets to their men; finding the entire line of skirmishers lying down cou d not see the targets well enough to fire, we crawled forward another 50 yards, never once any one's rising above the bushes except for one brief moment when, breasting a small ridge, I directed each platoon to rush over the ride, stooping, and then to drop down instantly beyond the ridge, which was done. Finally, crawling into good individual firing positions and being careful not to blanket anybody's fire, our line opened fire at will at 650 yards.

In our advance we kept pretty well moving straight forward, even though crawling the entire way, and finally arrived on the assumed line about twenty yards to the right of where we would have come out had we stood up and walked directly forward the whole way. We used "fire at will;" we could go no further forward because, at 650 yards, we were in the line of bushes just this side of the deep gulch which paralleled the enemy's position and to go further forward would have sent our line out into the open bordering the gulch; to have attempted

to cross the gulch would have been desperate, due to its steep sides and its open face. This ended the problem.

My observers came in and reported that our entire advance was completely concealed except for the one brief moment when I had the two platoons rush over the one ridge and drop down; my sight inspectors reported that various new men had failed to properly adjust their sights at the ranges given; my time keepers named various men, all new men, who had fired much too rapidly and one or two too slowly and therefore not at the rate announced by chief of platoons; my time keepers also gave the time of actual firing. I knew the number of rifles and targets and combining all this information we could form a fair estimate of what effect we might have expected, from the green book, and what defects hurt us. My range estimators assisted greatly and were continually crawling forward together, getting their average at each halt and being ready to give it to me if I wanted it. Altogether I felt that this retrial had benefitted us all a great deal and actually more than the actual Proficiency Test of some days before; such practice should be repeated by us all, quite often, with or without ammunition, during our field training period. Ammunition so expended brings in far greater benefit, I think, than known distances firing at 600, 800, 1,000 yards and telescopic sight shooting. The time consumed in our advance, from the time we came under unaimed fire until we opened fire at 650 yards, was about thirty-eight minutes, during which time we were principally crawling, then lying down and communicating with each other by signals. This time would have been well spent, would have saved us a loss of men, would have fooled the enemy, would have finally placed us in the best firing position within effective range where we could all lie down. The main criticism I have to make is that the troop in advance, under the enemy's fire, and according to the problem under heavy fire with its own dwindling, would have been unsupported for almost the entire thirty-eight minutes of my advance and might have had just cause to complain that, having been ordered to its support, I had delayed coming up more than I should; this is one of the points about which men's opinions will ever differ and in a real combat accusations will afterwards be thrown back

and forth and never settled. It is my belief that an extended preliminary reconnaissance, under the conditions of the problem given above, would not be made, that a careful reconnaissance made by the captain and his platoon chiefs, through their glasses, during their crawling advance, would be the proper, natural and perforce only reasonable one; from the very beginning the position of the enemy was pretty definitely known; the position of the advance troop was also well known and in actual combat would have been still more fully known by the firing; so the idea of an extended preliminary reconnaissance, with its consequent long delay while the captain and his platoon chiefs crawled forward and at least part way back, seems unnecessary.

It seems that, to give us more ammunition for the monthly proficiency tests that have now been ordered, would require additional appropriations from Congress; it is difficult to get that, and we could not get it in time for the coming season's work. If we require individual shooting at 600 yards as part of the qualification for marksman, sharpshooter and expert rifleman, then we must expend the necessary ammunition at that range, both instruction and record; on individual qualification depends the rifleman's pay. I believe in that. I think it has accomplished a great interest in the individual soldier's care and effort in shooting well. I know other officers who do not believe in additional pay for shooting and there are good and substantial reasons why it might be done away with, but, after training men in shooting for years, I believe the additional pay has been of great value to us. To hold additional preliminary tests immediately in advance of our Annual Proficiency Test will also require ammunition. I believe we can make a good start at once by cutting out all shooting, individually, at 800 and 1,000 yards and all the telescopic sight shooting, and takeup the matter of eliminating the individual shooting at 600 yards later. If we don't do something pretty soon along these lines, we will have no ammunition to shoot the monthly combat practices ordered; only very few organizations have any ammunition left over now, from last season's practice, for such monthly combat practices as may be ordered between now and our next season's shooting, and if that shooting is not modified in any

way, we will have no more left over next time than we have now and these monthly combat practices will be poor. They should be provided for at once; we have let them go too long these years past. They should not form, as now, some mysterious, secret test to scare us to death; they should be regular training all the time. When flags, representing enemy fire, are put up among a bunch of hills, somewhat apart from the actual targets, and these flags appear and disappear from time to time during the problem, the captain running the organization is going to overlook those flags, as sure as he is human; and the only way he can be made to overcome the fault is to have so many combat problems during the year that his attention is trained to divide itself among many things at one and the same time.

Our whole target practice should avoid the mere desire to establish a high *paper* record; this at the expense of real instruction. Some regiments shoot the known distance practice only during the very best weather; other regiments go along unless the weather is especially bad. The results could not possibly be the same; I should say that the regiment using the best days only would have a high paper record and a low efficiency in combat work, while the other regiment, with a rather low paper record would come out well in combat and proficiency work. It is, after all, this latter that counts. Though the former, individual practice, is essential to the latter.

NOTES ON CAVALRY EQUIPMENT.

By Colonel CHARLES D. RHODES, Cavalry.

AFTER about twenty months work, the Cavalry Equipment Board is hopeful that the beginning of the end of its labors is in sight, and that the equipment recommended will successfully withstand the final tests of actual service in the field. Originally consisting of five officers, the demands of border and foreign service sooner or later reduced the working members of the Board to three and subsequently to two members. Most of the real labor has, however, fallen upon the recorder of the Board.*

The Board's first labors were in the direction of an officers' field saddle and a training saddle—the latter to replace the so-called polo saddle issued to mounted organizations. As is probably well known, the Board adopted with small modifications the French officer's saddle as the type for officers of our service, a saddle which had been ridden with great satisfaction by many officers of our army during the past six or eight years. A suitable training or polo saddle was secured through adoption of the design offered by the "Richmond Number 2," saddle brought from Saumur some years ago by Captain Henry R. Richmond, Senior Instructor of Equitation at the Mounted Service School. Beautiful models of both these saddles have been made by the expert saddlers at the Rock Island Arsenal and will probably be for sale to officers in a short time.

Of course the first work of the Board had to do with careful scrutiny and study of all reports from the field with re-

*The Cavalry Equipment Board originally consisted of Colonel William J. Nicholson, 11th Cavalry; Colonel George W. Burr, Ordnance Department; Colonel Charles T. Menoher, 5th Field Artillery; Lieutenant-Colonel Charles D. Rhodes, Cavalry, and Major John W. Craig, Cavalry, Recorder. Cuts of the tentative equipment were published in the April JOURNAL.

spect to the shortcomings of the 1912 equipment; and it may be truly said that the best endeavors of the Board were directed towards consideration of how *few* changes might be made in that equipment, consistent with efficiency. The very high character of the officers composing the 1912 Board, the extended technical study which they gave to the subject of cavalry equipment, and the very practical character of many of the articles which composed it, were clearly appreciated. Economical considerations also, made it most undesirable to change existing methods of manufacture unless absolutely necessary.

At the same time, War Department instruction gave the Board the greatest latitude in its work, and it was well understood that its function was to provide adequate equipment for the mounted service within the shortest necessary period, no matter what changes in existing equipment might be found necessary. In all the Board's labors from first to last, it constantly received the hearty personal interest and coöperation of the Chief of Staff of the Army—himself a mounted officer of wide experience in the field.

Reports upon the 1912 equipment in order of importance, condemned the 1912 saddle as not coming up to the expectations of its designers, either in comfort to the rider or to the horse. The so-called "hinged seat" was especially criticized by officers who had tried it out under service conditions. Subsequent severe service south of the Rio Grande brought many reports also, as to the saddle's durability, the steel frame or tree developing many breaks and cracks not brought to light in the quite thorough tests at the Arsenal. The 1912 method of carrying the rifle also received quite general condemnation, and the very attractive ration pockets of webbing were found in field service along the Border, not rain or sweat proof, rendering the rations unpalatable. The combination halter-bridle received its share of criticism as violating the principle of independence of function; and several officers criticized the complexity of the entire equipment, saying that "it had too many straps and buckles." Many minor points were mentioned, and the officers composing the present board approached with some apprehension the task of attempting to provide an

equipment which would satisfy the many exacting demands of field service under very dissimilar climatic conditions.

The most important matter before the Board was of course to secure a suitable enlisted men's saddle—one capable first of all, of carrying an abnormal weight under exceptional circumstances for long periods of time, and under conditions where the horse might be subjected to excessive fatigue and poor nourishment. And secondly, such a saddle as would prove comfortable to the trooper under like conditions, give a secure seat, permit satisfactory use of the aids, would be strong enough to stand the battering about of prolonged field service away from a base, and be of reasonable cost.

The first efforts of the Board were in the direction of a cheaper, unpadded counterpart of the officers' saddle—the tree to be built up and braced as was the McClellan tree, which has certainly been a most durable saddle for many years. The first four or five models built by the Board were of this general character. But as the work developed, it was found that in addition to strength of design and economy of construction, which required certain methods of fabrication, the question of providing a saddle which would in such country as Mexico fit the withers of the run-down mount, required a pommel-arch of higher and wider design than is ordinarily found in saddles of continental manufacture. Somewhat similar reasoning sought to raise the cantle-roll from the horses' back, by a slight elevation of the cantle-arch. These changes must needs be made, however, without changing in the least, the bearing surface of the very long side-bars, which the Board had determined from experiment, were suitable for the back of the average horse.

After discarding many experimental models, the Board finally found a type which appeared satisfactory as to tree, in its seat, arches, and side-bars—the latter being of course rigid. The seat approximated that of the officers' saddle, and to this the stirrups were hung as nearly as possible similar to those of that saddle. A minor worry, brought about by the use of a commercial three-buckle girth (and of course the abandonment of the quarter-strap of the McClellan), was to provide some covering for the buckles of the girth, so as not to chafe the

trooper's left leg. The choice lay between sweat-leathers which were ugly and impeded the free movement of the legs, and a leather skirt, which was comfortable and sightly, but which added complexity and weight to the saddle, and also made a considerable increase in the cost. The Board has finally recommended, as did the 1912 Board, a saddle with skirts, believing that although more costly, a *good* saddle properly cared for, will last many years. The use of adjustable and removable felt pads for the side-bars, with or without the saddle blanket, will also be made a matter of test.

In the saddle equipments the Board retained the 1912 pommel pockets and their contents, but raised the pockets on the pommel-arch slightly, so as not to impede free movement of the trooper's thighs. The minor articles—wire cutter, canteen, currycomb and brush, mess-kit, grain-sack, and feed-bag of the 1912 equipment, have been retained. With much labor, a member of the present Board devised an ingenious combination canteen and mess-pan after the Preston model, designed to fit into the near pommel-pocket and thus save the space now taken up by the mess-pan in the off pommel pocket. The new mess-kit was really though much superior to the old, but after mature deliberation it was abandoned because it was deemed inadvisable to have two kinds of mess-kits in the service, and the old mess-kit has been found satisfactory for a great many years. Doubt was felt at one time as to retaining the lariat and picket-pin, but late reports from the Pershing exposition caused the Board to recommend that these articles be retained, with probably the addition of side-lines of hobbles also.

The Board designed leather ration-pockets to replace the web pockets of the 1912 equipment, because the latter, as has already been stated, are not impervious to sweat or rain. For reasons of economy, it is probable that the manufacture of the web pockets may be resumed, whenever a dressing is found which will make these pockets thoroughly water-proof. The web ration pockets, lacing into a knapsack, also are especially adapted to the increasing dismounted work of cavalry, especially if sent to France.

A report having reached the Cavalry Equipment Board that one of the new officer's saddles (Ordnance model 1915)

showed a tendency for the skirts to hike forward, bringing the rider's thighs and calves towards the rear of skirts, the senior instructor in equitation at the Mounted Service School remarks in substance as follows:

"The forty ordnance saddles in use at this School have shown no tendency for the skirts to move forward from their normal position. It is believed that where this may have occurred elsewhere the rider has been seated too far back towards the cantle of the saddle, and has ridden with the stirrups too long and the thighs too nearly vertical, in which case the thighs will approach the rear edge of the skirt or pass in rear of it altogether. In addition, the muscles of the inside of the thigh, three or four inches below the crotch, will be made sore.

"When riders of this saddle are told that the egs should be carried *well back*, it is meant the *lower leg* (from the knee down), and this does not include *the thigh*.

"The angle made by the thigh forward and of the lower leg backward should be equal and a riding whip placed horizontally in rear of the knee, should bisect the angle thus made.

"The length of stirrup should be such that neither the thighs shall be let down too much towards vertical, nor the knees raised above their proper position, and the buttocks in consequence pushed back towards the cantle.

"If the rider fails to assume this seat and mistakenly rides with the thighs carried too far back and sits too far toward the cantle, he will have a tendency to get off the skirts of the saddle and hard hands will inevitably result.

"The seat taught at the Mounted Service School differs in no respect from that taught in Carter's 'Horses, Saddles and Bridles (1895),' and shown in plates XXX, XXXI, XXXII, XXXIII, XXXIV and XXXV."

The Board has retained the saber as part of the cavalry soldier's equipment believing that the long discussed question of its abandonment should be deferred until after the termination of the present great war in Europe. It has, however, greatly simplified the saber-carrier, so that while the saber hangs from the near cantle sufficiently rigid to avoid worry to the horse, it has sufficient play to clear a three-foot obstacle when necessary. As with the 1912 equipment, the saber is

counterbalanced on the off side, by the intrenching-tool (picket-pin) and extra horseshoes.

The packing of the latest experimental saddle follows that of the 1912 saddle—the slicker and grain-sack (with a maximum capacity of ten pounds of grain) being strapped to the pommel; and the bed blanket, shelter-half, and lariat to the cantle. The receptacle for the wire-cutters has been changed slightly so as to make this important tool more readily accessible. If the canteen in the near pommel-pocket is still as difficult to remove as with the 1912 equipment, the Board has felt that this is perhaps a desirable quality, inasmuch as most soldiers of short service, are apt to drink too frequently on the march, and this is especially to be discouraged in service where water is scarce. There is an absence of *rattle* in the entire equipment which is very gratifying, and which was always an undesirable feature of the McClellan equipment.

The question of stirrups is still an open question to be determined by the War Department after final test. The service seems quite evenly divided between the hooded stirrup and the open steel stirrup. The older officers of veteran service on the plains seem to prefer the hooded stirrup, for the familiar reasons of protection against chaparral, rain, snow, and cold. Most of the young officers—and many older officers who have ridden the flat saddle, hold to the open steel stirrup, which they maintain gives less fatigue to the foot by shifting the weight, and which afford greater freedom to the feet and legs; they also claim that the protection of the hooded stirrup is exaggerated. A growing minority favor an open wooden stirrup, covered with leather, which they claim gives all the advatnages of the steel stirrup without its frigidity in winter weather.

As with the 1912 Board, the most vexatious question, next to that of a suitable saddle, was how and where the rifle was to be carried. Any location on the saddle itself led to a great preponderance of weight, which with the length of the present rifle, predisposed towards cantle or wither sores on the horse. All reports from the European War indicated that cavalry must have a firearm equal to that of infantry; hence, all question of a carbine was abandoned. After exhausting all lines of experiment, the Board became thoroughly convinced that our cavalry

must follow the lead of other cavalries carrying rifles, and carry the latter on the troopers' backs. The Board appreciated that, adding as it does to the fatigue and temporary discomfort of the trooper, this idea would not be at all popular, but it was nevertheless convinced that this was the proper place for the rifle; that it was far preferable to give some discomfort to the trooper than to risk disability to the horse; and that if the infantry soldier could trudge cheerfully along all day with a heavy pack on his back, the cavalry soldier should certainly not complain of the weight of his rifle alone.

Tests at the Mounted Service School showed that with the sling-swivels changed to hold the *flat* of the rifle-stock against the back and with proper adjustment of the sling, the trooper could jump obstacles and make marches of over fifty miles at a walk and trot, without undue fatigue to his shoulder and back. This was the case after a surprisingly short period of hardening of the muscles—three days' preparation being considered ample. The equipment recommended by the Board has a spring clip attached to the right rear of the trooper's cartridge belt, into which the small of the rifle-stock fits, and the sling is attached to swivels at the upper band and at the flat of the stock near the butt of the piece.

Nearly all reports from the field favoring the abandonment of the combination halter-bridle, the Board has gone back to the 1909 model of double-bridle, but by the addition of certain small, strong snap-hooks of new design, has made it possible to quickly detach either bit or snaffle, permanently or temporarily, with their attached reins. This will be a great convenience in watering, or after prolonged field service to dispense with the use of the curb with certain horses.

The development of a suitable halter has given the Board a great deal of work. The increasingly high price of leather has made the cost of the leather headstall and shank almost prohibitive. Reports from Mexico showed a very unfortunate state of affairs with respect to tie-ropes—the animals either breaking or chewing them up constantly, until some organizations were reduced to the extremity of using strips of shelter-tents as tie-ropes.

The Board has for trial a very neat and comparatively cheap rope halter headstall and tie for ordinary use—broken ties to be replaced from rope in quantity furnished to organizations. In the field, the tie-rope to be replaced by a light chain. The new rope headstall has a breaking strength of over 1,500 pounds, and is very simple and attractive in appearance. One thousand light chains selected and tested by the Board, are now being issued for final test by troops on the border.

The Board has reduced the length of the long, swinging pistol holster, by about four or five inches, so that it is less cumbersome but is equally convenient for "draw pistol." The Board has also recommended retention of the present model spurs, and with sharp instead of blunt rowels in such proportion as organization commanders require for exceptional horses.

Throughout its work, the Board has been constantly impressed with the great cost of up-keep of the cavalry service, due in large measure to the deterioration of leather equipments. With the present extravagantly high cost of leather, this feature will be correspondingly greater. So it has appeared to the Board that if the cavalry arm desires to avoid the accusation of being an unreasonably extravagant arm to equip and maintain, much additional interest and effort must be offered by regimental and organization commanders, to conserve the equipment, more especially the articles made of leather. Officers will have to make a systematic and scientific study of the preservation of leather—constantly inspecting to correct neglects; and inspectors will have to hold all officers to a greater sense of responsibility for the deterioration of equipment before its time.

It should be borne in mind that the experimental equipment described very briefly in this paper is entirely *tentative in character*, and that testing will be necessary before it can be truly considered satisfactory. Indeed, the only criterion of equipment is the standard of field service, and this it is proposed to give the experimental equipment of the Equipment Board, by the manufacture of a limited number of sets, for actual try-out under field conditions.

The articles of equipment retained from the 1912 equipment have already stood the test of service, and should be

satisfactory. Otherwise, the Board has not had the advantage of test by any considerable body of troops. Two saddles and sets of equipment have been ridden by two sergeants of cavalry recently from border duty, on a 220-mile march from Fort Riley. The saddles were packed with the maximum equipment and rations (eight pounds of grain and three day's rations) which would ever be carried on a horse in campaign. These, with the weight of the riders and their equipment (including rifle and ball cartridges), made the two horses carry on their backs 262.5 and 247 pounds respectively. The march covered five days at a walk and trot. On the first three days, 33.3 miles was covered each day. On the fourth day 58 miles were covered in ten and one-half hours; and on the fifth day, 62 miles were covered in eleven hours. The troopers reported the saddles comfortable and that the rifles (after the first day) gave no discomfort to their backs. What was more important the horses' backs were found in excellent condition at the end of the test.

While not conclusive, the result of the test has been deemed adequate enough to warrant further try-out by a body of troops under service conditions.

WAR EQUIPMENT OF THE FRENCH AND BRITISH CAVALRY.

FRENCH.

THE Chief of Cavalry of the French army has recently issued a new and important bulletin, pertaining to the clothing, equipment, camp-equipage, armament, and pack of the French cavalry in campaign, which has been admirably translated by Captain John C. Montgomery, Secretary, Mounted Service School for the use of the Cavalry Equipment Board, at Rock Island Arsenal and for the information of the mounted service in general. The bulletin bears the date of the French War Department of October 9, 1916, and embodies the result of the experience of the French cavalry with equipment from the beginning of the war to the time of its publication—a date which, by the way, does not include the beginning of the more recent mobile operations of the French and British cavalry on the western front, following the retirement of the German armies from their semi-permanent field works.

As a large part of the bulletin is in tabular form, an epitome of its more important items will probably prove of more interest to the readers of the CAVALRY JOURNAL, than publication at this time of the entire bulletin.

"The exigencies of war," the bulletin states, "have necessitated a modification of the clothing, equipment, camp-equipage, armament, and pack of the cavalry. The object of this bulletin is to make uniform and to codify the principal measures taken by the different corps, since the beginning of hostilities."

Under the first sub-head, "General Directions," the following appears:

"*Orderlies.*—The orderlies of the officers and those of assimilated rank included in the complement of cavalry regi-

ments, count as troopers in ranks with the exception of,—first, one dismounted orderly for the colonel and one for the lieutenant-colonel; second, the medical-kit bearer orderlies of the doctors and veterinarians.

"The mounted orderlies of generals and of officers of the staff, who are extra men and not counted as troopers in ranks, all wear, no matter what may be the grade of the officer by whom they are employed, the uniform prescribed for the dismounted orderly of the colonel.

"*Led Horses.*—The led horses of the officers, with the exception of those of the colonel and the lieutenant-colonel which are led by the dismounted orderlies of these officers, are cared for by the troopers without mounts, at the rate of one trooper to two horses. These men are armed and equipped the same as dismounted troopers, but receive in addition, a grooming kit and a nose-bucket. The pack of the led horses of the officers is prescribed in B. O., E. M., Vol. 97.

"*Infantry Mounted Scouts.*—The mounted scouts of the infantry wear the uniform of the cavalry regiment charged with the mobilizing them. The armament consist of the carbine and thirty-nine clips in three cartridge boxes. Their reserve rations are furnished them by the infantry corps to which they are attached."

The foregoing is of interest in our cavalry service for the reason that it publishes some definite regulations with respect to officers' orderlies, which is lacking in our service. It also discloses that the infantry mounted scouts in the French army, are *cavalry* troopers attached to and rationed by the infantry command to which they belong.

Under "Uniform" it is to be noted that each trooper wears *two* identification tags—one around the neck and the other on the left wrist. He also carries a shrapnel-proof steel helmet in addition to the forage-cap.

Hospital attendants, ambulance drivers, drivers of vehicles for the wounded, and surgeons' orderlies, wear the brassard of the Geneva convention. Drivers of all other vehicles other than the sanitary service and all cyclists, wear brassards of special model.

Troopers carry three cartridge boxes containing 20 clips (60 cartridges), although when circumstances require it, 39 clips (117 cartridges) can be carried in the three boxes. In addition to these, 36 clips (108 cartridges) are carried in the field by each trooper in a "cartridge collar" worn about the neck of the horse when mounted and as a shoulder-belt by the trooper dismounted.

Troopers armed with the revolver (sergeants and special troopers not armed with the carbine), carry but one cartridge box. For extra ammunition, a cartridge-bag (capacity 80 cartridges) and which is ordinarily used as a ration-bag, may also be utilized when occasion requires.

The *waist belt* is equipped with suspenders, saber-sling, and bayonet-frog, and is worn by all officers, non-commissioned officers and men. The bayonet is, however, not issued to cavalry officers and troopers armed with the revolver.

The revolver is equipped with a lanyard, and the revolver holster, like the cartridge-box, can be attached to the waist-band in lieu of the waist belt.

The French trooper is issued the usual uniform clothing, and horse cleaning equipment, including extra shoe-laces, a cravat, a sweater (for cyclists only), and one pair of scissors for trimming the manes, tails, and fetlocks of horses.

In the matter of arms, all troopers carry the carbine on the back, held in place by a clasp-support, except *adjutants-chef* and *adjutants*, sergeants commanding platoons, blacksmiths, machine gun troopers, and surgeons' orderlies.

Sergeants, and other troopers not required to carry the carbine, carry the revolver; while the saber, suspended from the off side of the saddle, is carried by all mounted men except machine-gun leaders; regimental wagon-train drivers, and hospital attendants.

Lances are still carried in the usual lance-bucket by the troopers of lancer regiments.

Each *adjutant-chef* and *adjutant*, as well as each sergeant, carries a box of detonators; while each corporal and trooper mounted, carries an explosive cartridge or petard.

In the matter of camp-equipage, it is noted that there is a platoon camp kettle carried on the forage wagon, which is

also issued to each machine-gun section and to troopers of the regimental staff. A smaller "camp-kettle-for-four-men" is issued to the enlisted staff and to headquarters escorts.

One canvas bucket is issued to each two troopers.

The reserve ration box (or ration-bag) for each trooper, contains three days' sugar and coffee, one day's salted soup, and 125 grammes of chocolate.

In the matter of tools, each trooper carries one wire-cutting pliers with handles. One bill-hook and one portable axe with case, is issued to each platoon, replacing a portable tool in the trooper's pack. One jointed saw is carried in each platoon by a trooper in addition to the tool which he regularly carries. One hundred and six pick-shovels are distributed throughout the cavalry squadron.

The saddle is equipped with pommel-pockets—the right one containing reserve rations, one clothes or scrubbing brush, one housewife, one towel, one mess-tin, one spoon, one stable-cap, one pair of leg bands, one petard in its case (or box of detonators). The left pocket contains the horse brush, curry-comb, surcingle, sponge, oiling brush, grease cup, and a carbine "pull through."

On top of the right pommel-pocket is a lantern and the portable tool supplied to the trooper.

On top of the left pommel-pocket is a canvas bucket or nose-bag (containing four and one-half pounds of grain), and a forage-cord.

In front of the pommel-pockets is a bag containing a shirt and socks on the left and a flannel waistband and drawers on the right.

In rear of the cantle are the overcoat and the shelter-tent and pins.

The saber hangs from the right, and the horseshoe-bag, shovel-pick, reinforced metal shears, and axe-handle from the left side of the saddle.

In the horseshoe-bag the trooper carries one-half-set of shoes and nails, comprising a fore and hind shoe, twenty nail, and sixteen calks.

Blacksmiths carry *two* horseshoe-bags (one in lieu of the grain-bag)—the one on the right containing one jointed shoe

and a half-boot of nails; the one on the left, three jointed shoes and two sheet iron plates.

It is noted that the troopers use a rope halter shank.

Of the miscellaneous articles carried by the trooper, a first-aid packet is in the inside pocket of the fatigue jacket; a gas-mask is carried where it is easily accessible, whether mounted or dismounted; there is a field-glass with case for each sergeant and two for each machine-gun section; a field-glass range finder for each first sergeant and for the trooper of the machine-gun section charged with range finding; a cartridge-bag already mentioned, with a capacity of eight cartridges but used ordinarily as a ration-bag and containing a loaf of bread and a cold lunch.

When specially ordered, the trooper carries nine pounds of oats in the pommel pockets and, as already noted, fifty-seven extra cartridges in the boxes (nineteen clips in addition to the twenty clips usually carried, or thirty-nine clips in all). From October to April a half-blanket is also carried, rolled in the shelter-tent.

Briefly epitomized, the more significant details of the present French cavalry equipment, appear to be the largely increased number of cartridges carried by the individual trooper, either on his person or on his mount; the equipping of each trooper with a steel helmet, a gas mask, and two identification tags; the continued and added importance paid to the carrying of intrenching tools and of reserve rations by the individual trooper, in order that he may be independent of the trains for periods of time; and the importance attached to the carrying of explosives and detonators by individual troopers.

The small item of requiring all drivers of vehicles, other than the sanitary service and all cyclists, to wear a special brassard to indicate the character of their occupation, seems also important in these days of problems of efficient transportation.

It is to be noted that apparently no change has as yet been made in the character of the individual arms of the trooper —the carbine, saber, revolver, and in the lancer regiments the lance, being the same as before the great war.

BRITISH.

Arms.—The British cavalry is armed with the short Lee-Enfield rifle; the sword, which is carried by all ranks except signal soldiers; the revolver (Webley), carried by officers, warrant officers, staff sergeants, sergeants, trumpeters, and drivers.

Each trooper armed with a rifle, also has a bayonet, and carries one bandolier of ammunition over the left shoulder, and one around his horse's neck. In addition, there are ten rounds in the magazine of his rifle, so that he actually carries 190 rounds of small-arm ammunition.

Lancer regiments still carry the lance.

The rifle is carried in a boot, slung in rear of the trooper's right leg, and is said to ride quite well.

The sword is a straight one, quite similar to that now in use by American cavalry, but with the blade somewhat narrower and the handle not quite so heavy. It is attached to the left side of the saddle, and hangs in rear of the left leg.

The bayonet hangs underneath the right arm and is attached to the bandolier.

Equipment.—The British cavalry saddle is of the steel arch pattern, model 1912, with a length of seat seventeen and one-fourth inches. When in the field, two blankets are used beneath the saddle. The stirrups are of metal and of the ordinary open type. British officers ride a saddle quite similar to the French officers field saddle.

The bridle is a combination halter bridle. The bit is a Pelham, and the shank has several places to attach the reins so as to render it mild or severe. The double reins are used.

Each trooper carries a rope four feet nine inches in length, as a tie-rope, and it said that in the present war most of the tying is to a breast-high headline, strung along the side of a barn or other convenient place.

The haversack is said to wear poorly. Each trooper carries a wire-cutter.

Water buckets have been found very useful as most of the watering has to be done from them—the banks of most French rivers and canals being so steep as to render it impracticable to walk or lead the horses into the water. It is forbidden to

carry anything in the water buckets, as they quickly become unserviceable thereby, and the weight on the horse is increased.

In the earlier part of the war, it was found that the life of horseshoes averaged about two weeks, so that an adequate supply of extra shoes has been found very necessary.

The following shows the articles with weights, carried by trooper and mount during the summer months:

	ARTICLE.	*pounds.*	*ounces.*
(*a*)	Average soldier (stripped)	147	.....
(*b*)	*Carried on the soldier:*		
	1 Jacket, note-book and handkerchief	2	6¾
	1 Pair breeches	2	6
	1 Pair puttees	.....	13
	1 Pair spurs	.....	15½
	1 Pair boots	3	14
	1 Cardigan	1	6
	1 Cap	.....	7
	1 Shirt	1	1½
	1 Pair drawers	.....	15½
	1 Pair socks	.....	4½
	1 Pair suspenders	.....	4½
	1 Field dressing	.....	2½
	1 Identity tag	.....	½
	1 Pay-book	.....	2
	1 Clasp-knife	.....	7½
	1 Wire-cutters or field-glasses	2	.....
	1 Bayonet, frog, and belt	2	4
	1 Bandolier and 90 rounds of ammunition	7	4
	1 Water-bottle (full)	3	14
	1 Haversack (2 smoke-helmets and goggles)	3	2
	1 Haversack (unexpected portion of rations, housewife holdall, soap and towel)	4	2
	Total on trooper	38	4¾

	ARTICLE.	*pounds.*	*ounces.*
(*c*)	*Carried on the horse:*		
	Saddlery. Headdress, wallets, blanket, head-rope, rifle-bucket, shoe-case, two ex. shoes	42	.....
	Rifle (with oil, pull-through, and ten rounds)	9	10
	Sword and sword-knot	4	10
	Bandolier and 90 rounds	7	3
	Two nose-bags (containing 10 lbs. oats)	12	.....
	Horse-brush	.....	10
	Water-bucket	1	4
	Mess-tin and strap	1	6

In wallets:

	pounds.	*ounces.*		
Two days rations, viz:				
Meat	2	.....		
Biscuit	1	8	4	9½
Groceries	.....	13		
One extra pr. socks	.....	4½		
1 Built-up rope			1	1
1 Picketing-peg			.....	10
Trooper's blanket			4	10
Mackintosh cape			4	.....
Cap-comforter			.....	4
Waterproof sheet			3	2½
Total carried on horse			97	1
Total carried on horse and trooper			135	5¾
Average weight of trooper (stripped)			147	.....
Total			282	5¾

Each trooper also carries a steel helmet, which he wears only when under fire from hostile guns.

During the winter months each trooper also has a British "warm-coat" (overcoat), and a leather jerkin.

A change of clothing, consisting of one undershirt, one pair drawers, one pair socks, and one towel, are carried on the field wagons, each change being in a separate bundle per troop and plainly marked.

In the field, clothing is issued free; in peace times, clothing is issued monthly and charged against the trooper's money allowance. On mobilization, money accounts are balanced and closed.

The officer field allowance of personal baggage is, for commanding officer fifty pounds, and for other officers thirty-five pounds.

Arms, equipment, clothing, transport vehicles, camp equipment, ammunition, intrenching-tools, etc., are obtained by units direct from the British Ordnance Department.

Animals and Forage.—The British specifications for remounts cover an animal between fifteen hands and fifteen three-tenths; age, five to nine years; to be riding-cobs, gelding, or mares, in fair flesh and condition, able to carry 280 pounds,

under service conditions; with the other usual conditions as to soundness and con ormation.

The normal ration is twelve pounds of oats and twelve pounds of chaff (chaff consists of half-and-half hay and straw). Practically every British regiment at home, has a machine for cutting hay and straw into chaff. As a rule, however, chaff is issued direct to organizations.

At one time the oats ration was reduced to nine pounds, but British cavalry officers agree that this is not sufficient for animals in the field. As a matter of fact, many of their horses have required more than twelve pounds of oats per day, to keep in serviceable condition. The short-legged, short-coupled horse of from fifteen to fifteen-two hands, has proven the most serviceable.

The British cavalry have found the American horses generally satisfactory. Although lacking breeding, they are said to be easy to keep, have fair mouths, and are generally useful for service on the western front in France.

As an alternative forage ration, maize, barley, bran, linseed, oatmeal, malt, and chaff, is issued at times on a basis published in a memorandum from headquarters. Oats is nearly always crushed before feeding. Straw is no longer issued as bedding—sawdust, sand, shavings, heather bracken, wheat-hulls, and peat-moss being used as substitutes. Most of these are unsatisfactory as they afford poor bedding and become foul quickly. Peat-moss is probably the most satisfactory, although said to be hot and to have a tendency to soften the horses hoofs.

The British cavalry feed *from three to seven times per day.* They usually mix a proportion of bran and chaff with the oats, and dampen the whole before feeding.

During field operations or marches near the enemy no led horses or packs are permitted to accompany cavalry units.

No private mounts are permitted to go on foreign service, *as such.* All private mounts are given a valuation and taken over by the government as public animals before embarkation. This rule does not apply to the mounts of officers serving at home.

All cavalry horses are clipped—the legs between elbow and stifle being usually left unclipped.

All government animals are branded with the broad arrow, placed high up on the near hind quarter, close to the point of the hip. Horses condemned ("cast"), are branded with a "C" on the near shoulder.

In war time, animals are given merely a regimental serial number and letter, branded on the forefeet.

Shoeing.—Four different sizes of shoes are used—the lightest weighing about seven ounces. The front shoes have four nail holes on a side and a toe-clip. The hind shoes have five nail holes on a side and two toe-clips. In winter, the shoes are tapped for calks.

Whenever practicable, warm shoeing is used, but the shoeing-smiths are all taught cold shoeing, as this method has to be used almost entirely on active service. It is said to have been a serious problem in the British cavalry, to keep units supplied with a sufficient number of shoeing-smiths.

Transportation.—The regimental first-line transport consists of:—

7 Limbered G. S. wagons for small-arms ammunition for rifles and machine guns.
3 Limbered G. S. wagons for tools and signaling equipment.
1 Limbered G. S. wagon for raft equipment.
1 G. S. wagon for cooks.
1 G. S. wagon for baggage.
1 Maltese cart for medical equipment.
1 Water-cart.
12 Pack horses for automatic rifles.
6 Pack horses for machine gun ammunition.
6 Pack horses for scouts.
6 Spare horses.
15 Bicycles.

Tools.—Each British cavalry regiment has 18 shovels and 12 pick-axes, 13 felling axes, 7 hand axes, 12 bill-hooks, 4 hand saws, 36 reaping-hooks, 3 folding saws, 3 crowbars, 105 pounds of guncotton with primer, 150 sandbags, and 3 mauls.

THE TACTICAL TRAINING OF CAVALRY ON THE WESTERN FRONT.

BY AN OBSERVER IN FRANCE.

I. THE following principles and methods are adhered to in the training of cavalry units and great latitude is allowed to commanding officers in the application of these principles. All ranks are instructed, that in the event of the enemy being driven from their system of trenches, and of the cavalry being employed to precede the infantry advance, it will be the duty of the cavalry to push on to its objective with a maximum of speed and determination, and that casualties must be anticipated and to a large extent disregarded. Casualties can, however, be very largely reduced by good leadership, good scouting, and by clear and rapid thinking.

It is impressed on all ranks that a high standard of training and efficiency not only tends to victory, but also to victory at a much smaller cost; and every man is instructed that by earnestly endeavoring to assimilate and take advantage of what he is taught, he not only contributes to the success of any enterprise undertaken by the cavalry and thus to the eventual triumph of the allied cause, but also, the higher the state of efficiency to which he attains the greater chance he possesses of ensuring his own safety and that of his comrades.

2. *Bounds.*—The system of bounds or caterpiller movement in advancing under fire, must be elastic. The bounds of a brigade are communicated to a regimental commander, those of a regiment to the leader of the leading squadron, and so on.

The commander of any body is at liberty to, and should in many cases, subdivide the bounds, which he is ordered to make, into smaller bounds.

The object of bounds is to "punctuate" the progress of the general advance, to enable commanders to consolidate as far as possible the ground which they have "made good" and to prevent small detachments from getting out of hand and moving "in the air."

Subdivisions of the vanguard should not move by separate bounds, but should "bound" with the vanguard, although every advantage should be taken of cover and the advance should be methodical and made point to point.

The "timing" of bounds should be taken from the rear, the pace of anybody between bounds should, within reasonable limits, be taken from the front. Touch between bodies at the various bounds is kept from rear to front. Touch between individuals or bodies during the progress is kept from front to rear.

3. *Advance Guards.*

(*a*) *Reconnaissance:* One of the primary duties of an advanced guard is reconnaissance.

Reconnaissance may be effected by force or by stealth.

The advanced guard reconnaissance should attain their object by stealth when possible, but it must be realized that, as reconnaissances of this sort have to be effected rapidly, and as the reconnoitering bodies are (or should be) closely supported by larger formations, they will have little opportunity for slow and stealthy movement.

Their object will generally be attained by "bumping" against the enemy, and by drawing fire.

Advanced scouts should invariably work in pairs.

The method of reconnaissance will vary according to whether the country is enclosed or open, etc., etc. But the main principle should always be kept in mind, viz., that the advanced guard reconnaissances should be made with the greatest boldness, and that, in the event of the avdanced parties being held up, supporting parties should immediately develop the whole of their strength to obtain the desired information.

(*b*) *Protection.*—The advance guard is responsbile for the immediate protection of the main body; *i. e.*, that the main body does not unexpectedly find itself under fire from the enemy

in position, and that it is not unexpectedly assailed by the enemy. Good and effective reconnaissance will prevent the former eventuality, and will also enable the latter to be met more effectively.

When accepting an engagement to check a hostile attack upon the head of the main body, the advanced guard should immediately develop its entire strength. There is no necessity to hold a reserve.

In the event of an attack being delivered upon the head of the advancing force, the advance guard will hold its ground regardless of loss.

With reference to this latter case, the employment of automatic rifles and machine guns should be carefully studied, to ensure cross and oblique fire being brought to bear upon the enemy.

(c) *Obviating Delay.*—It is a reflection upon an advanced guard if the force it is covering is delayed by unimportant bodies of troops.

This must be impressed upon all ranks. In the event of the advanced troops being checked by rifle fire, steps must immediately be taken to ascertain the strength of the enemy, and to maneuver him out of position, or to dislodge him by cavalry dismounted action; (see later comments upon this) but unless the enemy attacks, the commander of an advanced guard should not commit himself to any engagement, from which he is unable to extricate himself at any moment, without orders from his immediate superior. *On no account is a dismounted attack to be undertaken, unless ordered by an officer not below the rank of a regimental commander.*

It should be unnecessary to impress upon any cavalry soldier that if the enemy be encountered mounted, he should, without a moment's hesitation, attack with the sword.

The greatest care, however, must be taken when the enemy is routed, that his is not pursued too far. As a general rule the pursuit should not be continued beyond the next bound.

The enemy should not be pursued through woods, villages, etc., or past any place suitable for the concealment of a hostile ambush.

4. *Seizing and holding Tactical Points.*

It must always be remembered that cavalry do not hold positions "in depth" and although a commander may sometimes deem it advisable to hold a small reserve to meet unforseen developments, the general principle to be adopted is, that every available rifle should be employed in the firing line.

It is again pointed out that a careful study of the tactics to be employed in the use of automatic rifles and machine guns is of the highest importance.

5. *Cavalry Fire Action.*

Recent "infantry" experiences must not be allowed to divert our minds from the true principles of cavalry fire tactics.

Cavalry fire tactics are indissolubly bound up with mobility and maneuver. Rapidity of thought, rapidity of movement, rapidity in mounting and dismounting, and rapidity and intensity of fire, are the essence of cavalry fire action.

Attacks by cavalry fire action are not made "in depth."

Every available rifle is at once utilized, and if the object sought for is not attained, a fresh maneuver should be executed.

Every cavalryman should remember that, if a body of cavalry becomes committed to a fire action which it is unable to break off at any moment, it has failed tactically.

Fire should, whenever possible, be brought to bear for a flank, and should be concentrated, and when possible, convergent.

Horses should always be as near as possible to the dismounted men, and the advance on foot after dismounting should be as short as possible.

It is very desirable to eradicate the prevailing heresy which exists and which exaggerates the value of a horse's life out of all proportion to the object to be achieved.

The dismounted attack is contrary to the spirit of cavalry tactics, and should never be undertaken except under the most exceptional circumstances. As, for an attack of this sort, depth is essential, such an attack undertaken by a body of the strength of a dismounted squadron is usually farcical.

6. Officers Patrols.

An officer's patrol is essentially an independent body. It can afford to be eminently "selfish," and it has no responsibility for the safety of other troops, and can carry out its mission in its own way. Its only object is to obtain the desired information.

It may consist of an officer with a few scouts, and despatch riders, or of one or more section, or of a whole troop, according to the object to be attained, the nature of the country to be reconnoitered, and the proximity of the enemy.

It should always be as closely supported as possible.

It should be borne in mind that the men of the patrol are merely the body guard of the officer, with a few desptach riders in addition.

In a country traversed by good roads, one or more cyclists should proceed with the patrol.

The commander should bear in mind that it is *he* who should obtain the information, but he should run no unnecessary risks.

His object to get to the spot where the necessary information can be obtained, to protect himself while he is getting it, and to transmit his information to the officer who has despatched him.

His patrol is given to him for the above purposes.

He must take care not to be drawn into enterprises of his own, his business is to carry out his instructions and to obtain the information required of him, regardless of other movements of the enemy which may seem to him of importance. Such movements should of course be noted incidentally and reported, but must not divert his mind from the main object.

He is jointly responsible with the officer who despatches the patrol that he is furnished with precise, clear and definite instructions. Clear instructions mean clear information.

A patrol leader or advanced guard commander must not depart upon his mission before he has *extracted* the following information from his C. O. (even at the risk of offense):

1. Information about enemy.
2. Actual ulterior intention of C. O.
3. If negative information is required.

4. If patrol is to remain in observation after information has been gained, or, to rejoin at a specified place.
5. Degree and extent of warning the commander expects to receive.

When an officer or leader is asked if he understands his orders, he should not say "Yes." He should say: "I understand that:

1. The enemy is reported to be at ———.
2. That I am to ascertain his strength and the direction in which he is moving.
3. That you also wish negative information, etc., etc.

7. Isolated Bodies of the Enemy.

When the advance is checked by the fire of parties of the enemy occupying woods, buildings, or other tactical points, it may be safely assumed that either:

(*a*). The enemy have been definite y or partially organized for the purpose of delaying the advance; or (*b*) that the enemy consist of bodies of troops cut off or left behind unintentionally, or of individual stragglers who have collected and established themselves on these points, promptly either by fear or truculence.

If the latter (*b*) is the case, every endeavor must be made to dislodge him by maneuver and envelopment, and to prevent him from delaying the advance of the force.

Such parties must not be "masked" and left behind, nor must a definite attack be made upon them except by the order of the regimental commander.

Bold maneuver supported by concentrated fire from machine guns and automatic rifles, will in most cases cause such bodies either to retire or surrender.

By reconnaissance to the flank, it can almost immediately be ascertained with certainty whether such bodies are merely isolated parties, or whether they are portions of a definite defensive line.

8. Dislodging an Organized Rear Guard.

Upon the rapidity with which such a force can be dislodged, may depend the success of the enterprise.

Effective reconnaissance, especially to the flank, should soon ascertain whether the check is caused by a force of this description.

It will be rarely possible that such a force can be dislodged without the deployment of a considerable number of men, and the employment of artillery.

While it should be remembered that the smaller number of men deployed for the purpose, the better, and the less delay to the advance, it should also be borne in mind that to employ an insufficient number of men is to court disaster and incalculable delay.

A squadron can rarely hope to turn out such a force. It should confine its action to reconnaissance, the seizure of tactical points likely to be of use to the regimental commander, and to finding and threatening the enemy's flank.

The commander of the advance squadron should endeavor to be able to give his regimental commander as detailed a report as possible upon the position occupied by the enemy, and upon the best method of maneuvering against it.

To commit himself to a premature engagement or to sustain a repulse is a grave mistake upon the part of the squadron leader, but his reconnaissance and "demonstration" should be carried out with the greatest boldness and determination.

9. Masking of Tactical Points.

In the event of an isolated body of the enemy being found in a strong position, evidently determined to "fight it out" well provided with ammunition and possibly supplied with machine guns, it may be deemed advisable to "mask" him and to proceed past him to the objective.

Such an operation should not be attempted unless ordered by the regimental commander. If ordered it should be carried out by enveloping the position, the occupation of tactical points commanding the approach to the position, and by rapid bursts of fire from the machine guns and automatic rifles of the masking force.

The immediate envelopment of such a position by the advance squadron naturally increases the smoothness and rapidity with which such an operation when decided upon, can be carried out. Such an operation will usually be employed with a view to handing over the situation to the advancing infantry on their arrival.

10. Communication of Intelligence.

The maintenance of communication between detached bodies of the main body; the inter-communication between detached bodies, and the smooth and rapid transmission of intelligence and information; is of the greatest importance, and should be most carefully arranged. Each detached body, and every detached individual should know to what extent he is responsible for communication and inter-communication, and by what methods it is to be affected. No commander should proceed on any detachment without a clear understanding upon this subject.

Messages and reports should be transmitted either by signallers or despatch riders according to circumstances.

When the message has to be sent a distance over three miles, or when the country is difficult to cross, it will usually be quicker to send by signal. Under that distance it will be quicker to use a despatch rider, unless the signalling station is already established and in communication.

When, however, there is no particular hurry—signallers should be used to save horseflesh.

Important messages should be duplicated, and when bodies of the enemy are known or believed to be in the vicinity of the ground which must be crossed by the bearer of the message it is often advisable to send a body of men up to the size of a troop, to escort the messenger.

Reports should be written in proper form, the information should be tabulated under the headings, *Direct, Indirect, Negative.*

Messages should be as short and concise as possible and clearly written; they should always be numbered, dated, timed, and signed; and the reference of the map used should always be given.

11. Position of Commanders.

In conducting such an operation of this kind, as in all other tactical operations, the principle should be adhered to,

that as few men as possible should be employed upon detached duties and as large a body of men as possible should be kept in hand. But it must be clearly understood that as soon as a definite line of action is decided upon, the whole weight of the force should be thrown into the operation with rapidity and determination.

It should also be realized that, as a general principle, no operation should be undertaken without personal reconnaissance on the part of the commander, whenever this is possible.

In order that the above principle may be put rapidly into practice, the commander should, as a general rule, ride with the most advanced formation of his command, provided that he does not expose himself to unnecessary risk. For example, a regimental commander should ride with the main body of his advanced squadron, the advanced squadron commander should ride with the main body of his advanced troop; the advanced troop leader should ride either with, or just behind, his advanced section.

12. Reserve Fire Power.

The reserve fire power of a mounted body is its machine guns and automatic rifles.

The addition of these to the cavalry has released a far larger number of men for maneuver than was previously available.

These machine guns and automatic rifles can usually do all the "containing" that is necessary, and practically all the men can be employed for maneuver.

NOTE.—Roughly, the troop is equivalent to our platoon; the squadron is equivalent to our troop; and the regiment is equivalent to our squadron.

Mounted Service Section

TYPE OF HORSE FOR THE CAVALRY.

COMPILED BY THE COMMANDANT, MOUNTED SERVICE SCHOOL.

Major Hamilton S. Hawkins, 4th Cavalry:

THERE is no doubt whatever in my mind that to produce the best type of cavalry horse the foundation must be based on thoroughbred stock.

I agree thoroughly with Major Tompkins in the views expressed in his letter of March 17, 1917, which are somewhat at variance with, or at least in modification of, his previous statements as quoted in the *New York Herald* of February 11th.

The danger of advocating small horses is that our purchasers may buy ponies instead of horses. Ponies are not desirable; small horses are, but at present we must select our horses from what we can find, and only two general types are available in sufficient numbers. First, the horse of average size varying from 15 to 15-3 hands in height and weighing from 950 pounds to 1,150 pounds. Second, the small type of undersized cow-ponies, Mexican poines or similar animals. In conformation both types vary from excellent to poor. It would be a great mistake to take the second type. We should take the best we can find of the first type.

No types vary more than thoroughbreds. Many of our officers, however proficient, in equitation and horse training, are inexperienced in judging and selecting horses, consequently many such officers are found riding thoroughbreds because they love their qualities but which are unfit for cavalry service.

It is not fair to the thoroughbred to select one with long small boned legs and greyhound body or what is known as the weedy type, and compare him in service with a small, compact, clean built, well muscled, stout bodied, nimble footed animals occasionally found in our ranks, whose breeding is unknown but which gives wonderful service.

If we could get horses of the latter type in sufficient numbers no one would want anything else.

Neither is it fair to take a thoroughbred of proper conformation and without giving him a chance to become acclimated or to become accustomed to the rough conditions of cavalry service to compare him in hard service with a *good* horse, breeding unknown, but of the type just described and either raised in the country where the operations are conducted or having been in the service accustomed to the bad conditions for a long time. Give the proper kind of thoroughbred a chance to become hardened to these conditions and no better horse exists. Many of the small, compact horses admired in the service would if their breeding could be known, be found to spring from thoroughbred stock. The best and hardest cow-ponies were produced by ranch owners who kept thoroughbred stallions of compact type for breeding purposes; yet these very animals have been used as a comparison and an argument against thoroughbreds.

There is a type of polo pony (pony only in name) about 15 hands high and weighing from 1,050 to 1,150 pounds, quite frequently found nowadays which is quick and handy, and fast for short distances, and good tempered, bold and hardy. It is the ideal type for cavalry purposes. Of course we cannot find it in sufficient numbers. But the foundation stock from which this type is bred will always be found to be thoroughbred if it can be traced at all. Such, for example, is the Texas quarter horse.

What should our conclusion be? It is that the best horse for cavalry may be produced by selecting thoroughbred stallions of proper bone and substance and good temper and crossing them with mares of any breeding but which have good legs, good stout bodies, as small in height as comparable with a weight of not less that 950 pounds.

Until such horses can be produced we should take the best we can get as near 15 hands and 1,000 pounds as possible, not excluding excellent individuals either smaller or larger; but ponies are not desirable.

ANSWERS TO QUESTIONS.

1. I favor under 15-2 hands if there is plenty of weight. Such horses are better keepers, better weight carriers and require less food.

2. No experience with pure Arabs but believe that it is the individual Arab which is always extolled and that most of them, if produced in great number, would be too light. At any rate we cannot get them. As to the Arab for foundation stock I observed Anglo-Arabs in great numbers in the French cavalry In my opinion they were wonderful gallopers but poor weight carriers and therefore unsuited to modern cavalry conditions. They had fine courage which was sometimes mistaken for weight carrying, long marching ability.

3. I favor the thoroughbred for foundation stock as discussed above in this paper, but to give the exact proportion would be unwise. Many mares with thoroughbred strain or cold blooded could be used for breeding, and other brood mares and even stallions produced from them. The exact proportion of thoroughbred blood would vary from much to little but the foundation should remain thoroughbred.

4. I rode a horse said to be a California thoroughbred, during the Filipino Insurrection. He was the best horse under some very long, hard conditions in the troop. He was in the first lot of American horses ever shipped to the Philippines, and in 1907 he was found again over there, having gone through unknown experiences, old and mangy but still with head and tail up. He was unmistakably a thoroughbred type but just how pure was not known.

I knew another horse, a Kentucky thoroughbred, in "D" Troop, 4th Cavalry, received at Fort Yellowstone, Wyoming, in 1897, and which afterwards served in the Philippines during the insurrection. After a year's hard service, sometimes with only half forage, or none except rice or what could be picked up, in rain and mud, and blazing sun, sometimes without shoes,

where many of the horses played out, this horse ridden without change by a trooper came through having rendered as good or better service than any other horse in that troop.

The conditions were not as severe as those in the Mexican Punitive Expedition but they were sufficient for comparison.

Major J. N. Munro, Cavalry (Q. M. Corps):

1. I favor a horse under, or not exceeding 15 hands 2 inches. After some twenty years service and observation of considerable numbers of troop mounts, both in garrison and the field, it has been impressed on me that animals of this height, with the corresponding conformation as to bone, lung capacity, back, and general proportion give the best service and meet service conditions better than the larger animal. They are easier keepers and as a rule better rustlers; they have less tendency to spring bone defects. The horses that stand out in my memory now as a troop commander, which stood the test and were the choice horses of the various troops with which I have been connected, the horses that were always selected for specially hard extra work, are, nine out of ten, horses under 15–2 with otherwise good conformation.

Aside from this there is the consideration of the trooper. The cavalry pack is a heavy cumbersome affair the best you can do with it; the American trooper, is, as a rule, a medium sized man rather inclined to be small than large. To lift this pack or even the unpacked saddle and place it properly on the back of an animal that exceeds 15–2 is no easy matter even with nothing to interfere with the operation. To do this quickly and easily, in a hurry, or in uncertain light, or under any unfavorable circumstances, is hardly possible. Finally to mount an animal of this or a greater height and to do it without displacement of the saddle or with ease to the trooper, is not possible, presuming the trooper is of the medium height which prevails in our service. Ability to mount hurriedly and properly without any slips or waste of time is a most important matter in active campaign.

Personally I consider 15–1 an ideal height for cavalry service.

2. I have had no experience with Arabs.

3. I favor a cross bred horse for our service, simply because the type which I consider best is not common to any well recognized breed. If we adopt a type and then scientifically try to produce it, eventually we should be able to establish the type as a breed. But this is a matter of years and I understand that what is desired is the type we should select from the material available. I favor, in case of the thoroughbred, from a quarter to a half breed. This contingent on the type being correct, not the mere fact that the animal has thoroughbred blood in him. To buy service horses simply because they may be of this breeding or that, is absurd. If the right type of thoroughbred stallion can be found, and he can be, and he is mated with mares of the proper conformation, cold blooded, if you please, a considerable percentage of the get should be desirable, provided, of course, that the prepotency of the stallion is marked. That the thoroughbred blood has many desirable qualities which we wish in our cavalry mount is hardly questionable. That his use, or rather abuse, especially in our own country has given him many faults of conformation and temperament which are undesirable, is equally true. I believe therefore, that only careful selection of individuals with proper mating will give it the proportion of his blood and qualities which we wish to introduce in our service mounts. To try and mount our cavalry on registered thoroughbreds is, in my opinion, neither desirable nor practicable.

As conditions now stand, in purchasing cavalry horses, I would look for type and not concern myself about breed, except as a matter of curiosity.

4. I have had no experience riding thoroughbreds under arduous field conditions.

I thoroughly agree with Major Tompkins in his letter of March 17th, to the *New York Herald*. I believe his statements in this letter cover the case of the thoroughbred both fairly and fully. Our cavalry horse has no need to be a race horse. He should be capable of bursts of speed for a limited distance, but this quality does not in any way interfere with the short, stocky conformation which I consider desirable.

Captain Henry L. Watson, 17th Cavalry:

1. My preference is for a horse 15–2 or under. Not too much under 15–2, as a horse as small as 14 hands is uncomfortable to ride for anyone but a small man. *Reasons:*—The smaller horse is generally more agile, requires less food, performs less work in carrying himself thus increasing his endurance, is more easily mounted and is generally a better "keeper." While there are, of course, many good, large horses, the good small horse is far easier to find and is far more numerous. The small horse, due to his lesser weight, can travel barefoot, when it becomes necessary, better than the big horse.

2. I have owned an Arab stallion for five years and still own him. Also I observed a number of others and have consulted a number of owners of Arabs. My impression of the Arab is not as favorable as that of Major Tompkins. I have used my little horse under all conditions and in all climates from the almost arctic winters of the Yellowstone Park to the extremely trying tropical heat of the Panama Canal Zone. He has always done excellent work, can carry any load, go any distance without fatigue and live on very little food. He can also do all of the garrison work such as win ribbons at shows, jump four foot fences (have never tried him higher) gallop fast for long distances, drill, etc. My principal and almost only objections to the Arab are (*a*) his size and (*b*) his disposition. (*a*) Unless specially bred for size, in which case I have been authoritatively informed, he loses some of his other excellent attributes, the Arab averages less than 14–2 in height. Mine is just 14 hands. While a very small horse, built like the Arab, will undoubtedly do all that a large one would do as far as carrying weight and going long distances is concerned, he is very uncomfortable for a tall man to ride for any length of time. This discomfort causes his rider to assume improper positions in the saddle to relieve himself, which, in turn, causes sore backs. This, in itself, is sufficient to condemn the very small horse. (*b*) Most Arab enthusiasts make a great claim as to the disposition of their favorites. My own experience, corroborated by that of other owners and observers of Arabs to whom I have talked, has led me to the conclusion that the Arab

disposition is not all that it is suposed to be. Unless worked very hard all the time, an Arab is "crazy." He is not like a thoroughbred that can stand up for several days when necessary and then go out as calmly as if he had worked all the time. While thoroughly kind and gentle, he is not level-headed. As a well known polo player and former owner of many Arabs once expressed it to me "the Arab simply cannot be trained to stop." I have since used this expression in conversation with other owners and observers and they have all agreed that it expresses very accurately the Arab disposition.

3. For the enlisted man at the present time, I prefer the cold blooded horse. *Reasons:*—Our soldiers are still, the great majority of them, poor riders with rough hands and rough spurs. An officer who is an enthusiastic horseman can undoubtedly instruct his men in such a way that they will become good riders, but we still have many troop commanders who are very little interested in this class of work. Troop commanders change frequently. As a result most of our cavalry soldiers are, as I have said, poor riders. Under these conditions they should ride insensitive, spiritless animals that can be made to do pretty good work in spite of their riders.

4. I have ridden thoroughbreds under all conditions, and have found them satisfactory in every way. The thoroughbred is sensitive of course but very, very far from being unduly so. He is sensitive to the bit and to the legs, but is not this just what we want? Something that will respond promptly to the slightest indication. I have found them no more prone to disease or injury than any other horse. When they do have to go on sick report, their greater vitality and stronger constitution insure a more rapid and complete recovery than is the case with other horses. My only objection to the thoroughbred, and it is a very minor one, is that he is inclined to be a trifle too phlegmatic.

In the last ten years I have owned and used the following breeds of horses: Arab, Thoroughbred, Standardbred, Saddler and Bronco. I now also have a two year old Anglo-Arab filly which I have not yet had a chance to try out. I have found that the thoroughbred can do anything that any of the others can do and do it a little bit better. By this I do not mean that

a thoroughbred can pull a sulky along faster than a trotter (although I own one that has trotted a mile in harness in slightly better than 2:20) or that he can singlefoot, etc., better than the gaited saddler. But my experience has been that he excels the others in the points for which each is claimed to be superior as a cavalry horse, to all other breeds. I have found him of better disposition and greater endurance than the Arab, more level headed than the trotter, a better road horse than the saddler, tougher than the bronco and requiring as little care. For an officer's mount I unreservedly recommend the thoroughbred.

In considering thoroughbreds, I do not mean the tall, slab-sided, spindly-legged sprinter that is nearly always mentioned as the typical thoroughbred by his opponents. At present I own one 15–3 that weighs 1,200 pounds; another 15–1½ close to 1,100 pounds. There is nothing weedy about either of these. This is the type that officers should own and they can be easily purchased almost anywhere if the buyer will go slow and not buy the first pretty horse he sees just because he is pretty. Mine come from various parts of the country from California to Kentucky.

As examples of the disposition of the thoroughbred: Of those that I now own I have raced two. I also use these two for all military work and for polo, and have frequently played them comfortably in the snaffle the day after a race. How many Arabs would put up that kind of a performance?

Recently I was riding one of my mares along side of a road. In some manner she got her hind legs badly tangled in loose barbed wire. By the time I realized what was wrong and had dismounted, her legs were bleeding in several places. She stood perfectly still while I removed the wire, in spite of the extra pricks she received during the operation. I did not even have to hold the reins. How many horses of any other breed would have done that? It has been said that, on the road, the thoroughbred is a stumbler. This is true; but he doesn't fall and in rough going he doesn't even stumble. The slight inconvenience of an occasional stumble on a smooth road is a very minor matter.

With regard to toughness and ability to take care of himself, I have found that the thoroughbred has no equal. Except that in garrison I make my horses as comfortable as possible and try to keep them cleaner and better trimmed than the troop horses, I have always treated them more or less as I would a bronco. On hunting trips, etc., I turn them loose at camp and let them rustle for themselves. They have always stayed near at hand and have always kept well and they have been out when the temperature was well below zero and the ground covered with snow, so that they had to dig for whatever they got to eat.

My thoroughbreds are not at all unusual specimens of their breed. They are simply good individuals such as any officer can afford to buy. The highest price I have ever paid for one was $225. I have owned or ridden too many of them to think that my purchases have been simply lucky. I believe that the excellence of the animals is due to the breed.

There are, of course, high-strung, nervous, excitable and bad-tempered thoroughbreds as there are such among every breed and species of animals; but why judge the thoroughbred by these inferior specimens? It is like forming an unchangeable opinion of the army from observation of a few drunkens oldiers.

I have written somewhat more than I had intended but, before finishing, I should like to make it plain that I have not intended to convey the impression that I dislike the Arab. He is truly an excellent and a wonderful animal. However, I consider him inferior to a *good* thoroughbred. The thoroughbred is his only superior.

My vote for the cavalry horse, then, is for the cold blooded animal in ranks at the present time and under present circumstances. Later, perhaps, our men will ride better. Then give them the thoroughbred. For the officer, the thoroughbred at any and all times.

Captain I. P. Swift, Cavalry:

1. Among active horses having the conformation suitable for cavalry purposes, I prefer, for personal use, the one over 15½ hands to the smaller horse. The average height of suit-

able horses is between 15–1 and 15–2; consequently, for the sum paid by the government, more can be gotten below 15½ than above that height. The Board recently appointed by the Commandant to select a cavalry type, selected thirteen horses from among 427. Two of these are 15½; three above and eight below that height. Generally speaking, horses that are above 15–3, when purchased, active and of suitable conformation, are prohibitive in price; and those below 15 hands so very exceptional that I think the minimum might well be kept at 15.

2. My experience with the Arab has been very limited, consisting entirely of riding three of those loaned by Mr. Spencer Borden to the Norwich University. My impressions were very favorable. These horses are the best mannered stallions I have ever seen. They are horses of substance, endurance, and have perfect gaits. I was particularly impressed by the strength of their hocks and fore legs.

3. In Germany, all improved light breeds of horses, except the thoroughbred, are called, "High Quality Half-breds." These breeds, including the thoroughbred, are called warm or hot-blooded horses, in contrast with draft breeds, which are called "cold blooded." This also is the acceptance of the term "half-bred," in France, England, Ireland and Austria. Accepting this definition, I am of the opinion that the cold blooded horse has no place in the cavalry; that the average thoroughbred is unsuitable; and that the "half-bred" from ¼ to ½ thoroughbred is the most suitable.

REASONS.

1. Cold blooded or draft breeds, including the Percheron, which is included among the warm-blooded breeds (referred to usually as one of the coarse thoroughbred crosses) are unsuitable for cavalry purposes and they are unsuitable as sires of cavalry horses; yet they are becoming more and more numerous as sires of this country's horses, because their get throw weight into the collar; and this has recently become the only consideration in agricultural districts. These breeds are unsuitable because they are the result of a system of breeding for size and looks rather than one based upon performance. Their ancestors have

done nothing to develop courage, stamina, and endurance; nor have the sires and dams been selected with that end in view. The early maturity and *early decay* of the cold blooded horse is to be expected as a natural result of a system of breeding for show without testing capability. The slow work required of the cold blooded horse has developed in him a large foot of soft texture incapable of the resistance essential in the foot of a cavalry horse. It has developed a large cannon but spongy and containing a large marrow cavity. These breeds are heavy trotters and very poor gallopers. Physical development is limited by the extent to which the heart and lungs can be developed; this in itself should eliminate the draft type from consideration as cavalry mounts; or as sires or dams of cavalry mounts, irrespective of the type of horse to which either may be bred. These of all breeds are the least suitable to create in a "half-bred" strong firm fore legs considered so important in the cavalry horse. Mr. McCampbell, Secretary of the Kansas State Agricultural College, is considered an authority on horse breeding. He has done more than any one other individual in this section of the country to improve the breed of horses by being instrumental in the enacting of State laws requiring unsound stallions to be registered as such. Last year Mr. McCampbell made the following statement after inspecting all horses at the Mounted Service School, "you have some fine looking horses, and they perform well but from the farmers' standpoint there isn't one that has any commercial value. We bring our students here each year so they will understand what is used in the cavalry and artillery. They are all going to be farmers; and will probably raise horses to a limited extent; but when they breed their mares they will hope to get more weight than any of these can throw into the collar; the farmer no longer wants a driving horse or a horse to ride. Your horses are all right for your purposes but they are of little value on the farm. We teach our students to raise large draft animals; but we show them these so they will know what is wanted in the army." His views were rather disheartening; but I told him some large horses were admirable for both cavalry and light

artillery which would answer his purposes also. The following were shown to him as examples:

NAME.	WEIGHT.
TOMMY ROBERTS	1,170 lbs.
BROWNIE	1,170 lbs.
MCCLURE	1,200 lbs.
CHISWELL	1,200 lbs.
BAT AVERILL	1,180 lbs.

These horses were all in fine condition. If fat they could easily carry fifty pounds more a piece. Mr. McCampbell said none of these according to the teachings of the Agricultural College had value as farm animals.

2. The thoroughbred is unsuitable for the following reasons:

(*a*) Two year old races, short distance races, and breeding for size has in the last sixty years produced a horse whose galloping capability has been more developed than the less developed fundament can stand. The flyer, almost to the exclusion of the stayer, is being raised; and it is the qualities possessed by the latter, not the former, which is desirable in the cavalry horse.

(*b*) The thoroughbred is too highly developed to do well under exposure to severe weather; because past generations have been stabled, blanketted and in other respects free from such exposure; thus reducing the resistance of the thoroughbred, to inclement weather.

(*c*) The thoroughbred has for generations been given the cleanest and best forage; and does not do well on dirty or poor food and water.

(*d*) Bruce Lowe has made a very exhaustive study of the English thoroughbred; and, in England, he is considered an authority on the subject. He recommends, "a complete out cross, and the only source from which this can be derived is the *Arab*. By using the latter there are several distinct advantages to be gained, amongst which density of bone, good feet, admirable temper, sound constitution, and freedom from

roaring are not the least. This experiment has been tried with most satisfactory results in Australia."

3. I advocate the half-bred because:

(*a*) In France the Demi-sang is considered admirable for cavalry purposes.

(*b*) According to Von Oettingen, director of the Royal Stud of Trakehnan, it is considered the most satisfactory in Germany.

(*c*) Because Austria has used nothing but the English thoroughbred as sires of cavalry horses since 1785.

(*d*) Because the Irish Hunter (a half-bred) is referred to by so many authors as the typical cavalry horse.

(*e*) For almost three years the cavalry of the Southern Confederacy was superior to that of the North, and until the outbreak of the war, Southerners had used nothing but thoroughbreds as sires for all purposes.

(*f*) The Standard-bred (a half-bred) has many advocates.

IV. The half-bred which I consider most suitable could be gotten by using as sires stallions that are good performers and docile; having quality, substance and endurance; either English thoroughbred of half-Arab and half-English thoroughbred. The selection of mares should be based upon performance tests: the standard bred mare would be excellent. The best individuals from this cross should also be used in the stud.

4. I have answered the questions contained in the note from the Commandant, but wish to add a few remarks which have been suggested by the following statements made by Major Tompkins:

(*a*) Major Tompkins says "The cavalry does not want a galloping horse," yet he is most enthusiastic over the Arab which is a typical galloper.

(*b*) "Sysonby and Eclipse were put in the stud at four years of age, because they were too blemished to race any more." I beg to offer the following in contradiction:

1. Eclipse born April 1, 1764.
2. Eclipse's first race at Epsom, May 3, 1769.

3. Eclipse ran his last race at New Market, in October, 1770.

4. According to Turk records in this his last race he "walked over the course" as he did in most of his rapes; having distanced this field.

5. Retired to the stud in 1770 because no horse was able to run against him.

6. Eclipse died of colic February 27, 1789.

Captain Adna R. Chaffee, Cavalry:

1. I like size in service horses. I have always believed that a good big horse was better than a good little horse. It seems to me that the choice in this respect is a matter of proportion. The weight of a 250 lb. pack is a much smaller proportion of the whole, when borne by a 1,050 pound horse, than when borne by a 900 pound horse. The fact remains, however, in horse breeding that as the size increases the proportionate number of *good* horses decreases rapidly.

I believe that our requirements for officers' horses, at present, are right in demanding most of us, who are over five feet eight inches to ride horses 15–2 or over. For the troop horse and the smaller officer I would want nothing under 15 hands.

Major Tompkins' statement that "a horse low on his legs eats faster and in more comfort than a tall rangy animal," is true. But it is a matter of conformation. A big horse of proper conformation has no more trouble in eating than a little horse of proper conformation. The big horse needs more and he eats more, and if he can get it, in proportion to his size, he is worth more.

2. I rode a great many Arabs and Anglo-Arabs at Saumur. Very few were pure bred Arabs. They were mostly the Arab crossed on the cold blooded horse or crossed with the thoroughbred or half-bred. I have never owned any horse with Arab blood in him. These horses were of good average conformation, active, docile though nervous as a whole, and they were said to be very hardy in the field. French officers liked them for their particular branches, the Huzzars and Chasseurs, which are "light" cavalry and which our cavalry is not. As a type of cavalry horse for small men and light packs my impression of them was on the whole, favorable.

I don't believe there is enough Arab stock in this country to make any ndentation on our type of cavalry horse in fifty years. I have two Arabs in my mount here and both are poor horses.

3. As horses go in the United States now, give me a half-bred horse for the cavalry. He needs the thoroughbred to give him energy, conformation, saddle type, and gallop. The half of cold blood will give him substance, rusticity, and keep him plenty low to the ground.

The field requirements for a British cavalry division now are ability "to march forty miles a day or 150 miles in a week, full pack, and to gallop two miles, full pack." No native Mexican pony under 14 hands can do it and keep up with the procession. All of their instructions as to tactical handling are for small bodies to stay mounted and fight mounted whenever there is a chance, and they have had recently plenty of chances in groups up to the size of our squadron. Anything larger than that expects to use its horses for rapid maneuvering mainly for dismounted fight or in bodies to the size of our regiment, a combination of mounted and dismounted fighting.

Cavalry which can do this work can do the Mexican type of work. And the reverse is not the case.

4. I was not in Mexico, but I have had a little experience with service riding under hard conditions. I have always ridden thoroughbred horses myself. My horses have never been tired on marches when a number of horses have dropped from exhaustion and have either been killed or left behind to recover as best they could. They have kept their condition in the field as well as the best of the troop horses. In my opinion a good thoroughbred is better for the officer than a good horse of any other breed. The whole matter lies in getting the good one. There are plenty of them to be had for a little money. I have no more use for the leggy, weedy type of thoroughbred than I have for a poor type of any other horse.

I have a certain amount of pride in being a cavalry officer, call it vanity even, but I think I'd lose a lot of it riding a 14 hand Mexican pony at the head of my outfit!

At present I have a four year old thoroughbred horse 16 hands and a half an inch, eight inches around the cannon, weight about 1,100, decently ribbed and let down in his flank, that I believe will carry me a lot further than the same horse at 15 hands. Far enough and fast enough to have staid up with any column in Mexico.

As breeding stock I consider that the thoroughbred should be absolutely the dominant blood in any breeding to cavalry type in this country today. Take any horse large or small, of breeding "unknown" that you consider a good cavalry type and that has shown by performance that he is a good cavalry horse, and if it were possible to trace back his ancestors for two or three generations you would probably find that somebody had slipped a thoroughbred sire into his family tree.

Major George Vidmer, 8th Cavalry:

1. I favor a horse not over 15½ hands. First, there are more perfect small horses than large ones, second, the small horse is a better "feeder" than the large one. He will rustle his food at halfs as a rule. In broken country he can get his hocks under him with less exertion, and at the end of the march is less exhausted than the tall horse. There is less motion, therefore, less work done. He is easier to saddle, easier to mount, and from which to dismount.

Since 1912 I have used every opportunity to observe the work done and the effort required, and I believe that these observations lead me to the above conclusions. The tall infantryman is of no greater value than the short compact one. It is more work for the tall one to lift his pack, it requires more exertion for the tall one to go through his daily duties than the short one, and in my opinion there is but little difference between the horse and the man.

2. I have owned Scimitar, about five-sixths Arab since November, 1911. He is a very light feeder, rarely exceeding eight pounds of grain per day. For many months he was fed only six pounds per day, and was kept in excellent condition. He is a great rustler, always eating from the moment he halts. He has missed but six days in the five and one-half years that I have owned him, and then from a nail prick in the foot. I have used him for every kind of work, have never babied him in any way, and have made a *service* horse out of him. He has never failed to respond in every way to my needs. He is the most satisfactory horse I have ever owned. I believe him to be a most excellent type.

3. I believe that if there could be procured good types of thoroughbred sires; short coupled, low to the ground, full barrelled, non-nervous, that they would be most excellent to breed to selected mares of *approved conformation*. I believe from my short and very limited observation that I rather lean to the half-breeds. Too many of our officers look to the *pedigree for records*. These are not necessary, unless *combined with conformation*. Half-breed stallion colts should be castrated, and under no circumstances allowed to reproduce. It is the reason for the mongrels we get. One side must be pure (preferably the sire) to get something better than the underbred side.

4. In 1912 I retired a thoroughbred at the age of twenty-two years. He was excellent, although a bit straight in front. Toward his later days I did but little jumping. As an officer's charger he was very good. Handsome, tractible, and perfectly at home with troops in the field. Could be turned loose upon arrival in camp, would feed near camp, and took excellent care of himself. He was, however, born at a cavalry post and was never treated other than other mounts. He was of the heavy type, full barrelled, full muscled, and about 15½ hands high. I used him for all the duties performed by me from '98 to 1912. In Cuba twice, the remainder of the time in the United States, Arizona, Montana, Georgia, Vermont, Florida, Texas, a great variety of climates.

In conclusion, let me give you some of my observations: A great many of us are very prone to give our opinions, based on no observation of any length of time or number of subjects. We *believe* something because it occurs to us at the moment.

Facts and *statistics* are at hand on the subject of small horses. They are the only method to prove the right and wrong horse for *cavalry service*.

I wish I could put into every cavalry officers' hands, General Roberts' report on the type of horse found to deliver the goods in South Africa during the Boer War. Also I would like to give them "Small Horse in Warfare," by Sir Walter Gilbey Bart. This letter is a compilation of *experiences and facts*, not ideas or beliefs founded for the moment. In fact the latter is very free from opinions.

I am not a crank on any breed of horse. If we could get the farmer or horsebreeder to understand that to breed any two part-bloods (if I can make myself understood) is a crime, and that what he gets is very problematical, we would gradually improve our horses in every type. One side must be pure. The reason I am so strong to castrate all stallion colts, not pure breeds is because it is harder to regulate their being allowed to reproduce, than the fillies.

I am enthusiastic about the Arab. For endurance, light feeding, genuine nerve, I have never seen his equal. I am no easy rider, and with all I have given my horse to do, I have yet to feel that he has lost for even the moment, a spark of his wonderful vitality.

If you take the thoroughbred and turn him out on the range he will revert very quickly to his ancestral Arab type.

I believe that it is almost universally conceeded that the Arab, more than any other type, puts his mark on his get.

Captain Gordon Johnston, Cavalry:

1. I favor 15 to 15½ hands for the height of the service mount. My reasons are that personal observation of cavalry horses under severe tests has shown that horses of this height and proper conformation maintain their condition, strength and energy longer than the larger animals. In the second place a great many more horses of the right type are found at reasonable prices of this height than of the larger size. They also require less forage and being lighter in weight, do not pound themselves to pieces on the hard roads.

2. Have had no practical experience with the Arab horse.

3. I care more for type than for the proportion of thoroughbred blood but am convinced that the type I like cannot be produced without a strong proportion of this blood. Without this blood I do not believe that the courage, texture of bone and muscle, energy, fine joints, firm attachment of ligaments and smooth, low action can be secured. Also the thoroughbred or strong cross of this blood inherit powerful back muscles and an instinctive ability to use them. There is no doubt in my own mind but that the thoroughbred has greater intelligence is more receptive and has a more retentive memory than other breeds.

4. I have ridden thoroughbred horses under arduous field conditions, and found that those which had not been on the track as two year old colts and had not been over-pampered while young, could march with any horses and compare more than favorably with them in stamina and ability to do hard work on short rations.

If Major Tompkins will visit the stable of any of our crack polo players, he will find a type of thoroughbred horse entirely different from the animal described by him as such. He will find them short on the leg, with big middle pieces showing lots of forage room as well as lung capacity, well ribbed up and supplied throughout with tremendous muscular development. I saw many such horses at the finals of the open championship at Ranelagh, and from all accounts from the other side they proved to be the best officers mounts for field service. I confess that this has influenced me very largely and confirmed the views already formed.

The Arab has proved himself a wonderful little horse and my admiration for his appearance and his performances is unbounded, but I do not think that a comparison between the best of the Arabs and the worst of the thoroughbreds is sportsmanlike.

For the reason expressed above, I must confess that I have seen very few *good* thoroughbreds in the service. Those of good conformation were often of bad disposition or the reverse. The happy combination is rare in the service. Where such an

animal is found, the owner would not consider any other breed or type as comparable.

Major Casper H. Conrad, 8th Cavalry:

I have only a few minutes to jot down my ideas, and I trust you will pardon the roughness. I have probably studied the question as much as Major Tompkins, and while I have originated nothing in this line, I gave material help to the start of government breeding in this country.

The whole subject of cavalry horses has been given the best effort and thought of many great soldiers and horsemen, and those with the greatest experience in breeding and in war, have all come to the same conclusions. Here are my ideas on your questions:

1. The best size for a cavalry horse is somewhere between 15–1 and 15–3 hands, because the greater number of horses of the proper kind, fall in this class. This height or class will include the horse of average height, or the average of the species. The *average* animal is usually the best of the species. Take man: The average man about 5 feet, 6 inches, in height is usually better than the dwarf or the giant. He can withstand more hardships and disease than either of the extremes and is nature's efforts to produce the mean, and something strong and vigorous, capable of producing its like.

To return to the horse: There have been a few wonderful small horses and a few exceptional big horses, but the great class of wonderful horses has been the medium sized one (I am talking only of horses for saddle or cross-country purposes, including racing, hunting, jumping).

2. My knowledge of the Arab has been as an observer only. We must remember that there are but few Arabs in this country, and that they have been selected with the greatest care and at great expense by a few enthusiasts. While not necessarily the best of the Arabs, they are not the worst, nor are they the average. Nor will their owners breed them except to the best. Had the same care been exercised in selecting and breeding the thoroughbred, what might we now have?

The natural beauty of the Arab (selected ones), and their dispositions, excite admiration. But what have even the best Arabs in this country done? Arab owners become enthusiasts first and then fanatics; and if they are not careful often become unfair and abusive in drawing comparisons and are prone to exaggerate.

3. For the cavalry officers and men, I recommend a half-bred, *i. e.*, one-half to fifteen-sixteenths thoroughbred blood. A half-bred is defined as any horse with more than fifty per cent. thoroughbred blood and short of full thoroughbred. An unregistered thoroughbred goes in the half-bred class.

4. I have never ridden a thoroughbred under conditions like those in Mexico, with General Pershing's expedition, but I have given them a hard test.

There is nothing with more endurance or heart than the best type of thoroughbred. But he is expensive, and too few officers own this type except by accident.

Government breeding as now under way, will enable any and all officers to own one of the best half-breds for about $150. Eight hundred government bred colts will be presented for inspection as three-year-olds this year. Last year, there were twenty-two hundred services.

Now for Major Tompkins' Arab. I feel confident that he would feel badly if his Arab were classed as an ordinary Arab. I have talked with him about this horse since his trip to Parral. I feel sure he considers his horse a wonder among Arabs. Has he seen fit or been able to see what a wonder among thoroughbreds could have done on the road to Parral? You know that most officers are not judges of horses, and that many will buy any horse when they learn he is thoroughbred; and but few have the opportunity or money to buy anything but the slow youngsters from the track.

The mere fact that they can buy them in itself is proof that they have bought a horse that is not even the average in his class. Certainly, not for speed, for which he was bred; and almost as certainly, not in conformation, defects in which have probably caused his failure. The comparison is most unfair.

4. Others in Mexico with Major Tompkins are not so full of praise for his horse. I have been told that no horses with the

cavalry in Mexico could stand the racket, except a few troop horses that happened to do it.

It is also said that Major Tompkins' Arab was not ridden all the time; that he did not carry a heavy load; and that several men were rustling for this horse all the time, and that he had the best food they could get and as much as they could get.

I consider that any one man's opinion, which is at variance with the opinion of many great horsemen and soldiers and breeders, is not worth considering. And it is unfortunate that so much consideration should be given such an opinion by the press. All the great countries of Europe, have come to the same conclusion, as to the thoroughbred sire. France has many Anglo-Arab horses in its cavalry, but as far as I can learn they are not considered the best.

Captain William H. Cloptin, Cavalry:

1. A horse not over 15–2 is preferred for the cavalry service and if the animal is well knit, sturdy and a weight carrier he could have a minimum height of 14–3.

Height being largely a matter of withers it is difficult to set any given standard, but within the above limits, a horse with average withers, of good bone and conformation, I believe is the best suited for our cavalry. There are horses that come within those limits of heighth that are not suited.

A chunk that has free action may not be as fast for short distances as a larger rangier animal, but he will prove to be the better horse for day in and day out work, will carry his rider with less fatigue and more comfort and stay in better shape longer when put to the test than the larger horse.

I also favor limiting the cavalry horse to 15–2 on account of saddling. We have all seen a man trying to hoist a packed saddle on some of these tall horses and have observed that he is generally satisfied if he even gets it there, much less settled smoothly in place and balanced. We complain of sore backs, but these must be expected where we put everything on the

saddle but the rifle and saber, before we put the saddle on the horse. The lower the horse is to the ground, the better the trooper will manage the equipment.

2. The only Arab I have seen in the service is the one of Major Tompkins. As an individual I admire this horse very much and believe he is all Major Tompkins claims for him. I am not willing to concede that the Arab as an individual type is the particular horse we want.

3. As to the proportion of thoroughbred blood,—this is a difficult question to answer. I have seen what I considered, excellent cavalry horses in all the classes you mention. If I have formed any definite idea, I favor a cross containing about one-half thoroughbred. This cross however depends largely on what the other half may be. In our work at the Fort Reno Remount Depot and last summer in purchasing horses I have tried to catalogue in my mind the various crosses and interminglings of blood, producing the grades we have presented for inspection.

At Oklahoma City the standard and draft type predominated, crosses being Percheron with cold blood and standard mares, and standard sires to cold blooded mares, and mares with some draft in them. The average number of rejections in these classes averaged roughly about sixty per cent, conformation being the principal objection. Narrow chests, high withers, shad bellies, long backs showing in those where the standard blood was dominant; amongst the draft crosses disproportion between bodies and legs. These latter would have small bodies with big boney legs, large heads, large feet and no activity. The few Missouri horses shown us contained a large proportion of saddle bred blood, and were good, but in this connection it should be stated that they were selected personally by one of the contractors who has been in the business for a long time and knows pretty well what we like and do not like. As a whole though the Missouri horse where he is free from draft blood compares favorably with other horses that we consider suitable.

At Fort Worth we found the range type with crosses of standard and saddle blood, and a few with thoroughbred traces, but all from animals which have been used for saddle purposes

or light driving. In most cases there was plenty of activity. The principal defects being in bone, too light for hard work, and not up to specified height.

In my opinion it is useless to try and select any given breed of horse as the one best suited for our purpose, we will have to breed him ourselves. I do believe that the service at large has pretty good ideas of the specimen of the horse they want and that good individuals, on which a majority will agree, can be found in all breeds and crosses. With an approved type as a starting point, it is my opinion, that, we should undertake to develop those features we want by special breeding, selective breeding, which will give us the type. By selecting good types without regard to blood lines, and constantly breeding to this type we can in time perhaps 50 to 100 years, establish a line known as the army horse.

Unfortunately the actual breeding of horses in the army has not been encouraged. Mares have never formed a prominent nent part of the mounts, and few stallions have been owned by officers that have proven fit which might be used for breeding purposes. In fact some commanding officers have declined to certify a mare in foal as a suitable mount, during the period of gestation. The result is we would have to start largely by guess work in any effort to bring a breeding experiment to an actual fact, but the start should be made. Many m stakes will follow but with the present out ook for suitable horses it will pay to get such a movement under way as early as possible.

For five years I have been riding a mare which I had at the Mounted Service School, as my training colt. She is one of the "diamond" stock from Cheyene, Wyo., and is a cross of cold and thoroughbred blood. She is 15-2½, good conformation, docile, a good rustler and except when severely cut on both front legs with barbed wire has never been on sick report. I have never given her a long gruelling tryout, but feel certain she will stand hard field service as well as any horse. I am now breeding her to a thoroughbred, Mint, at Minco, Oklahoma, owned by Mr. C. B. Campbell. Mint is a fine looking individual and a little light in bone but I hope the mare will make up this deficiency. Mint was sired by Rock Sand and has a double infusion of St. Simon. This is an experiment in breeding to type and I am anxious to see how it works out.

4. I have never ridden a thoroughbred in service. I have seen a number of thoroughbreds in the service and with the exception of a few have not considered them cavalry types. This may be explained from the fact that a good many officers have bought them simply because they were thoroughbreds and without consideration of suitability. The Jaurez race track has furnished some of them, others have come from different points, but I have not seen one that in my opinion fills the bill for strict cavalry duty.

Captain Warren W. Whiteside, 10th Cavalry:

1. I prefer a service horse over 15 hands and under 15 hands 3 inches. A great many horses and ponies under 15 hands 1 inch are sturdy enough to carry the load and stand the gaff of cavalry field service, but few of them have sufficient weight to make them effective as a shock weapon in mounted combat. I have a half-bred pony sixteen years old that I have ridden for thirteen years, I have never seen him tired, even on the fifth consecutive day that he had traveled fifty miles carrying over 200 pounds. I would not care to ride him at the head of a troop in a charge however, for he is only 14½ hands high. Horses over 15 hands 3 inches in height are objected to for the reason that it is almost impossible to purchase a satisfactory horse over 15¾ hands for the amount authorized for the purchase of cavalry horses.

2. I have seen quite a few imported Arab stallions and have purchased a number of their half-bred colts. I considered both the sires and colts too small for practical use as cavalry horses. Had these pony stallions been bred to very large, well bred mares the offspring may have developed into medium sized horses suitable of becoming cavalry horses. This will never be a profitable cross however. Persons owning big mares with quality will naturally breed them to large thoroughbred or standard bred stallions, for colts of this kind will bring good prices.

3. There is a thoroughbred horse at Fort Apache, belonging to First Lieutenant J. C. F. Tillson, which absolutely corresponds to my ideal of a cavalry horse. Fifteen and a half

hands; eleven hundred pounds; eight and one-eighth inches of bone below the knee; seventy-four inches of girth; stout back; long sloping shoulder; level headed and amiable in disposition. This horse has wonderful speed and apparently unlimited endurance. In spite of the fact that he has been raced more than two hundred times from his third to his eighth year, he is clean and sound as a horse can be. He has won money over in a hundred races and has done a mile in less than 1:40. This horse can run circles around a charging troop without turning a hair. Horses of this kind are, of course, rare, and when found a great deal of money is needed to buy one of them. At present the only chance we have of getting getting high class horses for our service is through the development of the horse breeding plan for the army, which is being operated in a small way by the Agricultural Department. Instead of $25,000 per year, at least $2,500.00 should be appropriated. This year our purchasing officers have 500 colts bred under government supervision to inspect. This number should be ten times as large as it is. No other plan of obtaining young well bred horses for the army than the one in which the government coöperates with the farmer and small breeder will prove practicable. Strong opposition exists in Congress to the governments having anything to do whatever with the proposition. This opposition must be over-come, and this is the time to do it.

I have always been convinced that a heavy weight polo horse, 15–1, 1,000 pounds, H. B., even tempered, fast and handy, was the ideal troop horse. We can get this kind by buying them young—a few now, and a great many when Congress is enlightened.

First Lieutenant J. C. F. Tillson, Jr., Cavalry:

1. From 15–1 to 15–3 is my idea of height, because not considering ponies, this is the average height. Horses that grow taller are liable to be long in the leg and horses that fail to reach this height, should have done so had they been healthy colts, properly raised. The old saying "that a good big one is better than a good little one," is considered entirely true but the good big ones are rare.

2. Have observed several Arabs. One a gray stallion, at Fort Riley, Kansas, was about 13–2 or 13–3, and was as slender as the most slender thoroughbred. I don't believe anyone ever considered him seriously as a type for cavalry. Two others at Fort Huacguca, Arizona. One a bay stallion about 14–3 a very showy pony from the knees up. He was tied in below the knees and hocks, and had exceedingly high, contracted heels. Considering that these were all high-priced animals, and that the two mentioned were the best of the lot, the impression has been most unfavorable. Besides, they are not horses; they are ponies.

3. Every horse should have some warm blood, the more, the better. We need good sound, well conformed, up-standing horses, with backs built for a saddle. Also we need horses that will not quit, and that will jump wide as well as high. The latter requirement is *blood*. Imagine a cold blooded horse in the "Grand National," or in the four mile cup race at Churchhill Downs! Furthermore we need horses with sloping shoulder and springy pasterns, to save the legs and save the trooper. How many do you find outside of the horses with thoroughbred blood in their veins?

4. Yes, I have made some severe marches on thoroughbred horses, which were arduous to say the least. On Thursday, April 5, 1917, I was ordered to proceed to Springerville, Arizona, with four mounted men, two led horses, and pack transportation; and to return on Saturday, April 7, 1917. The distance is 135 miles from Fort Apache to Springerville and return. No really hard marching was anticipated, so an old, tried marcher (T. B., 15–3, Wt. 1,120, Girth 72 inches, Cannon eight inches) was left at home and a thoroughbred, five years old, green from the race track, was ridden. Things went along nicely until we reached about 8,000 degrees altitude, where the marching through snow commenced. All the animals commenced to show fatigue except this slender "racing machine." Soon the pack animals commeuced to quit, and when we were thirty-six miles from Fort Apache, they quit, so completely that we were compelled to camp. Twelve and one-half hours were required to make this thirty-six mile march. Friday morning we left camp at 5:30 A. M., with

the "racing machine" two men riding the led horses of the day before, and one Indian scout, whose pony had practically "given up" on Thursday, riding the best horse in this troop. We returned to camp that night at 9:30 P. M., having made, at the most conservative estimate seventy miles (not being able to travel on the road on account of snow). On this day, thirty miles was through hard-holding snow, in places to the horses' bellies and always to their knees. Forty miles was over hard, rocky road, and was made in less than five and one-half hours. The racing machine lost a shoe on this trip and was ridden fifty-two miles bare on the left front. Of the sixteen hours of this day's work, less than one hour was spent in rests. The other fifteen were spent either at fast gaits on bad road or in struggling through snow where the riders had to walk and lead. On Saturday, the "racing machine" left camp at about 7:00 A. M. He showed slight tenderness on the bare foot, so was ridden at a walk, where the snow was deep or the rocks were bad for the first eleven miles, to a ranch where the shoe was tacked on. After that he came home at the trot. He was inspected by three officers on his arrival, and by two other horsemen. All agreed that the horse looked better than when he started from the Post. He made the thirty six miles in even six hours.

Another thoroughbred, mentioned above, has been ridden sixty-two miles, climbing 5,000 feet in ten hours, forty miles in the mountains and in the mud in five and one-half hours, and sixty-two miles in the mountains in nine hours, three and a half miles over hilly road (for the doctor) in less than ten minutes. Neither of these horses has ever let me know that he was tired or sick. They are good keepers, and are as quiet at drill as any horses in the troop. One was a good race horse, having run 212 races winning money in 111 of these. Truly, he was a racing machine, yet he has caused embarrassment to several horsemen when they picked him as a Denmark.

Both of these horses can eat grass quite rapidly. While they may be higher from the ground than the Arab; their necks are longer. Also, it is believed that inclination has more to do with speed in eating grass, than has length of leg. At any rate, taking speed in general, the thoroughbred horse can

probably "put it all over" his pony ancestor the Arab. Still it is gratifying to learn that there is one sport at which the Arab is fast—eating. How does he compare in this regard to the burro?

Everyone who has been on the border knows what kind of stock is left in Mexico. If native ponies kept up on the march from Parral, could it have been hard or fast? The Mexican pony that can trot eight miles an hour without uncomfortably extending himself is the exception. He and the Arab are not gifted with speed at the gallop, and what suicide it would be to ride them in a charge against thoroughbred horses! Also, who would care to carry a message over stone walls or stiff fences on a pony? The larger the horse, the small look the obstacles.

If the cavalry does not want a galloping horse and does want simply pack transportation, try the mule. He has a fine record as a pack animal, and you can't make him gallop. Also he is a fine quitter. He is the very reverse of the game thoroughbred, therefore we should have him.

It is consistent to say that the thoroughbred of thirty years ago was an "animal of bone and substance." Yet the son of that noble animal of only thirty years ago, is today, "blemished in hoofs, bowed in tendons," etc. Isn't this decline rather rapid for one or at most two generations?

Is the thoroughbred raised in the United States, so entirely different from the thoroughbred of Europe? Is it the wonderful pastures of Kentucky that ruin the thoroughbred "bred and raised in the United States?" Isn't it true that many of the horses that are now running in dashes, carry the blood that France and Germany and other European countries have paid hundreds of thousands, if not millions of dollars, to introduce into their studs, for the breeding of cavalry horses? Are these great nations all wrong, or are they just trying to spend their money for a good-looking horse? We'll all admit there is nothing so beautiful as the thoroughbred. It is difficult to believe that they are entirely on the wrong track. They are surely efficient in the other arts of war. Are the trainers all wrong when they say that the difference is one of training? Have men like Major Dangerfield, Mr. John E. Madden and

numerous others worked hard and with marvelous ability for the past "thirty years" and more, to change the thoroughbred from an "animal of bone and substance" to "an animal of racing machine, blemished in hoofs, etc." Isn't it a pity?

There are no records at Fort Apache to show the reason for putting Sysonby and Eclipse in the stud. However, it it was on account of unsoundness, hand't they already made history? If it would have given the world more of their progeny, isn't it a pity they didn't go wrong earlier?

As for the horse "working on scanty feed," there is an old story of the man who gradually decreased his horse's feed, hoping that by a progressive scheme, he might finally discontinue feeding; but just before he cut the feed to nothing, the horse "up and died." It won't work. You have to feed horses, if you work them, and in this country, even if you don't. Many Indian ponies have died on this reservation this spring from starvation. Yet only the thoroughbred, I know on this range made it through.

The description of the cavalry horse: "Must be quick on his feet, etc., sounds like an enthusiast's description of the thoroughbred. "Due to the avarice of the gamblers that breed and raise him." Truly, that ~~is a~~ peculiar description of the public-spirited gentleman who breed and raise him and who *give* him to the government, that our cavalry may have horses and not mongrels.

I take the meaning of "racing machine" to be a horse that races like a machine. In other words a horse with a head level enough to stand training. How frequently we see a crazy troop horse, and hear the remark, "Oh yes, he was trained once for races on field day." Then we go to the race track and see a field of twenty two-year-olds walk up to the barrier, and get away on their toes to a perfect start, run five furlongs, and be pulled down to a walk by a ninety pound boy; all in less time than it would take to line up six troop horses on field day. Isn't it a well known fact that the thoroughbred is the only horse that can stand the training necessary for the runner? Isn't it also true that he is most beautiful when in training? Do his hips get sharp and his belly disappear entirely, with training? On the other hand, what does the cold

blooded horse look like after a few gallops? and doesn't he lose his head and worse, his appetite if you train him?

"Blemished in hoofs, bowed tendons, defective hocks, and in many cases a roarer," may be a description of many thoroughbreds, but is this due to the breed or to the test? Ask any experienced horseman, what horse has the finest feet, what horse has the finest tendons, what horse has the cleanest and best hocks, and the longest wind? Is their any doubt that he can answer, authoratively, other than thoroughbred? In describing the beautiful legs of a horse, isn't the saying, "legs like a race horse," a common one? Is it because so many of them are roarers that they are the only horses that can run a distance? Is it because of "weakness of feet" that the horse mentioned above, traveled barefooted fifty-two miles in snow and mud, and over malpais rock and lava, without going lame.

Let us not knock the noblest and gamest animal that God has given man, but let us hope that some day we may have our troopers mounted on thoroughbreds or on horses nearly thoroughbred, the same kind that more than once made it possible for Confederate leaders to march twice as far and nearly twice as fast as their northern pursuers; and made it a joke to those who knew, to read that General X is pursuing General Y. With the help of the excellent gentlemen, real benefactors to their country, who are breeding these noble animals, I hope to live to see this day.

Major C. C. Smith, Military Attache at Caracas:

1. When Captain Juan de Cespedes, commander of Gonzalo Jimenez de Quesada's cavalry, went to the plain of Bogota in 1538, he had in his detachment some eighty horses, mares and stallions. These, with others brought by settlers from Spain, immediately after the Conquest, along with other domestic live stock, constitute the origin of the horse in Colombia. A similar bit of history marks the beginning of the equine race in other countries of Spanish-America, and these horses were what is known as the Spanish Barb, in other words, the Arab.

2. This horse—I don't mean his degenerate progeny, the bronco or mustang—did for the armor-clad Spaniards in Mexico and South America, what he had done in the time of the Crusades, and what he still can, and will do if given a fair show. It is not a forceful argument to quote pretty or sentimental tales of what the Arab has done or can do. Our purpose is to find out which is the best horse for the cavalry, and this by convincing facts.

3. It will be noted in this communication that I start off at once in favor of the Arab, with no reference to the cold blooded, part thoroughbred, or thoroughbred horse. I have owned them all at different times, except the Arab. But two of my mounts, if they were not Arabs, had so many of his qualities, that they certainly were quite pure descendants of that noble race. These two horses were the best I have ever owned. One, "Old Blue"—will be remembered by the officers of the Second Cavalry, stationed at Fort Wingate, N. M., in 1893-4-5, carried me from Fort Wingate to San Antonio, Texas, about 950 miles in twenty-nine days, and then could have gone on if necessary. The other is a horse I bought in Bogota, Colombia, and brought to Carcacas with me last August. This animal, very handsome, with the dish face, small ears, fine large eyes, and gazelle-like legs of the Arab, was one of the most intelligent horses I have ever seen—learned to longe and obey the commands "Walk!" and "Trot!" in one lesson, and the next day to longe over a hurdle, and I am positive he never had any previous instruction. He was also a first class field horse, as I took him on some pretty hard trips in the steep and rugged Andes in Western Colombia.

4. As before stated, I have never owned a real Arab, but have read considerable about them, have known a few, and have developed a predilection for them above all other horses, not sentimentally, but as mounts for our cavalry. The intelligence, docility, endurance and spirit of the Arab is famed in song and story; and deservedly so. I remember in April, 1908, when stationed at the Presidio, of San Francisco, Mr. Tully (I do not remember his first name or initials, but he is the author of "The Rose of the Rancho") and his wife, who had a farm at Los Gatos, California, fifty-four miles from the Presidio, rode

up one day on their Arab stallions to see me on some horse show business. They left their ranch about 6:00 in the morning and dismounted in front of my quarters at about 11:30 A. M., and their mounts looked to me to be perfectly fresh. At about 2:00 o'clock that same afternoon they started back to Los Gatos. These animals were small, but with perfect conformation, and could, I have no doubt, do five or six miles an hour for ten hours a day, day in and day out for many days. They were splendid in disposition, and I should say little if any over 15 hands high, about 900 pounds in weight, and of a beautiful rich sorrel color.

5. It would be far-fetched to say that "Old Blue," mentioned in Par. 3, was an Arab, but his fine physical appearance, docility, endurance, and spirit, indicated possible descent from Arabian sires. This horse was bought by Lieutenant Bruce Wallace, Second Cavalry, from the Maxwell ranch, in Northern New Mexico, and carried his owner many hundred miles, including a march along the Mexican boundary with the Boundary Commission. When Lieutenant Wallace was ordered to duty with the National Guard of Montana in 1894, he sold the horse to me. This animal was never sick a day, to my knowledge, and was in the field a great deal and under all conditions, thus proving this worth. He carried me 950 miles in twenty-nine days, and on the tenth day of this ride covered eighty-three miles. He was about 15 hands high, weighed about 975 pounds, stocky, will full barrel, and deep chest.

6. The *New York Herald*, of February 11, 1917, says: "Notwithstanding the fact that thoroughbred race horses are favored by many army officers, and usually carry off the blue ribbons when judged by army officers in the show-ring, Major Tompkins is an enthusiastic partisan of the small Arab horse." Major Tompkins, from my experience, is right, and the *Herald's* statement might be answered by saying that we have no horses of the Arab type to exhibit at horse shows, and an exhibition at a horse show cannot possibly prove the worth of a horse for cavalry purposes.

7. Major Tompkins says of the march to Parral: "There was not a single thoroughbred that was ridden all the time, and

to the best of my knowledge and belief, every thoroughbred horse in the four columns was on the sick report from time to time, and from one cause or another." This is exactly the comment I would make on the thoroughbred as compared with the Arab, or even with the cold blood of Arab ancestry. He is too delicate, there is always something the matter with him. I once owned a thoroughbred mare from the Hoggin ranch in California, and my recollection is that she never seemed fit for the field. The part thoroughbred I believe to be better than the thoroughbred for cavalry, but not so good as the Arab or part Arab. "Genessee" a horse well known at Fort Leavenworth, owned by Colonel Holbrook, Seventeenth Cavalry, later purchased by me, and then sold to Major S. F. Dallam, Seventh Cavalry, is a good type for cavalry, but I would not give "Old Blue," or "George" my Bogota horse, for him.

8. The horses here in Northern South America, though of Arabian ancestry, have never had new blood infusions, so they cannot be held up as a good cavalry type. They are too small, running about 14 hands high. Nevertheless, for their size they are wonderful animals, and the way they will carry a man over the steep rugged Andes, and into and through the tropical valleys is astonishing. Talking recently with Major Edward C. Brooks, formerly of our army, but now with the American Bank Note Co., in South America, I learned that he was a thorough partisan of the horse of this part of the world. He contends that no American cavalry horse could stand the cold rugged mountain and hot sultry valley work down here, while the horse of Colombia or Peru could do any cavalry work that would have to be done in the United States. I called the Major's attention to the small size of the horse here, and he replied that he could be bred up to more height and weight. If this is done, then I am satisfied, we would have a splendid cavalry horse—not a pony, and still not a long-shanks like the thoroughbred or part thoroughbred.

9. I know that there are thoroughbreds and thoroughbreds, some big bony and strong; others "weedy, small-boned, and contracted-barrelled," but the Arab has all the good points of them both and one of the bad, provided his small size is not considered a bad quality, and why should it be? Just as well

argue that a small man is not as good as a big one—and this is no argument at all. Strength and endurance should never be confounded with size.

10. Mr. David Buffum in his article, "The Desert Strain," in the CAVALRY JOURNAL, October, 1916, makes a great plea for the Arab. In this article, as in other articles and works on the horse, the importance of the Arab is seen from the fact that he has been used to improve other breeds in the qualities of speed, and endurance. Even the thoroughbred has thus been improved by him. Undoubtedly he is the King of Horses. What cavalry officer can read the story of Scham or Godophin's Arabian, and not be a partisan of the Arab—of his pluck, spirit and endurance?

11. Mr. Buffum speaks with authority. He says, referring to the Arab: "There is a need of a supply of horses, right in kind and sufficient in number, for our cavalry. In the supplying of this need, if we heed the lessons of the past, we must regard quality no less than numbers. To this end the Arab points the way, for the simple reason that no other horse possesses the required qualities in so high a degree." Also: "The chief difficulty in the situation (to a sufficient supply) is that the inducements to raise cavalry horses are not sufficiently tempting, and farmers will not raise them so long as they can make much more money raising heavy draft stock."

12. Mr. Buffum then goes on to say: "The Arab was a separate and distinct evolutionary type, superior to, and more highly developed, than any other horse in the world long before his domestication. And from the time of his domestication down to the present he has not only been carefully bred but guarded, as no other horse has ever been, from admixture with other blood." He goes on to show that the above distinct evolution has developed a horse different, even in the number of bones, from other horses, and this difference which produces the short strong back makes him a perfect horse for cavalry, as this gives the endurance for long marches, and thus the spirit for the charge at the end of the march.

13. From the *New York Herald*, of May 6th, I clip the following: "A blue ribbon winner at each of the two spring

shows held in New York this season, the little gray mare Binilla, owned by John L. De Saulles, has demonstrated that South American polo ponies can hold their own with the best ones here for conformation, speed and handiness. Few ponies have been seen in American show rings that could outpoint her in blood like quality, and though her pedigree is unknown she is apparently almost a thoroughbred runner."

Here it states that the pedigree of the pony is unknown—the same may be said of possibly all South American horses, but the performances of this little mare, and perhaps an ancestral line back to the time of the Chilean conquistador Pedro de Valdivia, might reveal Arab forebears.

14. Major Tompkins' ride on Razzia in October, 1912, Mr. and Mrs. Tully's performance on their horses in April, 1908, mentioned in this article, the winning of the endurance race by Halcyon (in this race the second and third horses were also Arabs) in September, 1913, and the work of Kingfisher, in Mexico, as shown by the CAVALRY JOURNAL for April, proves much in favor of the Arab. I believe this is the type of horse for our cavalry.

15. Since the day of cavalry charges, it would seem, is ending or has ended, the type of horse we want is the ground-gainer rather than the weapon. Even if the day of the charge has not ended it will be such a rare thing that the size of the horse can well be sacrificed to the great usefulness he will serve in maneuvering, and if the maneuvering is skillfully performed the charge ought to be successful.

A METHOD OF PURCHASING, INSPECTING AND HANDLING HORSES FOR GOVERNMENT SERVICE.

BY MAJOR CLYDE E. HAWKINS, Q. M. CORPS, (CAVALRY).

[*Continued from page 311 of the January Number of the Cavalry Journal.*]

MISCELLANEOUS.

Mules. It is a well known fact that mules have certain characteristics not so common in horses which should be known and considered by an inspector. It is common knowledge that mules will go sound with blemishes and defects that would make a horse useless. They will stand harder knocks and rougher usage and get out of difficulties much easier than the horse. They have a phlegmatic disposition, require less forage and less care; are not so subject to disease and will endure changes of environment and climatic conditions better than the horse.

Cow-hocked. This conformation is very common among good, sound, useful mules and when not too pronounced so as to make the hocks too close together should not necessarily be considered a cause for rejection.

Coarse hocks. Many mules are coarse or rough in the hocks and look to the inexperienced as though they have spavins or jacks, but are really sound.

Mule foot. The foot of the mule is more oval and longer than in the horse and the heels narrower giving almost the appearance of contracted heels.

BREEDS OF HORSES FOR DIFFERENT USES IN THE GOVERNMENT SERVICE.

Cavalry Horses. In order to obtain the proper type and conformation of cavalry horse for use of the government it is impossible to expect to obtain horses of one breed. In short, we must take what the country affords. In general, this horse is in part or in full a standard bred trotting horse. A great many horses are obtained for cavalry purposes with thoroughbred blood in their veins. It has been my experience that the best horse we obtain in this country for cavalry purposes is a cross between the thoroughbred sire and standard bred mare. Horses so bred as a general rule have plenty of bone and substance and have much quality and are ideal horses for the purpose intended.

Thoroughbred. Very few thoroughbreds can be obtained at the price which the government pays, or in fact at any price. The thoroughbred that are usually shown at inspections are small boned, weedy and delicate and are not fit for weight carriers. It is a well recognized fact, however, that the large, big boned, tight-made thoroughbred is a grand horse, but very few can be obtained and as a rule are too hot-headed for the average trooper, but make excellent mounts for officers.

Saddle-bred.—The saddle-bred horse as a rule is not good for cavalry purposes; *First*, Because of his fancy or saddle gaits; *Second*, Because his conformation for a weight carrier is not good. As a rule, they have excessive action, are high-headed, low in the back, thick in the withers and unsuitable for cavalry purposes. Experience has shown that they do not make good gallopers or jumpers and are unsafe horses across country. By reason of their mixed gaits they are very unsatisfactory as troop horses. It is the experience of troops that the fancy gaited horse will not last like the pure gaited walk, trot, and gallop horse.

Light Artillery Horse. The draft breeds do not make good horses for *light* artillery. They are excellent for heavy draft and therefore should be purchased for heavy, slow work of any kind such as siege artillery, etc. The horse required for field artillery must be a horse that can walk, trot and gallop well

enough to keep up with cavalry troops and also pull well in harness. The best horse for this purpose is a large, good boned, tight-made horse such as the heavy carriage horse or express horse. The artillery horse must have weight, good action and quality. In my opinion the best type is the large, standard-bred horse weighing from 1,200 to 1,400 pounds and 15½ to 16½ hands in height. It is found that a horse of this kind has sufficient weight, bone and substance and yet has sufficient quality to give him plenty of staying qualities as well as the necessary action of the work intended.

Siege Artillery. For this purpose a high grade draft horse is required weighing from 1,450 to 1,650 pounds and from 15¾ to 16¾ hands in height. This horse should conform to the general requirements of a good artillery horse in conformation and should be tight made with large bone, short back, well muscled throughout, and good feet of medium size. Reject horses with very large, flat feet common to the draft breed. The percheron, in my opinion, is the best type of siege artillery horse.

Light and Medium Draft. These horses should conform very closely to the light artillery horse, only obtaining the size required for the particular service in view. See specifications issued by the Quartermaster Corps.

Cow Horse or Cow Pony. When of proper size and conformation, this animal makes an excellent cavalry horse.

Western Range Horse. These horses are good, bad and indifferent, depending upon the individual. Of course many excellent horses for both cavalry and artillery come from the ranges. As a rule they are unbroken, wild and hard to handle, but can be trained like any other horse if time permits. Practically all western horses are branded.

Broken Horses. Many horses are now found in the *middle* west even in such states as Missouri, Iowa, Illinois and Kansas that are broken to drive and work, but evidently have not been used at all as saddle animals. These horses when saddled will buck some though gentle and of good disposition will act quite green. In short, broken saddle horses for use as mature cavalry

mounts can no longer be found in numbers. The wild, vicious, bucking, unmanageable outlaw is of a different stripe and should always be rejected.

Well Bred Horses. Well bred horses show their superior quality and breeding at a glance. Their hair is fine; ears fine, thin, rather small and well set; eyes large, prominent and intelligent; forehead broad and flat; muzzle rather small, lips fine, firm and well set; hair of mane and tail fine and not excessive in bulk; feet small to medium in size with horn of fine texture; action prompt and mein bold—the lines and carriage of the aristocrat.

Mules. The wheel mule should be a large, good boned, large barreled, tight-made active animal of good quality, weighing from 1,200 to 1,400 pounds and 15½ to 16½ hands.

Lead Mule. Same as above but weighing from 1,050 to 1,200 pounds and 15¼ to 15¾ hands.

Pack Mule. The pack mule must be short legged, large boned, heavy muscled, thick short neck, low withers, large barrel and well sprung ribs and short straight back, thick, wide, and heavy muscled loins and haunches, 14¼ to 15 hands in height and from 950 to 1,100 pounds in weight. It is important that we have good, straight, normal legs with excellent bone and good feet.

Office Force. Where there are large numbers of animals being purchased and more than one board is employed daily an exta office force is necessary at the Central office of the zone. This force should consist of:

1 Chief Clerk in charge of the office.

1 Money Clerk in charge of payments and accounts.

1 Property Clerk in charge of invoices, property accounts and reports.

1 Stenographer for dictation—letters, typewriting, etc.

1 Messenger—stamping descriptive cards, copies Bills of Lading, mailing list, preparation of proposals, etc.

Soldier to Replace Clerks. Enlisted men of proper qualifications and rank detailed in the Quartermaster Corps could be used in place of clerks and messengers.

Courtesies Extended by Contractors. It is customary for the contractor to meet the inspector and his board at the railway station and conduct them to the place of inspection and back to the station when their work is completed. Usually the contractor invites the board to luncheon and sometimes to dinner in the evening. Whether or not these courtesies should be accepted depends upon the circumstances in each individual case.

Books Recommended for the Use of Inspecting Officers and Veterinarians. 1. "The Exterior of the Horse," by Gaubaux & Barrier, translation by Simon J. J. Harger, V. M. D.; 2. "Judging Live Stock," by John A. Craig, published by the estate of the author; 3. "The Horse Book," by J. H. S. Johnstone, published by the *Breeder's Cazette*; 4. "Horses, Saddles & Bridles," by General W. H. Carter. These books are full of important information concerning the horse, conformation, defects, etc., together with many illustrations. In my opinion they are the best books published on the subject and should be in the hands of all interested in horses and mules, especially in the inspection and purchase of animals for the U. S. Government.

Wagons, Harness, Saddles, Etc. Wagons, harness, saddles, bridles, etc., for trying out and testing animals are furnished by the contractor. He will furnish one good halter to go with each animal and the linen tags for tagging. The branding irons, vaccine and mallein, syringes, etc., are furnished by the government.

Use of Electric Flash Light for Examining Eyes in Cloudy Weather or at Night. Experience shows that slightly cloudy and blue eyes may be overlooked by use of the flash light.

Riders and Drivers. It is customary for the contractor to furnish suitable men for riding saddle animals and driving artillery horses and wagon animals. This should be required of the contractor and form a part of the contract and the "Instructions to Bidders," should be modified accordingly.

Blood Test for Glanders. When the veterinarian is in doubt in regards to the result of the ophthalmic test for glanders a sample of blood should be taken from the juglar vein of each

animal in doubt and sent to the Bureau of Animal Industry Department of Agriculture, Washington, D. C., for final test. This sample should be carefully marked with the hoof number of the animal. During this time doubtful animals are isolated and held in quarantine.

Quality. A well known term and yet difficult to define. Refinement of fiber, refinement of conformation and texture of bone and hair.

Color and Markings. See the "Exterior of the Horse," by Gaubaux & Barrier.

To avoid fraud in connection with feeding and caring for animals at point of purchases, sending shipment. To avoid an overcharge to the government in connection with caring for animals after acceptance and delivery to the stock yards company or firm to be held pending shipment, it is the duty of the shipping clerk to keep an accurate check on all animals held at place of purchase, at the expense of the government. Bills for care and feeding, hay and straw for stock cars, etc., should be checked and O.K.'d by this clerk and forwarded to the Central office for payment.

In the foregoing pages it is meant to cover only the principal points in connection with the inspection and purchase of animals. It is recognized that the subject is a large one and it is not though possible to cover everything in detail.

In the following pages are outlined some of the principal defects and peculiar terms used by horse and mule men around the markets.

TERMS USED ABOUT ANIMAL MARKETS BY HORSE AND MULE MEN TO INDICATE PECULIARITIES, DEFECTS, ETC.

Dish Face. The face is concave.

Roman Nosed. The opposite to dish face, the face and nose being convex. A bulge on the upper part or side of the face may indicate a diseased condition of the upper molars or an accumulation of pus in the sinusee. In examining the face observe marks and scars which may result from trephining.

Torn Eye Lids. A torn eye lid should be carefully considered, specially the upper lid, because the tear glands of the

upper eye lid may have been destroyed. It is the secretion from these tear glands that wash and lubricate the eye. Always reject.

Broken or Irregular Eye Lid. The upper lid assumes a more or less triangular shape or is pinched up at its upper central part instead of having a regular curve. This condition, together with a more or less contracted appearance of the eye ball, indicates previous attacks of ophthalmia and the animal must be rejected.

Blue Eye. A cloudy or blueish condition of the cornea—may or may not be permanent. Reject.

Blind—Dead Eye. A dead or a blind eye shows a greenish, grayish or whitish color of the crystaline lens which is opaque and the pupil fails to contract when leading the animal from the dark into the light. In order to assist in detecting a dead eye a comparison should be made between a dead and a good eye.

Pig Eyes. Small eyes like a pig, usually denoted inferior breeding, lack of intelligence, meaness of disposition and lack of stamina.

Agate Eye—Glass Eye—Watch Eye—Wall Eye. Due to an absence of pigment coloring matter. Eyes of this kind are normal and not necessarily defective, but always tend to make the animal appear conspicuous.

Feathers in the Eye. A small white spot or spots found on the cornea of the eye. Often due to injury. When small and off the line of sight or vision should not necessarily be a cause for rejection.

Parrot Mouth. When the upper incisors project beyond or over the lower incisors.

Undershot. When the lower incisors project beyond or over the upper incisors. Animals under these two conditions have difficulty in grazing.

Cribber—Cribbing. A bad habit—a vice. The animal rests his upper incisors on some object as a manger, neck yoke, side of stall and in some cases on some part of his own body, and draws in large quantities of air accompanied by a gutteral

noise. The upper incisors in particular are frequnetly found worn smooth or in some cases chipped on their lower interior borders. The age is more difficult to judge in cribbers, parrot mouthed and undershot animals.

Wind Suckers. This is similar to cribbing, with the exception that the animal does not rest his teeth on any object in the performance of this act. The teeth show no wear.

Injuries to Jaw and Tongue. These are usually caused by the curb chain and severe bits. The bars of the mouth may be splintered and the tongue torn and lacerated.

Poll Evil—Fistulous Poll. A deep seated abscess of the poll.

Fistulous Withers. A deep seated abscess of the withers. In the two fistulous conditions noted above there is a suppurating discharge with a tendency to become chronic.

Creased Neck. In this case the neck at the junction of the withers is sunken or concave. This is at the point where the top of the collar would rest and is known as a creased neck. Reject for harness.

Stiff Neck—Wry Neck (jerked down). This condition generally follows an injury of the muscles or bones of the cervical vertebra; the animal appears stiff in the neck and when being turned instead of bending the neck turns the entire body on the fore feet as a pivot. This condition is more often seen in range horses and frequently results from being roped and thrown.

Cold in the Collar. An animal that will not go into the collar well, refuses to pull, or balks, is said to be cold in the collar.

Deer Neck. The same as ewe neck.

Shoulder Galls—Shoulder Sores. Result from the rubbing of the collar or breast strap of the harness. When bad and especially when forming a bunch or fibroid growth reject the animal.

Kidney Sores. Sores usually made by the cantle of the saddle.

Sit-Fast. Dead callous tissue imbedded in the flesh—usually made by the saddle or harness. If bad, reject the animal.

Road Puffs—Wind Galls (Roady). This refers to bursal dilatations in the region of the ankles. This condition is sometimes called "second handed" in the ankles and comes as a rule from hard service or faulty conformation and is frequently seen on animals used on hard roads.

Bowed Tendons. In this condition the tendons appear bowed or bulged out and is caused by the tendons being strained or torn away from their attachments—a common condition among race horses and jumpers.

Raising a Heel. A means of resting the foot or relieving pressure thereon; may be caused by a corn or other inflammatory conditions in the region of the heel, or tendons.

Quarter Cracks—Toe Cracks—Sand Cracks—Seams. These terms refer to cracks in the hoof in the parts mentioned, of more or less severity. Frequently a cause of lameness.

Stocked—Filled in the Legs. A swelling of the legs due to standing without exercise, generally when on full feed, or it may be an indication of approaching disease, influenza, strangles, etc., sometimes referred to as a "pinky" condition.

Special Shoeing. In the inspection of animals if special shoeing for any purpose is observed the animal should be rejected.

Second Handed Legs. Refers to legs and feet more or less less defective which show wear and hard service. They are said to have lost their bloom.

Forging. An animal is said to forge when he strikes the fore feet with the hind toes. If shod he makes a clinking sound—a form of over-reaching.

Interfering—Brushing. The animal strikes the leg with the opposite foot. May occur in front or behind.

Cross-firing. Striking one fore foot with the opposite hind. More or less common in pacers and gaited horses.

Speedy Cut. An aggravated form of over-reaching. When an animal cuts the hind foot about the pastern with fore foot

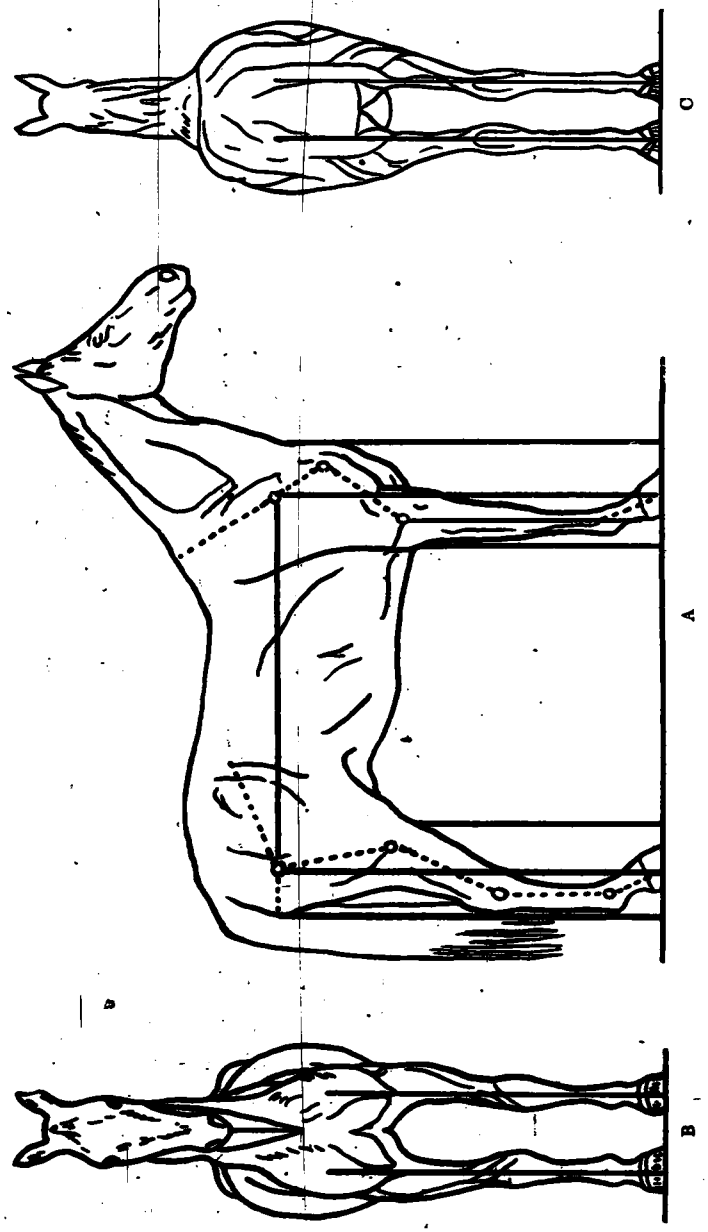


PLATE I.

it is known as "Speedy Cut"—pertains to animals used for speed in harness.

Heron-Gutted—Single Gutted—Tucked Up. Refers to an animal without sufficient barrel, short ribbed, deficient in flanks and loins, not tight made—poor under lines.

Grunting and Horse. A term used to wind a horse at the end of a halter without being ridden or driven. The halter is held at the end in the left hand and the horse is punched in the side usually with the butt end of a whip. If the horse grunts the indications are that he is windy.

Gingered, (hopped cocked). An artificial means of producing unusual activity, action and style in an animal by placing macerated giner root in the rectum just before showing. This also gives the animal a high carriage of the tail. Bisulphide of carbon—commonly known as "High Life" when applied to the external surface arouses an animal and makes a sluggish animal appear like a spirited one. A hypodermic injection of cocaine has the same stimulating effect.

Vices—Objectionable Habits. Halter Pulling—Rolling in the Stall—Blanket Tearing—Pawing—Kicking—Crowding the Groom—Shying—Balking—Running Away—Line Hugging, (throwing the tail over the line)—Bucking—Lolling the Tongue—Snapping the Lips (nut cracker)—Trotting in the Stall—Lying Down cow fashion(frequent cause of shoe boils).

Weaver. A vice—a bad habit contracted by animals during enforced idleness. It consists of a swinging or side to side movement of the animal on its fore legs.

Dummy—Smokes his Pipe—Masugared—Sugared. A disease sometimes known as immobility or dumbness. Found in common breeds of animals of lymphatic temperment, with large heads, narrow foreheads, pig eyes, unresponsive ears, flacid face muscles, pendant lips, sluggish movements and slow mastication (Smokes his pipe). Such an animal may stand with his legs crossed for considerable time and backs with difficulty dragging his fore legs. "Smokes his pipe" also refers to lip torn at the corners.

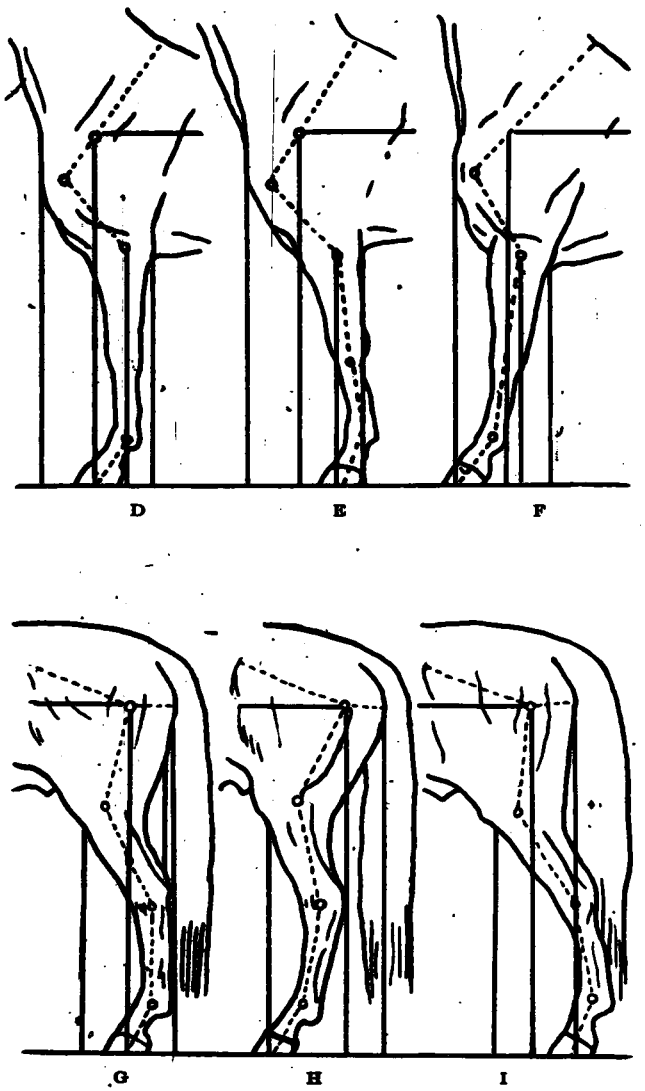


PLATE II.

Broken Down. A broken down animal—one in which a rupture of the tendons or ligaments has occurred. He is said to have snapped a tendon.

A Skate—A Crowbait—A Plug—An Old Skin. Terms usually referring to old played out animals or those in very bad condition and of very poor conformation.

A Knacker. Ready for the bone yard.

Sweeny. An atrophy of the shoulder muscles—sometimes filled up with air or water to deceive an inspector.

Shoe Boils. Located at the elbow joints, due to continuous bruising at the point of the elbow. At first may be only a serious abscess; if neglected and cause not removed it will develop into a fibroid growth of more or less size.

Over in the Knees—Buck Knees—Clergyman's Knees—Goat Knees. Terms used to denote a condition known as knee sprung. See V. Plate IV.

Knock Knees. In this condition the knees are close together and the legs wider both at the chest and at the feet, giving them the appearance of an hour glass. See P. Plate IV.

Bow Legged. The opposite of knock knees and may exist either in the front or hind legs. See L. Plate III and N. Plate IV.

Calf Kneed. A congenital malformation of the front legs. The front legs are bowed back at the knees, concave to the front. See W. Plate IV.

Broken Knees. A thickened or injured condition of the skin or tissues of the front of the knees with a tendency to become chronic—seen in stumblers.

Buck Skinned. An enlarged condition of the anterior face of the cannon bone giving it a bulged appearance.

Splints. Generally referred to as a bony enlargement on the internal face of the fore cannons, three varieties, viz.: Simple—Beaded—Pegged.

A Simple Splint. Is a single bony prominence on the cannon bone.

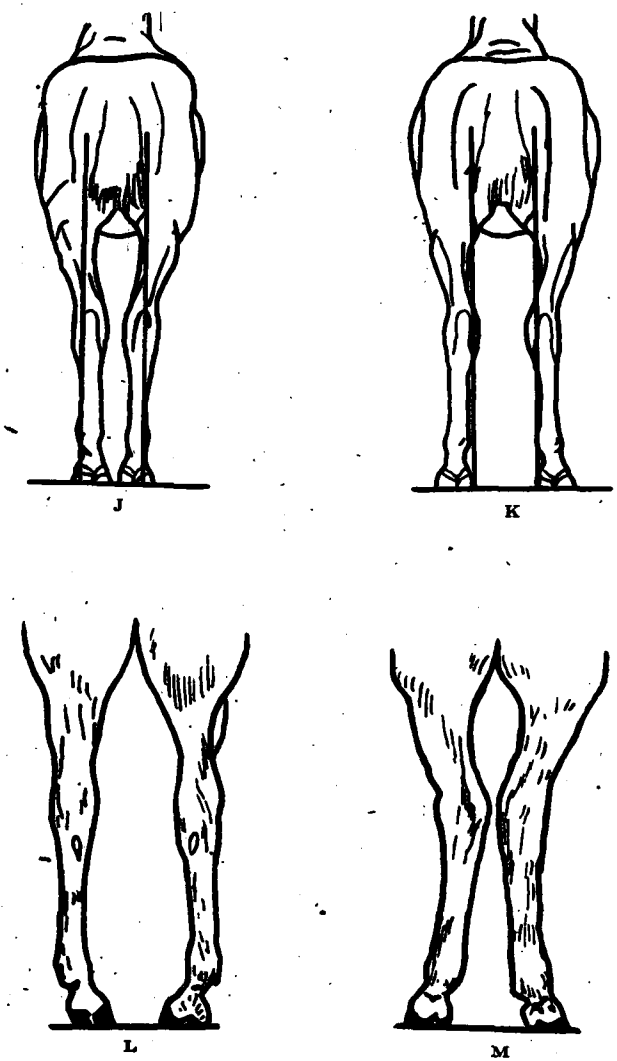


PLATE III.

Beaded. Two or more separate and distinct bony prominences following the course of the cannon bone.

Pegged. A splint that is always serious and is likened to a peg driven from the inside to outside of the cannon bone interfering with the free movements of the tendons and ligaments and thereby causing permanent lameness in most cases. This is an unsoudnness and all animals with pegged splints should be rejected.

Peg Legged—Stilty—Going Short—Tender—Sore—Gimpy. These terms refer to an animal with a faulty gait in front. In this case the animal is apparently sore in his feet or tendons and does not have a free, bold action in front, but is short in his gait and appears to be exercising care in placing his front feet.

Osselets. Small bony enlargements on the front of the ankles, which give an animal a more or less knuckled appearance.

Ring Bones—Rough or Coarse in the Pasterns. Two varieties high and low. A bony enlargement encircling the lower or upper portion of the pasterns. A cause for rejection.

Side Bones—Hard in the Heels. A hardening or ossification of the lateral cartilages of the foot, frequently causing lameness and a proper cause for rejection. This condition is commonly found in heavy draft animals.

Navicular Disease—Daisy Cutter. A chronic inflamation of the navicular sheath. This causes obscure lameness, intermittent in character, and in many cases not accompanied by any visible lesions. Pointing of the toe and an inclination to stumble should always be regarded as suspicious symptons of this disease.

Contracted feet or heels. A condition where the feet and especially the heels are abnormally narrow and contracted and have a pinched appearance. A condition found in navicular disease or lameness of long standing.

Nigger Heeled—Splay Footed. In this condition the heels are turned in and the toes turned out. Nigger heeled animals

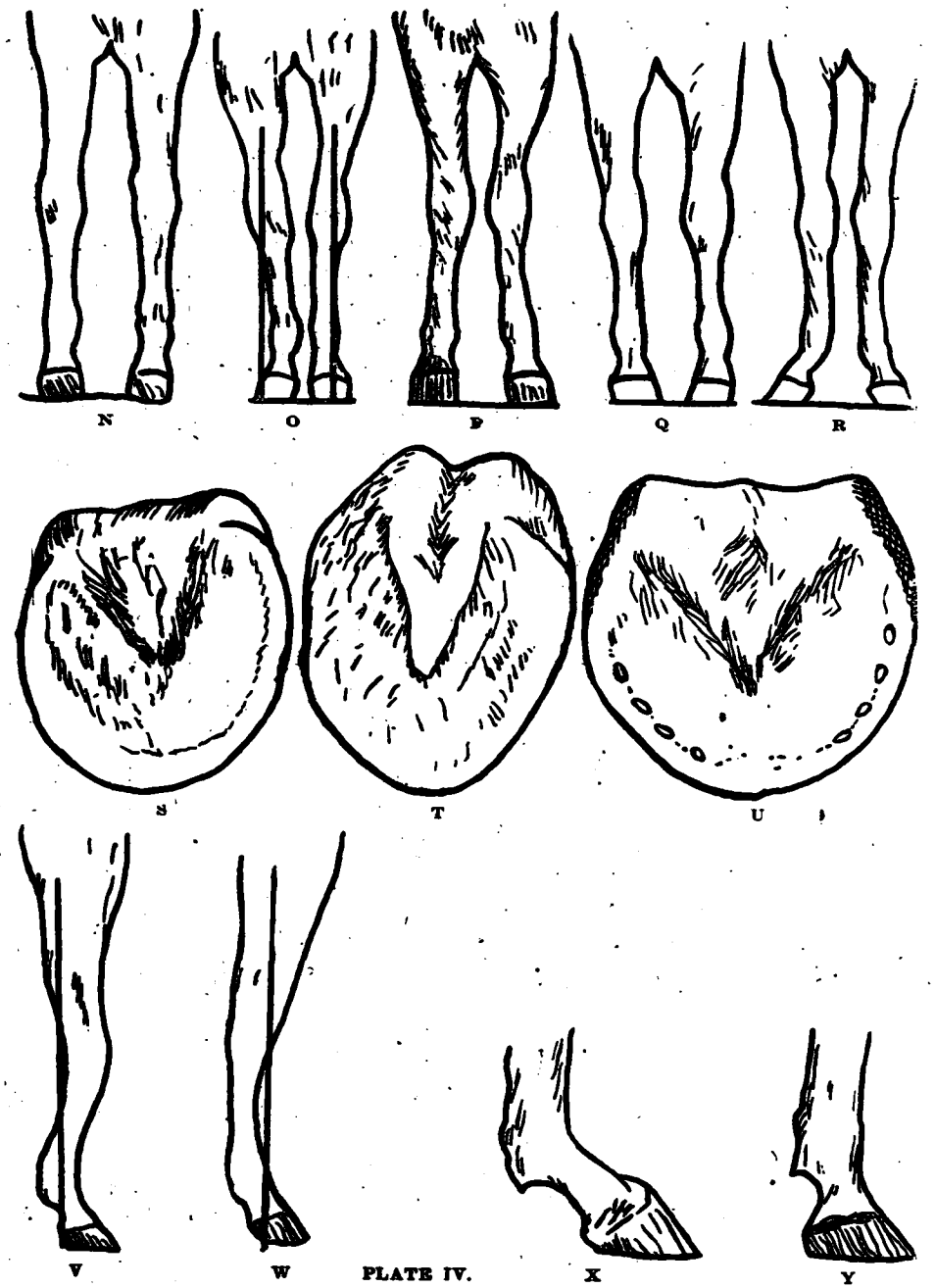


PLATE IV.

are "paddlers" and usually interfere. If bad always reject. See R. Plate IV.

Toed In. The opposite of nigger heeled. Animals that toe in wing—are "wingers" and seldom ever strike or interfere. See Q. Plate IV.

Coon Footed—Bear Footed. A term applied to animals with long and low set pasterns. Not adapted to weight carrying or hard service either under the saddle or in harness. Reject. See Y. Plate IV.

Corns—Thrush—Grease Heel—Canker—Quitter—Scratches. The feet should be examined for evidences of the same.

Goose Rump. A faulty conformation of the haunches—the croup is drooping, short, appears cut off and the tail is usually set too high. This condition is generally accompanied by faulty conformation of the entire hind leg.

Stringhalt—Crampy—Snaps a Leg. Refers to a spasmodic jerking or lifting of one or both hind legs higher than normal.

Capped Hocks. An enlargement or puffy dilation at the point of the hock.

Saber Legs. A German term for sickle hocks or crooked hind legs.

Sickle or Saber Hocks—Tied in Below the Hocks—Cut Out in Front of the Hocks. This is a faulty conformation. The leg just below the hock appears tied in and deficient. This conformation is usually found in animals with deficient bone and crooked hind legs with a predisposition to curb and spavin. See H. Plate II.

Cow Hocked. In this condition the points of the hocks are close together and the legs gradually spread outwardly from the hocks down. This condition in the hind legs corresponds to knock-knees in front. See M. Plate III.

Bone Spavin. A bony enlargement on the internal or anterior face of the hock.

Bog Spavin—Gouty. A bursal dilation in the superior region of the anterior and internal face of the hock. Boggy.

Blind Spavin. Usually due to a diseased condition of the internal structure of the hock, with no visible lesions. Animals showing more wear on one toe of the hind foot than the other should be regarded with suspicion as it frequently indicates disease of the hock or tendons.

Blood Spavin. Not a true spavin but a dilatation of the vein passing over the naterior face of the hock.

Rough in the Hocks—Box Hocks—Blocky Hocks—Coarse Hocks. These terms are used to denote slight irregularties or deviations from the normal hocks. Usually such hocks appear larger and more prominent in certain parts. Such conditions are not necessarily serious defects, but should not be passed without serious consideration.

Beefy Hocks. This term is applied to a hock where the bony outline is not clearly defined, the opposite to a lean hock. This is frequnetly seen in the heavy draft breeds, particularly the Belgian, but is not necessarily a defect.

Michigan Pads. This is a term used for a bursal dilatation just below the hock in front, but a little to the outside.

Thorough-pin. A bursal enlargement which appears both inside and outside of the upper or soft part of the hock and is generally found in connection with bog spavin.

Curb—Rounding. A bony enlargement on the posterior face of the hock which appears below the point of the hock.

Jarde. Similar to bone spavin except that it is on the external face of the hock and opposite to it.

Cocked Ankle—Knuckled. A condition existing usually with very straight pasterns, the ankle being cocked or having a knuckled appearance.

Reel Footed. A crooked condition of the foot from the ankle down. This defect always occurs in the hind feet.

Wearing of the Toe of the Hind Feet. Often due to contraction of the posterior tendons. See Bone Spavin.

Cat Hamed. An animal having a hind leg or thigh like a cat. Hollow or deficient in muscle in the thigh between the haunch bone and the stifle.

Tight Rope Walker. Refers to an animal that carries a foot around and in front of the opposite foot at the walk or trot as though walking a tight rope. Usually interferes. Reject.

The normal legs in normal positions: See A, B, C, plate 1–D and C, plate II–X, Plate IV.

The normal foot: See S Plate IV.

A contracted foot and heel: See T Plate IV.

A flat foot: See U Plate IV.

A leg set too far under the animal: See E Plate II.

A leg set too far out from under the animal: See F Plate II.

A sickle hocked animal: See H Plate II (not an extreme case.)

A hind leg set too far out from under the animal: See I Plate II.

"Base narrow" in front: See O Plate IV.

"Base narrow" behind: See J Plate III.

"Base wide" in front: See P Plate IV.

"Base wide" behind: See K Plate III.

"Bow-legged" in front: See N Plate IV.

"Bow-legged" behind: See L Plate III.

"Cow-hocked": See M Plate III.

"Reel footed": See L Plate III.

"Toed-in"—"Pigeon-toed:" See Q Plate IV.

PRESENT DAY BRITISH CAVALRY.

THE present organization of the British cavalry is practically the organization tentatively adopted some three years ago for our own cavalry, and abandoned upon the adoption of the Cavalry Drill Regulations of 1916. In its essentials the organization therefore follows that of most continental mounted troops.

While not the equivalent numerically the British cavalry regiment of three squadrons is analogous to our own squadron of four troops; the British brigade of three regiments, to our regiment of three squadrons; and the British cavalry division of three brigades, to our brigade of three regiments. Moreover, the British organization has a greater proportion of auxiliary units, and these are not merely *attached* to cavalry organizations, but become integral parts thereof.

To each cavalry brigade (analagous to our regiment) is assigned one battery of horse artillery. No artillery is assigned to any of the units in our service, less than a cavalry division. In the British cavalry, the proportion of guns to sabers is about 1 to 274. With us, it is 1 to 580.

Each British cavalry brigade has forty-eight machine guns, or one to every thirty-four and three-tenths sabers. Our nearest tactical equivalent—the regiment, has only six, or one gun to every 257 sabers.

The British brigade also includes a signal troop, and their cavalry division (our brigade) has a signal squadron, while in our service as we know, no signal troops are assigned to a unit less than a division. Moreover, the British cavalry division comprises a squadron of mounted engineers and a motor machine gun battery of four guns, with a three-pounder field gun attached.

AUXILIARY UNITS.

It is to be presumed that the proportions of the auxiliary arms adopted for the British cavalry, have been based on their experiences during the present war. In such case, the proportions in our cavalry are far too low. Moreover, the expedient of *attaching* auxiliary troops to organizations as occasion arises, never results in as good service as if they were regarded as permanent parts of the organizations themselves. British practice along these lines gives force to the proposal advanced by certain of our cavalry officers, that our organization be changed to add a horse battery to each cavalry regiment of three squadrons; and make one troop in each squadron a machine gun troop. This modification in organization would increase the proportion of guns to one to 243 sabers; and of machine guns to 1 to 54 sabers.

MACHINE GUNS.

The British method of distributing their machine guns is radically different from our own. Each British squadron (our troop) has four machine guns, not grouped as a unit, but having one assigned as an integral part of the four troops (our platoons) composing the squadron. This is the extreme application of the principle of permanently assigning auxiliary units to organizations in preference to attaching them thereto as occasion requires. This principle is, however, not carried up to the brigade, where the machine gun squadron is usually broken up into sections and one section is attached to each one of the three regiments—and the remaining three sections are held by the brigade commander as a mobile reserve.

DEPOTS.

It would appear that the British depots are no longer used as training units, and are merely rendezvous points under present conditions. While reservists and hospitals convalescents join the depots, and held there until needed at the front, the peace time function of the depots as training units for the recruits, has been taken over by the reserve cavalry regiments. The recruits remain at the depots only forty-eight hours, when

they are passed to the reserve cavalry regiment for training. In our own service we have very recently come to a somewhat similar system of expanding one of our regular cavalry regiments as a training unit for two new regiments, which could easily be developed into making the first function of our regular regiments that of training units for the national units.

Some form of regimental or brigade depot would however be necessary, as assembling points when training was nearing completion, and a revival of such training depots as the old one at Jefferson Barracks (abolished in 1894) might be brought about.

RESERVES.

While the so-called reserve cavalry regiments in the British service are therefore not truly reserve regiments, but are training cadres for the surplus reservists. With a permanent training personnel, it is easy to see that such units become very proficient in transforming raw reservists into trained soldiers ready to join the colors in the advanced trenches with the least loss of time and labor.

TRAINING.

This training has recently comprised *only sixteen weeks*—an amazingly short period to us; and that it proves sufficient, is evidence of the remarkable efficiency of the training units. If applied to our own service, it would appear that a training period of at least twenty-four weeks would be necessary—at least, until our system of intensive cavalry training had been thoroughly systematized.

The training of British cavalry units includes of course trench warfare, bayonet exercise, and machine gun fighting; but owing to the limited mounted action on the Western front, it is quite probable that training in equitation and the use of arms mounted, is limited to the barest needs of hour, or omitted altogether.

A practice in vogue, of returning officers of some rank, from the front to a training unit for a period of one or more months, serves to coördinate the training instruction with new experiences at the front.

DISMOUNTED ACTION.

The use of shock tactics by British cavalry has been extremely rare—one writer of authority estimating it as only once in one hundred hostile contacts. It has been stated that the organization of the British cavalry squadron and regiment does not lend itself to dismounted work as easily and efficiently as our own organization; and that our system of fire training for such work, makes our cavalry better adapted for it than that of the British cavalry.

The commander of British cavalry troops have been armed with a rifle—not, it is presumed, to make personal use of it unless a hand-to-hand fight takes place; but as a means of rendering less visible, the distinction between officer and enlisted man.

USE OF CAVALRY.

It would appear that in the retreat from Mons, in the battle of the Aisne, and in all the subsequent operations of the British army until "trench warfare" replaced "war of movement," the British cavalry performed most valuable service in keeping with the best traditions of its history. The present trench warfare is of course unique and exceptional, the flanks of the long line resting on impassable obstacles (the North Sea and the Alps respectively), and the offensive and defensive resolving itself merely into siege operations, characteristic of medæval history, in which hand-to-hand fighting and even the wearing of coats of mail have been common. The mobile operations of cavalry have therefore been necessarily very limited. Such conditions do not exist in other theaters of the European War, and could hardly be conceived of in this hemisphere, except into two or three restricted areas.

The British are therefore wise in keeping up the training and organization of their cavalry forces for future mobile operations, in case that the operations again revert to a "war of movement."

Reprints & Translations

REPORT ON THE ROYAL SOCIETY OF PREVENTION OF CRUELTY TO ANIMALS AND THE BLUE CROSS SOCIETY.

THE splendid work and financial assistance rendered the British Veterinary Service by the Royal Society of the Prevention of Cruelty to Animals, and the Dumb Friends League or Blue Cross Society to the French Veterinary Service, have been of great interest to me while acting as an observer of the U. S. Veterinary Corps in France, and I hope that when the time comes for similar societies in the U. S. A. to offer like assistance they will be able to do even half as much as these have done.

The love of the horse seems so deeply rooted into the British character that huge sums of money have been willingly contributed to alleviate and mitigate the horse's sufferings on the field of battle; this work has given untold comforts to the army horse, warm blankets, bandages, sheds, shelters, medicines, ambulances, nose bags, and in fact everything pertaining to his comfort.

This, in its way, has helped the Veterinary Officer in his work, for when he gets a sudden rush of wounded, to find all this help at his disposal, simplifies matters for him considerably. I do not wish to be understood as implying that the British Government supplies were inadequate, for, on the contrary, they are of the best and ample, but the extra supplies given by these societies are of great convenience, the buildings and sheds

so lavishly furnished result in great comfort and saving of horse flesh.

The Secretary of the R. S. P. C. A., at the beginning of the war, was made an honorary Captain in the British Veterinary Corps, and was Adjutant to the Veterinary Brigadier General. There were times when the latter needed in an emergency, say, 1,000 blankets, or a shelter put up at some place. The approval of this expenditure would have taken some time. The Secretary jumped in with the offer from his Society funds and a telegram was all that was needed and the requirements were delivered at once. This Society has spent in these different ways something near $500,000. A report of the exact expenditures is attached to a previous report of mine on the British Veterinary Service.

When one stops to consider that all these funds have been supplied from public subscription in Englan for the welfare of the horse at the front out of a population of forty million people, what could be done by proper organization in America along these lines would be of signal service to our Veterinary Service, and I feel sure there are as may "horse lovers" in the U. S. as there are in England, so let us hope that when the time comes they will respond in equally as well to the call of Prevention of Horse Suffering in War.

I am not cognizant of a like Society in the U. S. I think they are all State Societies and only administer to their local cases. An amalgamation of all into one central Society, say with New York as Headquarters, would strengthen this work, and when the real call for their assistance came, they would be able to do more efficient work from one Central Office.

The Blue Cross or "Dumb Friends League" is an English Society with the Earl of Lonsdale as its President. This Society has given its service to the French exclusively, and I have visited most of their hospitals. They are also entirely dependent on subscriptions, all their hospitals and staff being financed by these contributions.

They have taken over cow sheds, stables and hay barns on the bank of the Seine, at Moret, with fine pasture land adjoining. Here they accomodate around 300 head of sick and wounded French Army Horses. In all, they have eight

different hospitals around Paris. At each of these the French Government has in charge a retired cavalry officer with generally two Veterinarians from the Reserve Corps doing the professional work.

The following is a translation of an article on a visit paid by a prominent Frenchman to the Blue Cross Hospitals at Moret, which, though in rather flowery language, gives one a good idea of the work that is being done at this place:

"Certainly in this epoch in which we live, the horse has not the more heroic rôle of his predecessors, the coursers of Lasalle, or of those who at Reichshoffen rushed to the supreme charge; but, in the history of the war, he will have his place just the same. If fixed by our military painters, after the style of Horace Vernet, and placed in some museum, we will see it in the fury of the action, madly dashing across country, climbing hills, jumping trenches. Used at times where the automobile rests powerless, for rapid transport of the caissons of artillery, of machine guns, of our 75's, of ambulances or of rolling kitchens, these humble recruits are also assistants of the victory. But long already is their martyrdom. How many are fallen in the bombardment? How many wounded? How many sick from exposure? The help he has given to supply without ceasing the materials of war, with a competence and solicitude the most praiseworthy.

"The Blue Cross—this Red Cross of the horses—founded by the English and which has been so appreciated in the Transvaal and then in the Balkan War, has offered its precious coöperation to the French Government. A number of hospitals have been established at the base. The one of Moret and St. Mammés, which we are going to visit, is one of the most important. More than 2,500 horses have been received here and seventy per cent. cured—a fine result—and have been returned to the front.

"On the banks of the Seine they have taken up their location, utilizing some farms, sheds; some large stables have been constructed by this Blue Cross; thousands have come to join us with their generous gifts. And this work is not without results, as we have given aid to more than a quarter of a million horses. Here are treated hundreds of poor wounded beasts,

tired out, foundered, the skin reeking, the breast quivering, the nostrils wide from powder bursts, the eye of the warrior depicting pain, some with fever, some with pneumonia, etc., but this noble animal gives forth no complaint of pain. Large operations are made with the aid of seven or eight men. The patients are laid down on a mattress of straw under a large tree, chloroform is administered and the Veterinary Officer performs some miraculous operations. Here a patient had his flesh ploughed by shell burst and yet seems none the worse for it; there, this one that a lad leads around has had his hoof torn off and gradually it is reforming; still another, with a large wound on his croup that gangrene has invaded, with the help of the surgeon it is now on the high road to recovery. "Come an and see this terrible wound," says the Veterinary Officer, pointing to another animal, that has been torn by shell splinters, but who is now recovering under his skill.

"In an isolated stable are the contagious cases, mange, or glanders.

"But all the miseries are quickly forgotten, and it is a pleasure to see the convalescent when they are led out of the hospitals, going peacefully to the water, or revelling in the green fields at the side of the river, where forgetting the cannon's sounds they only hear the rhythmic sounds of the washerwomen's clothers-beater. Nearby is the cascade of a lock falling on the mossy stones in the shade of the woods. This makes a small Switzerland for them—a real poet's corner. After some weeks of this treatment, one is hardly able to recognize the patients—they improve so rapidly—all that remains now to be done is to get them ready for the front. A period more or less long follows in the huge stables where they are groomed and conditioned, the result being that shining coats and fat have taken the place of the thin, wasted appearance. But alas! their enjoyment is short, because this means the signal for their departure for the Hell to which they are to be returned. Like the cured soldiers—they must fight again."

MILITARY NOTES

NEW METHOD OF PACKING, ISSUING AND CARRYING THE RESERVE RATION.

I AM sending you by registered mail this date a tin containing a half day's reserve ration, viz: Six ounces bacon, eight ounces hardbread, fifty-six ounces coffee, one and two-tenths ounces sugar, and eight one-hundreths ounces salt.

The idea is my own; not a theory, but rather it is a practical correction of the manifold errors observed from experience in actually drawing, issuing, carrying, and eating the ration under the present system. When troops take the field every man is issued two day's reserve rations. The cavalryman's consists of four packages of hardbread and one package each of bacon, coffee, sugar, and salt. Total eight. These he carries as best he can. His ration bags are usually lost. At best the whole is inconvenient, and if he doesn't consume them promptly his clothing and equipment are soon besmeared with bacon grease; his pasteboard boxes of hardbread break; and in short all his ration becomes a general mixture of food, sand, and horsehair.

By my method he has only four packages, uniform in size, hermetically sealed, fitting snugly in the saddlebags, and which can be carried indefinitely without loss, shrinkage, or contamination. If not finally consumed, they can be turned back into the mess-sergeant for troop use or reissue in the future.

The infantryman draws his two days' ration. Practically the same remarks apply to him as to the mounted man, except that the former has only six packages instead of eight. This because he puts his bacon in the bacon can, and his coffee, sugar, and salt in the condiment box. Still, these six packages are in three different sizes.

By my method he has only four packages which fit crosswise in his roll, and the bacon and condiment cans are absolutely *done away with as articles of issue.*

To give some examples under the present system. In the field the mess sergeants take their details with bed blankets, shelter halves, dirty sacks, and what not over to the quartermaster to draw so many days' rations. Maybe the quartermaster has some scales and a carving knife. The chances are he hasn't. At any rate the rations become dirty, time is consumed, and there is frequently disagreement among the various persons interested. The mess sergeant of Troop "A," for example, then puts his detail on the four corners of his blankets, and perhaps through the rain or a sandstorm, takes what is presumably good food over to his troop. If the organization is down to individual cooking, as is often the case, these rations must be divided, scales or no scales, sharp knife or no sharp knife. Right here there is no end of trouble, dirt, bickering, discontent, and loss of valuable time.

Now take my system. The mess sergeant has, say, 200 rations due him. The quartermaster sergeant says: "Count him out 400 cans. There you are." Two minutes. No argument. No room for argument. The mess sergeant then issues each of his men two days' rations, four packages; and Private John Doe, the worst growler in the troop is silenced; he draws his allowance in less time than he can fold a saddleblanket; he knows that his stomach is getting its government guarantee; and he is ready to march and fight.

One may say that such things should not happen in a well regulated command. Well, the fact is, they have happened, and they will happen again. Last year I was down in Mexico. Part of the time I was a field quartermaster, all the time a troop officer, and most of the time a hungry man. I had not only to hustle but rustle, and have seen times when an ounce more or less of bacon or sugar would put murder in the heart.

Under my system when a patrol goes out on hurried orders, it draws rations in a minute without any calculation, weighing, or guesswork. A detail goes on outpost, detached post, or special mission; its ration issue is a mere matter of counting on the fingers.

Under the present system of supply, if Private Doe happens to be in an outfit a hundred miles or so from the base, he does not get his full ration, simply because it has been pawed over by truck-drivers, teamsters, and packers with a consequent loss due to carelessness, theft, and wastage.

My method greatly simplifies the transportat on problem. A truckmaster, wagonmaster, or packmaster does not have to make calculations involving a lot of packages varying in size, weight, shape, contents, and perishableness. My cans can be put up in cases all uniform thorughout the service in every particu ar, involving no petty quest ons of weight or measure. Everything is reduced to simply *rations complete*—so many to the hold, car, truck, wagon, mule, or man.

Troops on the march cook only two meals a day. One of my cans contains one such meal, full weight, clean, and well preserved. The dimensions of the can are 2½ x 2½ x 8¾ inches—only slightly larger than the present cardboard box containing a half-day's ration of hardbread alone. It is in fact two cans each with the same cross-section, which are united end to end by a small tin band soldered over the junction—just like that on a can of potted ham, only mine doesn't require a key to open it. A strong man can open it with his fingers. Any man can do it with a horseshoe nail, tong, shoestring, bayonet, or cartridge. The band removed, the can falls into into two parts; one, open at one end, containing everything but the bacon (incidentally this part can be used as a cup or small boiler); the other contains the bacon, still sealed, but can be opened as simply as the original can, and in like manner.

The one and only objection to this affair is the cost. This is largely offset by the abandonment of the ration bag, the bacon and condiment cans, and the varied commercial containers of the several components of the ration.

So much for dollars and cents.

The saving in time, temper, wastage, petty thievery, and contamination by dirt is simply immeasurable.

To win the war the soldier's stomach and his government must work together in harmony—"an army marches on its belly". The question of expense is a secondary matter.

Attention is invited to the fact that the sample can which I am sending this date is a crude affair, handmade by a local tinner. The tin should be lighter, the band narrower, and the solder more lightly applied and evenly distributed. Also the can is about three-fourths-inch too short and consequently lacks two pieces of hardbread. But these defects are easily corrected. The sample illustrates the principle, and that is what I am after.

I would suggest that the government run its own factory for turning out these rations, as it appears that millions will be required in the near future.

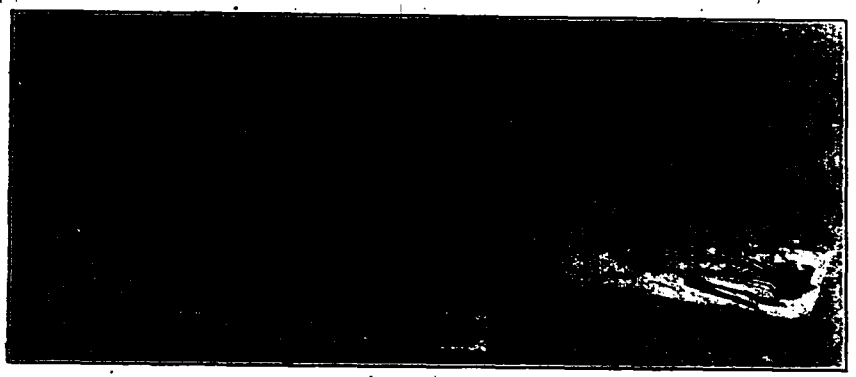
W. A. McCain.
Captain, Cavalry.

A SIMPLE TROOP PACK.

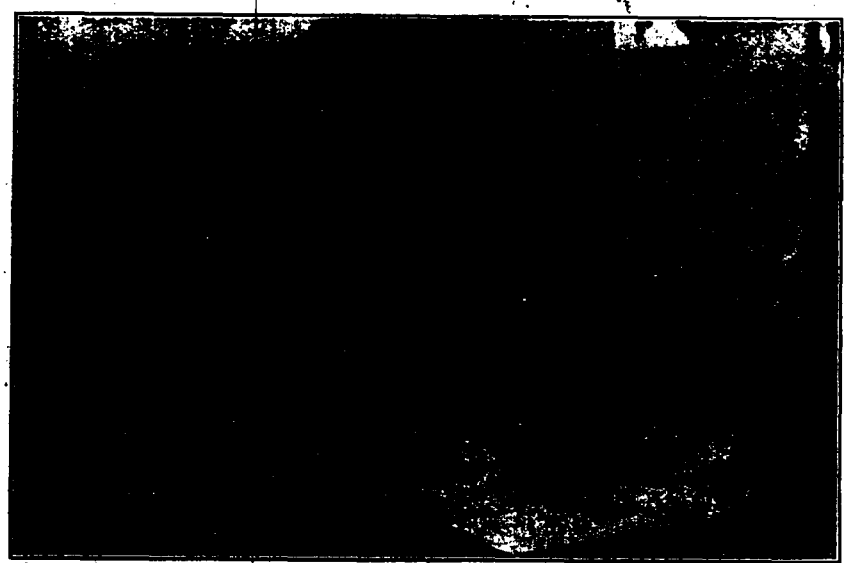
A SIMPLE little troop pack in use by the Second Squadron, Twelfth Cavalry, is shown in the accompanying photographs, and is designed to obviate individual cooking by troops, which is ordinarily so extravagant of food and so conductive to indigestion. It enables the men of the troop to have good meals as long as the pack animal accompanies the column.

The pack contains:

2 bake pans,
2 boilers, nested,
1 dipper,
1 ladle,
1 salt-shaker,
1 pepper-shaker,
1 meat fork,
1 butcher knife,
2 canvas buckets,
1 folding grate.



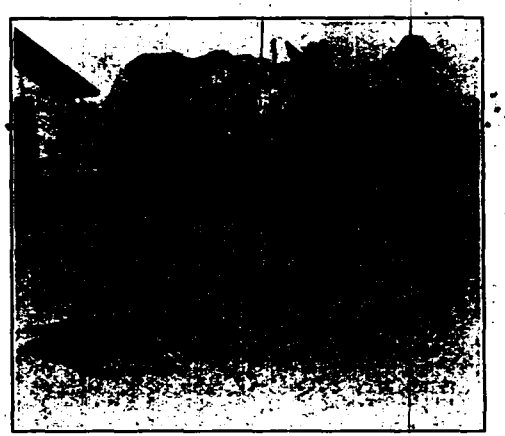
THE PACK LAID OUT.



THE PACK READY TO MANTA.

The above constitutes the mess outfit and weighs fifty-two pounds. The remainder of the pack consists of:

1 field picket-rope,
3 field picket-rope pins,
1 canvas watering trough,
6 iron pins for trough,
1 axe,
1 spade,
1 leather pouch for pins and tools.



THE PACK READY FOR TRAVELING.

The total weight of the pack is 137 pounds, and leaves room on the pack animal for about 100 pounds of rations or other articles needed. The pack lends itself to the economical use of the bacon ration, issued in fourteen pound tins.

The folding grate enumerated above, serves the double purpose of protecting the bake pans and boilers in the pack, and of furnishing a support for same in cooking over a camp fire. It is made of half-inch round iron in four section, hinged together so as to fit and wrap entirely around the boilers and bake pans when packed. The severe strain of the lash-rope is taken up by the grate, thus relieving the pressure on the boilers and bake pans, which might otherwise be deformed on the march.

The leather pouch for pins and tools is made to enclose and protect the latter when securely tied together. The heaviest leather is used, and is fastened together by rivets and not by stitching. The cap is made to buckle on snugly.

The photographs show the pack laid out with a load of eighty-four pounds of bacon, in fourteen-pound tins; the pack ready to *mania;* and the pack on the horse.

This mess outfit was intended to meet the needs of a troop of seventy men. At war strength an additional pan and boiler may possibly be required; but the number of extra cooking articles should be kept to a minimum, in order to save space for reserve rations.

The pack, in the main follows the pack of the Ordnance Department.

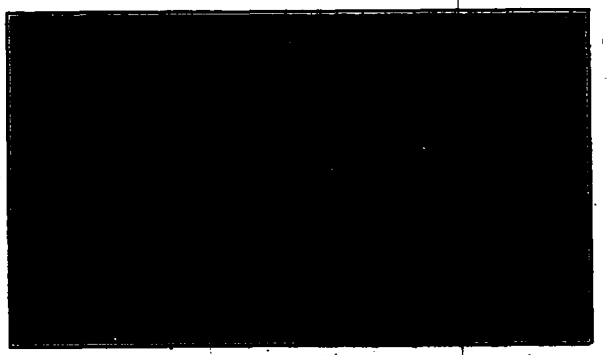
PORTABLE WATERING TROUGH.

THE Cavalry Equipment Board at Rock Island Arsenal has recommended to the War Department, the replacement of the circular water-tank, model of 1912, by a rectangular water trough of simpler design and less weight, designed by Major William D. Chitty, Twelfth Cavalry, and which has been tried out successfully by regiments in the Philippines and Hawaii.

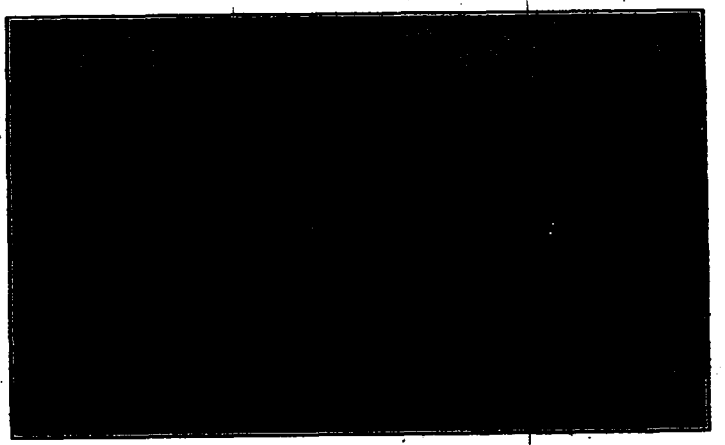
The dimensions of the trough, which is made of the heaviest canvas, are six feet in length and two feet in breadth, and sixteen inches in depth. By making it of the commercial six-foot width canvas, side seams are eliminated, and sewing is necessary at the ends only. A two-inch hem is made around the top edge through which is worked the holes for the iron pins, and this hem is further stiffened by sewing in a continuous section of half-inch rope.

These pins are made of half-inch round iron, twenty-six inches in length, but an extra three inches is needed to form a hook, by bending the iron back on itself three inches from the

end, and turning up the iron into a hook in such a way that the latter falls below the head of the pin and thus escapes the blows of a sledge or hammer when the pins are driven into the ground.



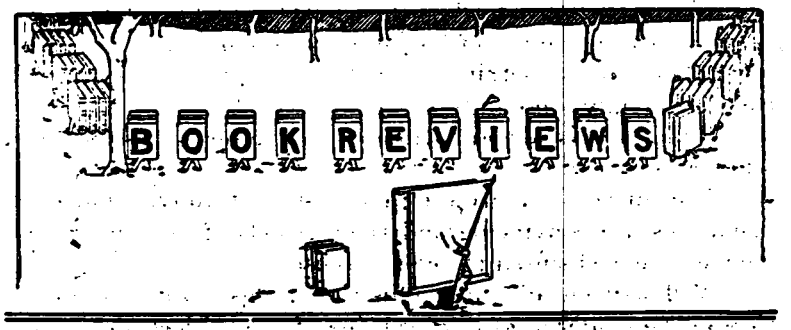
THE TROUGH SET UP.



TEN HORSES DRINKING FROM THE TROUGH.

The total weight of the canvas trough with its six pins is about eighteen pounds, and its capacity is about one hundred and ten gallons. A single trough has been found ample for a troop of one hundred and five troopers.

In addition to keeping the weight of impedimenta down, such a trough as this will be found very useful in France, where reports state the banks of river and canals are so steep as to preclude watering animals by leading in, without some risk of going over their depth.



Military Sketching.* This is an attractive looking little volume, it is handy and it is expressed in simple, easily understood language. There are two other books on the same subject now in more general use in the service, but for the novice, who can at best, if unaided, get but an elementary knowledge of the subject, this book will have a distinct value. It has two distinct advantages over the two other books above mentioned. First, it has a chapter on landscape skecthing, which is a most useful form of sketching for use in identification of targets, especially useful for artillery. Second, it is cheaper than either of the others. For use by any one who is trying to learn to make sketch maps by himself it will be found to be well adapted to the purpose. Any one who learns thoroughly all that is in this little volume will know as much about military sketching and map reading as the average officer requires.

*"ELEMENTS OF MILITARY SKETCHING AND MAP READING." By Captain John B. Barnes, 5th U. S. Infantry. D. Van Nostrand Company, New York. Price, $0.75.

Battle Fire Training.*

This is a book for which many officers have been waiting. The subject of how best to utilize rifle fire in battle and how to train our men in order to make such utilization possible is one that has been much neglected. A few of our regiments have been trained in the use of battle fire and a few officers of other regiments know something about the subject, but, as a whole, we are woefully ignorant thereof.

Every company and battalion commander needs this book and needs it now.

The authors have covered the subject fully. Their explanations are convincing and the methods of training recommended are well suited to their purpose.

Well written and fully illustrated, this book can not fail to give the reader a good knowledge of the subject and enable him to train others in its application.

Army Paperwork.†

This is a comprehensive working guide in army administration, with numerous "model" letters, indorsements, reports, discharges, final statements, pay rolls, muster rolls, etc., together with a complete list of all reports, estimates, returns and requisitions to be made by post commanders, quartermasters, company commanders and others. It is invaluable to surveying officers, company commanders, subalters, quartermasters, adjutants, first sergeants and company clerks.

*"BATTLE FIRE TRAINING." By Captain G. S. Turner and Captain J. J. Fulmer. G. Banta Publishing Company, Menasha, Wisconsin.

†"ARMY PAPERWORK." A Practical Working Guide in Army Administration. By Major Jas. A. Moss, U. S. Army. George Banta Publishing Company, Menasha, Wis. Price, $2.00, postpaid.

Trench Warfare.*

This is a practical manual for the training and instruction of officers and men in trench warfare, based on the latest information from the battle fronts of Europe. It includes the atack and defense of trenches, the construction of trenches and obstacles, mining and countermining, bayonet fighting the use of grenades and bombs, liquid fire, asphyxiating gases, machine guns, etc., etc.

Military Primer.†

This is the fourth edition of this well known book. It has 200 pages, 6" x 9", with a pocket containing a section of the war game map, the guide map of the Gettysburg-Antietam country, the Geological Survey of the Gettysburg Country and vicinity, the Strategic Map, and the New Oxford section of the War Game Map.

"This work is in no sense a text book for advanced students but a book for the beginner in the theoretical and practical study of the military profession. No previous preparation nor technical knowledge of the profession is necessary in order that the student may understandingly enter upon a study of the subjects taken up.

*"TRENCH WARFARE." By Major Jas. A. Moss, U. S. Army. Geo. Banta Publishing Company, Menasha, Wis. Price, $1.25, postpaid.

†"A MILITARY PRIMER." By Lieutenant Colonel F. C. Marshall, 15th Cavalry, and Captain George S. Simonds, 22d Infantry. Fourth Edition—Revised. The Edward T. Miller Company, Columbus, Ohio.

BOOK NOTICES.

"WITH A P.—P. SCOUT IN GALLIPOLI. A Record of the Belton Bulldogs." By E. Y. Priestman. A Scoutmaster of the 16th (Westbourne) Sheffield Boy Scouts. With a Foreword by Lieutenant General Sir Robert Baden-Powell. Second Edition. E. P. Dutton & Co., New York. "Letters written home by a Scoutmaster serving as a subaltern. This is one of the few really humorous books the war has produced. Despite the shadow of the inevitable tragedy (the author was killed in action, November 19, 1915) the book is full of the cheeriest kind of fun; the irressible outburst of youth who was blessed with the ability always to see the grotesque side of life. The book will teach you to respect Tommy Atkins as a man aside from his ability as a soldier."

"FUNDAMENTALS OF NAVAL SERVICE." By Commander Yates Stirling, U. S. N., with special chapters as follows: "The Naval Aeroplane," by Lieut. Com. H. C. Mustin, U. S. N.; "Electricity in the Navy," by Lieut. Com. C. S. McDowell, U. S. N.; First "Aide and Hygiene," by Ralph Walker McDowell, M. D., passed Asst. Surgeon U. S. N. Illustrated. 575 pages. 12 mo. Limp Cloth. Price $2.00, net. P. B. Lippincott Company, Philadelphia.

"Prepared for the civilian who considers entering the Navy, and the non-commissioned officer who desires advancement, this book reveals, as does none other, the training and work of a navy man, the principles of Naval Strategy, the organization of the Navy Department, and the evolution and purpose of the different types of fighting ships. It is as complete a handbook as could be presented upon the practice and theory of all matters pertaining to the Navy."

"THE PLATTSBURG MANUAL: A Handbook for Federal Training Camps." By First Lieutenant O. O. Ellis, U. S. Infantry, and First Lieutenant E. B. Garey, U. S. Infantry. More than 150 illustrations. The Century Co., New York, N. Y. Price, $2.00, net. The book has a Foreword by Major General Leonard Wood, U. S. A., and is indorsed by Major General Barry, Bliss, Wood and many other high army officers.

"LETTERS OF A PLATSBURG PATRIOT." By O. N. E., U. S. Infantry Association, Washington, D. C. 1917. Price, $1.00.

"MILITARY TRAINING FOR BOYS. Prepared for the use of the National School Camp Association, Inc." By Major James A. Moss, and Major M. B. Stewart, U. S. A. Price 50c, postpaid. Geo. Banta Publishing Co., Menasha, Wis.

"MOBILIZING AMERICA." By Arthur Bullard, The Macmilan Company, New York. 1917. Price, 50c.

"DIGEST OF DAVIS' MILITARY LAW OF THE UNITED STATES AND MANUAL FOR COURT MARTIAL INCLUDING THE ARTICLES OF WAR." By First Lieutenant H. G. Ball, U. S. Infantry. Franklin Hudson Publishing Company, Kansas City, Mo. 1917. Price, 75c.

"THE SOLDIERS' ENGLISH AND FRENCH CONVERSATION BOOK." Compiled by Walter N. Gallichan. New and Revised Edition. J. B. Lippincott Company, Philadelphia. Price, 30c, net.

"PURE LOGISTICS. The Science of War Preparation." By George Cyrus Thorpe, A. M., LL. B.; Lieutenant Colonel U. S. Marine Corps, Graduate U. S. Naval War College. Franklin Hudson Publishing Company, Kansas City, Mo. 1917. Price, 75c.

"OUR FLAG AND ITS MESSAGE." By Majors Jas. A. Moss, and M. B. Stewart, U. S. A. J. B. Lippincott Company, Philadelphia and London. Price, 25c, net. This book includes the President's appeal for Unity.

"SKETCHING METHODS." By Captain W. C. Sweeney, Twenty-first U. S. Infantry. The Hicks-Judd Company, San Francisco, Cal. "The writers idea in publishing Sketching Methods is to simplify instruction in the subject and to clear away the mathematics and the mustery which seems to cling to it." He seems to have done it. It is a small book, 4" x 6". of ninety-eight pages.

"A PRIMER FOR THE OFFICERS' RESERVE CORPS AND OFFICERS OF THE VOLUNTEERS AND NATIONAL GUARD, U. S. ARMY. Prepared by Captain Robert R. Welshimer, Coast Artillery Corps, U. S. A. The University of Illinois Supply Store, Champaign, Ill., sole agents. Price, $1.00. This is a pamphlet of 113 pages, 6"x8½", which contain notes on administration tables for organization, military law, field service regulations, topography, hippology, field and coast artillery materiel, explosives, U. S. magazine rifle, small arms firing manual, the rifle in war, and the manual of interior guard duty.

Editor's Table

THE AFFAIRS OF THE ASSOCIATION.

Major General William H. Carter, United States Army was elected President of the Association in February last. This information, however, was not communicated to the Secretary until under date of May 14, 1917, or otherwise, notice of such election would have appeared in the April number of the CAVALRY JOURNAL. This mistake arose, owing to the fact that the Executive Committee of the Association was relieved from duty in Washington about that time and also to the unsettled condition of affairs due to the war.

No Editor has as yet been selected to take the place of the present incumbent, owing to the fact that every body who can wants to go to war, and those who can't don't want the job. The present Editor has now gotten out three numbers of the CAVALRY JOURNAL since it was decreed that it should go to Washington, with the assistance of Colonel Rhodes and Major Eltinge, who very kindly consented to assist him. The Editor has felt for a long time that he ought not to endanger his health by attempting to publish the JOURNAL and it is only by the assistance of these good friends that he has been enabled to do so.

Now that Major Eltinge has been ordered to other fields and Colonel Rhodes has been assigned to a regiment the publication of the JOURNAL will necessarily cease, for the time being at least, unless other assistance should appear. General Carter has been the Editor of the CAVALRY JOURNAL and knows full well the trials and difficulties of this position, and it is possible that with his help the JOURNAL may continue to be issued.

However, as has been the case heretofore, the JOURNAL has suspended publication during war times and it probably will be best to do so now. It has been difficult to procure articles for the Journal in times of peace and in time of war it will be doubly so.

The Book Department of the Cavalry Association, however, is in a flourishing condition and we are now selling more books than ever before, so that it should run as usual even though the JOURNAL is suspended.

DISMOUNTED CAVALRY.

Rumor has it that some of our new cavalry regiments are not to be mounted and are to be trained and used as infantry. For service abroad this is a good plan but a better one would be for those of our regiments which are not to be broken up in order to form new regiments is to dismount them and send them abroad *at once*. They are ready, willing and anxious to do their part and are hardened from service on the border.

None of our regiments are as fit for field service today as our cavalry regiments who have been on the border and in Mexico for the last four or five years. Kilpatrick said "Cavalry can fight anywhere except at sea" and while this may be an exaggeration they certainly can fight as well as infantry as they are armed and trained with the rifle, just as are the infantry.

Inasmuch as the present warfare in Europe, at least on the Western front, is siege warfare on a large scale, there is no immediate prospect of any use for mounted troops. Until the German line is broken and they are routed, there will be nothing for cavalry to do as cavalry pure and simple, but plenty of it for them to do as infantry. Even if there were, there is no way by which our cavalry regiments could be transported abroad as cavalry, there not being sufficient transports available at the present time.

Our cavalry went to Cuba in '98, dismounted and did the work of infantry just as well and rendered good service there.

The trouble on our border seems to be ever for the present and even if it were not, the militia could attend to the matter of patrolling the border until this crisis is past.

This present war in Europe has not been any argument for the doing away with cavalry, especially in this country where on either of our flanks is an open country where cavalry can work at will. Even in Europe, on the Eastern front, cavalry has done its part, judging from the slight reports that we have had, and even on the Western front there was plenty for cavalry to do until they settled down to siege operations.

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EDITOR.

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Address all communications to THE U. S. CAVALRY ASSOCIATION, Fort Leavenworth, Kansas, and make checks payable to the same. Remit by checks on banks in the United States, only or by money orders drawn on the Post Office at Fort Leavenworth, Kansas.

JOURNAL

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United States Cavalry Association.

VOL. XXVIII. OCTOBER, 1917. No. 116

FORWARD.

MAJOR GENERAL WILLIAM HARDING CARTER, U. S. A. RETIRED.

THE War of 1917 is fraught with much of consequence to the regular army for the new organization, just being completed, may be greatly modified as a result of future experiences in Europe. The final acceptance of the doctrine of universal liability to service, as laid down in the enactment known as the selective draft act, opens a new vista to American students of preparedness. It was a foregone conclusion that no army, qualified to take America's part in the present gigantic conflict on land and sea, could be raised under the volunteer system. If we are wise in our day and generation we will endeavor to make sure that there shall be no relapse to our old and defective system embracing regulars, national guard, militia and volunteers, with all the claims and counter claims involved in determining their relative and combined efficiency.

The first thing to be done at the conclusion of the war is to create a new national army, based upon past and present experience, which should be organized mainly with reference to war, but prepared also for the police duties of peace with which our regulars and national guard have become so familiar.

The nterests of the nation alone should be considered in the adoption of a general policy. Equality of opportunity for military men is desirable to preserve contentment in normal times, yet there is no denying the fact that those responsible for the enactment of military legislation have grown weary of the problems involved in questions of promotion and relative rank, and the less publicity to that phase of army existence in the next reorganization the more comprehensive will be the consideration given to our new military policy.

It has been a real misfortune to the army that its several arms have been placed in the light of having special and sometimes antagonistic interests. The human element has always played its part and the evil results of envy and jealousy have been confined to no particular era from that of the Conway Cabal against Washington down to the pettiness of some things incident to our last war, that of 1898. Like the poor we will always have rivalries, ambitions and jealousies with us, but when our conquering soldiers shall return to our shores nothing should stand in the way of a revision of our military laws to meet the measure of the nation's need.

In the past the army has had to be satisfied with the meager legislation it could obtain from an unaroused and seemingly indifferent Congress, confused by conflicting interests and persuasive special arguments. A clear light should be made to shine upon our system by our present war experiences.

Military students have quite unanimously stood for a National Army unhampered by the numerous small state armies. If we have learned our primary esson it certainly should include the abolition of the divisions and brigades of the national guard and of the term itself, this without any reflection upon the loyalty, fidelity or qualifications of any particular organizations. The state forces should, hereafter, comprise only such organizations as may be needed to perform duty within the commonwealth and especially during the absence of the national army in its proper field of operations. We have been forced into wrong channels in recent years and the effort to make of the state troops a substitute for a national army was doomed to failure from the first. Carrying on war is a business involving every known art and science, and nothing but business principles will justify the hope of success.

It is not probable that compulsory military service in the regular army will commend itself, as the result of the great war, but universal training of our young men by and through the regular establishment is so essential and so wholly in the interest of national efficiency and economy of life and treasure, that we may expect its careful consideration at the hands of Congress when the subject of military organization is again before it.

When the nation comes to adjust itself to the new world conditions there will be a great opportunity for men of big caliber to impress themselves upon the movement and to render inestimable service to coming generations. Unhappily nearly all our legislation on any and all subjects is the result of compromise. There will not be much room for compromise on the essential principles of our future military policy even though we may give and take on the arrangement of details. It is the duty of every officer to keep his eyes and mind alert and observant and to qualify himself for advising correctly when called upon to do so.

The service which the cavalry has rendered in Mexico and on the border of that revolution prostrated country has been conspicuous for its efficiency. The nations whose millions have "dug in" on the Belgian-French line have completely changed the character of war in that theater of operations and cavalry finds no field of special employment there. Before the termination of the war we may find that our ideas of army organization will all be modified, but such "digging in" of armies on American soil and consequent endless siege operations, are quite beyond belief at this time.

The prediction may now be indulged that when the history of the war shall have been completed the expenditure of material and the cost will create more astonishment than the list of casualties. To us the serious lesson is that the theories of peace bear so little relation to the actualities of war. In our tactical problems and maneuvers there would have been no successful advance of masses in the face of modern fire—the umpire would have settled all that.

Very little of accurate detail drifts back from the several theaters of war. The secrecy which obtains makes it all the more necessary for our own officers to study the problems of the battle lines in detail as well as from the larger point of view. There will be no more intelligent or level headed men there than our own. When we examine a map showing the lines of the combatants from the sea to and around Verdun, and come to a full realization of the very slight effect of all the fighting of the past three years, we begin to recognize that not only has there been no field of opportunity for the cavalry but that none of the other arms has arrived at such a degree of perfection as to be regarded as the determining factor in future wars. It seems as though the cost of victory in men and especially in munitions, makes it impossible to make and maintain any general advance. Practically all efforts are local and accompanied by such expenditure of artillery ammunition as to make long continued action impossible. The amount and cost of the ammunition being used is rolling up national debt at an unprecedented rate, yet when the future statistician with his cold and heartless facts, comes to recite cause and effect, we shall probably learn that the ratios of casualties of the War of 1917, when taken in connection with the numbers of men comprising the several nations in arms, are no greater than those of our Civil War, and that the weight of projectiles fired to cause each casualty will exceed the figures of our great war. These questions and a multitude of others are of great professional interest to our own service, and those who have first hand knowledge must be relied upon to enlighten their comrades of lesser opportunity.

With many cavalry regiments, transformed for the time being into field artillery, we may expect some reflection of their experiences in their post war writings. It has been a just cause for pride of arm that our cavalry has always performed, in the most admirable manner, the fighting functions of infantry on the Frontier during the Civil War and in the war with Spain. If they shall acquit themselves with equal merit as field artillerymen in the War of 1917, another bright page of history will be added to those which now contain the long record of brilliant and gallant achievements by the cavalry of other days.

The fact that the allied cavalry is not raiding around the flanks of the German lines does not determine the future employment of that arm, or its elimination in modern war, any more than the failure of the allied infantry to go "over the top" and break through should constitute a criticism of that arm. It is practically settled that either opponent, when willing to make the necessary preparation and pay the price in material and men, can smother small areas and secure a few prisoners from the shambles, but such operations have not put fear into either army, or in the hearts of the nations behind them, and the gigantic struggle goes on.

Just now we are interested in the technical military problems, but in the years to come officers of the educational qualifications usual in the American army will find profitable study in the history of events leading up to the war, as well as in the readjustments involved in the terms of peace, for upon these latter the progress of civilization will hinge. These studies are for the era of peace; just now every mind and heart and arm should concentrate upon the problem of securing that over-mastering victory which alone commands influence at the council table around which will gather those who are to write the course of future history.

EXPERIMENTAL NIGHT FIRING.

By Major HOWARD R. HICKOK, Fifteenth Cavalry.

INCIDENTAL to the conditions of modern warfare night operations have taken on an increased importance. The general principles are laid down in the various treatises. Actual practice is necessary in order to acquire real efficiency. But, in general, the service in peace seems unable or unwilling, once the daily daylight routine is over, to overcome it's inertia and the minor discomforts and engage in night exercises. Until this is done we will never acquire that efficiency necessary to complete success.

The subject has numerous sub-divisions, such as maneuvers, minor tactics, tactics, etc. Under the last named, fire tactics and musketry are important and intensely practical. Many will recall past incidents while on active service of outpost duty where the overwrought nerves of the detachment caused it to open a considerable fusillade on phantoms represented by the ordinary night noises and with a record of no hits. The fact that no hits or an incommensurately small number of hits are made in night firing has led to the formulation of the maxim.

"In night attacks rifle fire should in general be prohibited but the attack should be pushed in to the hand to hand combat."

This does not preclude firing in false attacks or in creating diversions.

In defense the case is different. Here, night firing can usually be provided for and means taken to make it effective. The position can usually be selected so as to have some field of fire, at least at short ranges, the foreground sufficiently cleared for that purpose, obstacles prepared to hold the attack under fire and automatic signalling devices or annunciators provided

to announce the arrival of the atack at the obstacles. The firing will in general be of little effect unless there has been previous practice or unless some auxiliaries are used. On this point Balck says* that without helping devices night firing is ineffective except at the shortest ranges, say 100 yards more or less.

Training in horizontal firing† increases the efficiency of night firing. Among the various auxiliaries may be mentioned illuminated auxiliary aiming targets, sighting rests, and the various methods of illuminating the foreground.

An illuminated auxiliary aiming target may be made as follows: Assume the obstacles to have been placed at a certain range, say 200 yards and the section of the defensive firing line fifty rifles with fifty yards front covering an equal frontage of the attack.

In the center of the rectangle thus indicated the auxiliary

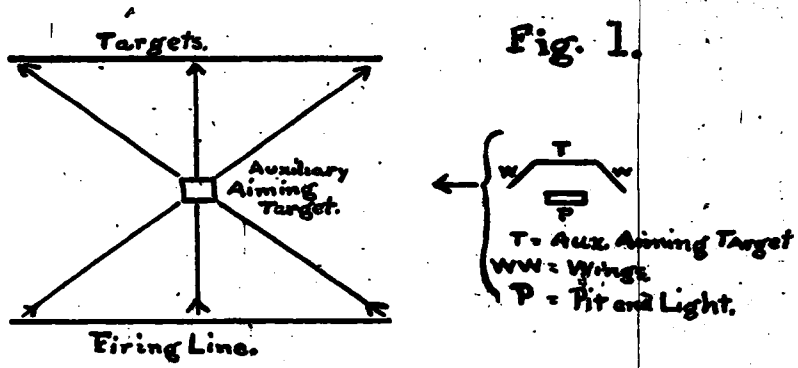


Fig. 1.

target is placed. All that this target need be is a piece of white canvas about three feet wide and four feet high with wings and supported on suitable uprights.

The side toward the enemy should be painted black and with the wings insures the target not being visible by the attack.

*"About Night Firing by Infantry. War College translation No. 2668."

†"Training in Night Movements. Translation from Japanese by Lieut. Burnet."

A light, which may be a lantern or other restricted means is placed in front of the target and in a pit to prevent it being shot up. By using such an aiming device each man in the firing line will really fire on that part of the attack in front of the corresponding defender on the other flank.

Among the various forms of illuminants are: Chemicals in containers automatically set off when the attack arrives in the area where they are placed; illuminating rockets which, on bursting in the air, ignite an illuminant suspended from a parachute, range up to 500 yards, time of burning one-half to three-fourths minutes; rifle and pistol illuminating grenade discharged from fire arms and similar in action to illuminating rockets; star shells discharged from mortars or howitzers and liberating one or more illuminants similar to those of rockets, but having a greater range. If a great number of these illuminants are set off simultaneously and at frequent intervals before the previous ones die out there is a continuously lighted area on which an effective fire may be brought.

The search light has probably been as much developed for batt e use as any other means of illumination. The restrictions on it's use are due chiefly to it's vulnerability to hostile fire.

Incidental to a School of Musketry at Fort William McKinley, P. I., in December, 1916, and to instructing a class of non-commissioned officers at the same post for commissions, April–June, 1917, there were conducted some demonstrations in night firing.

The School of Musketry exercises were as follows:

OBJECT OF EXERCISES.

To compare the relative value in night firing of firing with various auxiliaries and of firing without such aid.

SITUATION.

A company has been assigned a certain section in a defensive line. The foreground has been cleared, obstacles prepared, and annunciators installed to give warning of hostile approach. A night attack is impending.

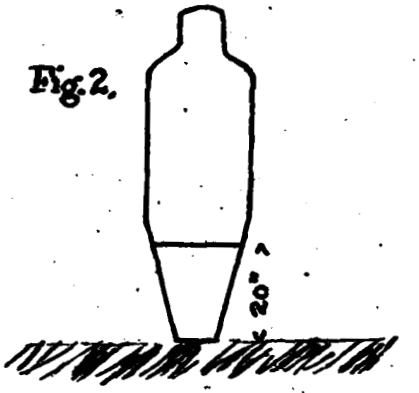
ARRANGEMENTS.

Sixty-four rifles (one company of infantry) properly organized to constitute the firing line, ten rounds per rifle to be fired.

EXERCISE NO. 1.

It is assumed that the enemy will attack in fairly dense formation, *i. e.*, that his second and third lines will follow close up. To represent this three rows of figure M–Targets, sixty-four targets one yard between centers in each row are placed in

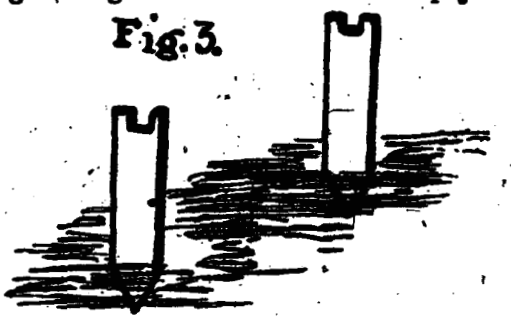
Fig. 2.



column formation, one row at each 300, 350 and 400 yards respectively.

When fire opens it may be expected that the attack will lie down and begin to dig. A white horizontal stripe twenty inches

Fig. 3.



above the bottom is drawn on the target to represent the height of a man working in the prone position.

In this exercise the auxiliary aiming target above described was used. Sighting rests, a pair for each rifle, were

placed in daylight by each man who was to use them and who actually tested rested sighting his rifle through them.

EXERCISE NO. 2.

This exercise was similar to No. 1, except that all auxiliaries were removed.

EXERCISE NO. 3.

Two powerful moveable (hardly "mobile" in the present accepted sense) searchlights borrowed from the Corregidor harbor defenses were used. Sixty-four M–Targets similar to those used in Exercise No. 1, were similarly placed in one row at 500 yards.

Exercises Nos. 1 and 3 were each fired two times, one each on each of two nights. Exercise No. 2 was fired once only.

Exercise with the non-commissioned officers' class, though similar in some respects, were materially different.

Twenty-five men constituted the firing line, each firing ten rounds.

The men firing were different in each exercise and cumulative experience was eliminated. Twenty-five M–Targets, marked as in the previous exercises, were placed on the 200 yard parapet. The range was 200 yards in all the exercises.

EXERCISE NO. 1.

Sighting rests were placed in daylight and tested for direcion, the men who were to use them placing their rifles in them.

EXERCISE NO. 2.

Fired in darkness, no auxilaries being used.

EXERCISE NO. 3.

Two trench searchlights, of the model recently developed by the engineers were used to light the targets, the firing line being in darkness.

The results obtained in both sets of demonstrations were as set forth in the following table:

	No. of Exercise.	Range	No. of Targets.	Shots Fired.	Entire Figure				Daylight Exposure		
					Hits.	H.	Figs. hit.	D.	Hits.	H.	Figs. hit.
MUSKETRY SCHOOL	1										
	1st Series	300 350 400	64 M 64 M 64 M	640	99 76 58	15.5 11.9 9.1	44 35 26	68.8 54.7 40.6	180 168 155	27.8 25.9 24.3	69 [illegible] [illegible]
	Totals		192 M		233	36.5	105	Av. 54.7	501	78	177
	2d Series	300 350 400	64 M 64 M 64 M	640	91 66 50	14.2 10.3 7.8	44 31 27	68.8 48.4 42.2	do	do	do
	Totals		192M		207	32.3	102	Av. 53.1			
	2										
		300 350 400	64 M 64 M 64 M	640	39< 28 14	6.1 4.4 2.2	23 24 11	35.9 37.5 17.2	do	do	do
	Totals		192 M		81	12.8	58	Av. 30.2			
	3 1st Series	500	64 M	640	103	16.4	46	71.9	142	22.1	55
	2d Series	500	64 M	640	130	20.3	51	79.7	do	do	do
N. C. O. SCHOOL	1	200	25 M	250	56	22.4	19	76.0	80	32	25
	2	200	25 M	250	30	12.0	15	60.0	do	do	do
	3	200	25 M	250	72	28.8	22	90.0	do	do	do

ABBREVIATIONS: H=% Hits; D=% Figs.

RESULTS.

	Entire Figure							Below Horizontal Line							
				Daylight Expectancy								Daylight Expectancy			
	H.	Figs. hit.	D.	Hits.	H.	Figs. hit.	D.[1]	Hits.	H.	Figs. hit.	D.	Hits.	Figs. hit.	P. M.	REMARKS.
[illegible]	18.5	44	68.6	120	27.8	60	98.8	22	5.0	23	34.4	90	48		Using auxiliary aiming target and sighting rods (3 per rifle.) Three rows of targets 1 yd. between centers, placed in column formation at ranges as large given. Battle sights used. 64 Figs. in firing line. Average shots. "Daylight expectancy" computed separately for targets at each range as if all shots had been aimed only at that target, with center of impact in center of target. Rate 16 shots per minute.
[illegible]	11.5	25	54.7	169	25.9	50	92.5	10	1.7	9	14.1	84	47	40	
[illegible]	9.1	20	40.5	155	24.3	58	91.1	8	1.25	7	10.9	74	43		
[illegible]	36.5	105	Av. 54.7	591	78	177	Av. 92.4	50	7.97	38	Av. 19.8	248	138		
[illegible]	14.3	44	68.8	do	do	do	do	25	3.9	18	28.1	do	do	do	
[illegible]	10.2	31	48.4					10	1.7	10	15.6				
[illegible]	7.5	27	42.2					5	.85	5	7.8				
[illegible]	32.2	102	Av. 53.1					40	6.45	33	Av. 17.2				
[illegible]	6.1	20	25.9	do	do	do	do	11	1.7	10	15.6	do	do	do	Exercise the same as No. 1, except that all auxiliaries were removed and all the firing took place in darkness.
[illegible]	4.4	24	37.5					6	.9	6	9.4				
[illegible]	2.2	11	17.2					4	.6	3	4.7				
[illegible]	12.8	55	Av. 30.2					21	3.2	19	Av. 9.9				
[illegible]	16.4	46	71.9	142	22.1	55	89	28	4.4	23	3.4	53	36	do	Targets illuminated by two high power searchlights. Rapid fire, 64 rifles in firing line. Average shots. Rate 7.2 shots per minute.
[illegible]	20.3	51	79.7	do	do	do	do	30	4.7	21	3.3	do	do		
[illegible]	22.4	19	76.0	89	33	24	96.1	12	4.8	8	3.2	46.3	21	do	Twenty-five rifles in firing line, good shots. Sighting rods (3 per rifle) used. Rate of fire: Normal.
[illegible]	12.0	15	60.0	do	do	do	do	9	3.6	8	3.2	do	do	do	Same as in No. (illegible) except sighting rods removed. Battle new pattern in firing line.
[illegible]	22.5	22	90.0	do	do	do	do	9	3.6	7	2.8	do	do	do	Same as preceding exercise except targets illuminated by 2 Polish searchlights. Battle new pattern in firing line.

ABBREVIATIONS: H=Shots fired. Figs.=Figs. hit. Hits: Total No. Figs. P=Area below horizontal line. M=Area M—target entire.

COMMENTS.

These exercises were too limited to admit of universal generalizations. Nevertheless some interesting facts pertinent to these particular exercises were observed.

There was, of course, no accurate sighting. Sights were laid down flat and pointed in the general direction of the targets.

The firing took place on the A Range over which the majority of the men had previously fired the regular season's target practice. As they knew all the landmarks the result would be to increase the percentage of hits when firing in total darkness without auxiliaries over what such hits would be when firing over unknown terrain.

The lower or prone portion of the target is about forty per cent. of the area of the entire target. This portion of the target should properly have received forty per cent. of hits. To the contrary, this did not obtain once, the average being about twenty-one and five-tenths per cent. The known tendency in battle and at night is to over shoot. The figures here presented accentuate the fact. A man lying down has also a vulnerability in depth which these exercises would not show.

The exercises with targets placed in column formations, fifty yards between echelons, plainly indicate the vulnerability of such formations under fire at night.

The relative value of auxiliaries is shown by the following comparison, the figures being taken from the preceeding table:

		ACTUAL HITS.					
Range yards	Computed daylight expectancy %	Illuminated target		Using sighting rests.		No. Auxl. used.	
		Hits. %	Figs. hit. %	Hits. %	Figs. hit. %	Hits. %	Figs. hit. %
200	32	28.8	92	22.4	76	12	60
300	27.8			14.9	68.8	6.1	36
350	25.9			11.1	51.6	4.4	37.5
400	24.3			8.5	41.4	2.2	17.1
500	22.1	18.3	75.8				

With fair illumination of the targets the night results were not far from the computed daylight expectancy. If a means could be devised of illuminating the rifle sights without increasing the visibility to the enemy, the efficiency of fire on illuminated targets would be further increased.

Other auxiliaries, so far as the effectiveness of fire is concerned, may be all placed together in one class. Their combined effect is less than that obtained when firing on an illuminated target, but usually many times greater than that obtained when no auxiliaries are used.

Firing without auxiliaries is at 200 yards only two-thirds as effective as fire on an illuminated target at 500 yards. At 400 yards this class of fire almost reaches the vanishing point of effectiveness, registering only two and two-tenths per cent. hits against the standing target of six-tenths of one per cent. against the prone. These results, obtained by firing under the most favorable circumstances will be further reduced in actual practice. The futility of such unaimed unobserved fire except at the shortest ranges is apparent.

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SOME NOTES ON FORAGE.*

By Lieutenant Colonel SAMUEL G. JONES, Thirteenth Cavalry.

THE food of the horse may be broadly divided into two general classes, both of which are necessary components of a balanced ration:

1. Concentrates: The grains and substitutives.

2. Roughage: The hays, fodder, and similar foods, to give bulk for distension of the digestive tract, and to act as a mechanical aid in splitting up other foods, preventing the tendency of food to pack, and to thus render easier, the access of digestive juices to the mass.

SOME FUNDAMENTAL PRINCIPLES OF FEEDING.

Function of Food.—The functions of food are: To repair waste, to promote growth, to furnish heat and energy, to store up or lay on fat. Only the digestible portions of the food are available for these purposes. The nutrients that serve these functions are: Protein, carbohydrates, and fat. A definite amount of each, varying slightly with infinite conditions of use, (temperament and condition of animal, health, idleness, work, fatigue, climate, weather, etc.), is required to insure the most economical performance of these functions—a shortage or an excess of any one of these constituents meaning an unbalanced ration, and a waste, both potential and actual. Often, the wrong concentrate is used because its composition and function of its nutrients is not clearly understood. "It is

*These notes have been compiled from many sources, but principally from "Animal Management" (British Service), "Feeding Horses" (Dr. Cochel), "Feeds and Feeding" (Henry), "The Rasp" (1914), and from reports of our military attaches abroad.

They are especially interesting at this time, in view of the probability of sending many horses and mules abroad, where a forage ration different from that fed in the United States, will oftentimes prove necessary.

well then to note what part each of these nutrients plays in maintaining these functions." The results of experience and research show certain chemical constituents in proper, but varying proportions are necessary to fulfill these functions.

BROAD CHEMICAL CLASSIFICATION OF FOODS.

Protein.—Protein (the essential flesh making constituent) is that part of food, rich in *nitrogen* and which is utilized by the animal body in the production of muscle, tendons, hide, hoof, hair, blood and constructive tissues of the internal organs; in short, it is essential for the growth and repair of waste tissue of the body.

The other nutrients—carbohydrates and fat—contain no nitrogen and are spoken of as non-nitrogenous nutrients. No substance that does not contain nitrogen can be substituted for, or converted into, protein. Hence, the absolute necesssity for a certain amount of protein material in a horse's ration. Such feeds as cottonseed meal, linseed meal, peas, bran, shorts, alfalfa, clover and cowpea hay, contain comparatively high proportions of disgestible protein.

Results of Deficiency or Excess of Protein.—Rations rich in protein generally stimulate the appetite and increase all secretions from the body. Of all food constituents its presence in insufficient quantities is most quickly noticeable. Properly balanced foods should contain this constituent in such proportion as can be properly digested and will keep the muscle and other organs at their best.

Beyond this, as when fed in considerably excessive quantities, for any length of time, the result is disastrous. Foods containing them in excess are said to be "heating"—a familiar example being the foods above mentioned and, in a lesser degree, corn.

CARBOHYDRATES AND FATS.

Carbohydrates.—Fat, heat, energy producing constituents—including the natural fats, in the food, starch, sugar and cellulose in the form of crude or woody fibre. Their uses are mainly to produce the necessary heat for maintaining the body temperature, to provide sufficient energy to allow work

to be done without muscular waste and to store up in the body certain quantity of fat as a reserve to draw on in need.

Flesh and fat forming constitutents overlap in a measure and too sharp a distinction cannot be drawn between them, the essential functions of the former are to build up and maintain the organs and muscles of the body to carry out the process of digestion and make use of its results, the latter to provide the heat and energy for the muscles and organs to work with.

Some of the *carbohydrates* may be converted into fat and some may be burned to supply heat or muscular energy. Corn, barley, oats, wheat, Kaffir corn, and the various hays and fodders contain high proportions of digestible carbohydrates.

Fats.—Fat is found in various feeds in smaller amounts than either protein or carbohydrates. It is either stored up as fat, or burned to furnish heat and energy. Cottonseed meal and linseed meal are rich in fat, cottonseed meal containing about three times as much digestible fat as corn.

The *essential* functions of the several nutrients are distinct—minor functions overlap. Heat and muscular energy are produced mainly from the carbohydrates, secondarily from fats and lastly, to a certain extent, from protein substances. One pound of *digestible* fat is worth about 2.24 times as much as one pound of *digestible* protein or one pound of digestible carbohydrates in the production of heat and muscular energy. While the essential functions of the several nutrients are separate and distinct their minor functions overlap, and too clearly defined distinctions cannot be drawn between them. For example, a muscle building food may serve to also produce some fat, and supply a limited amount of ash and yet not give the good results of a fully balanced food.

Result of Excess or Deficiency in Carbohydrates, etc., and in Fats.—When excessive amounts of carbohydrates are fed there are marked disturbances in digestion. If insufficient quantities are fed, emaciation, lack of vigor and spirit result.

When excessive amounts of fats are fed the bowels become too loose and if insufficient amounts are supplied, constipation results.

When carbohydrates and fats are supplied in slight excess of immediate needs of the body, they are stored up as fats.

The fibrous and woody elements are chemically closely allied to the carbohydrates. These comparatively indigestible materials exist in varying proportions in all vegetable foods, varying from two per cent. in corn to forty per cent. in straw. They are notwithstanding their comparatively small nutritive value essential components of the ration of herbivorous animals.

Cellulose Fibrous and Woody Elements.—The fibre serves the purpose as a mechanical aid in giving bulk to the ration in needed extension of intestines, etc., as well as loosening up of mass, preventing compacting and thus permitting readier access of digestive juices to the food to be acted upon, as well as regulating the consistency of the faeces.

Ash or Mineral Matter—Bone Making Elements.—These are mineral elements usually termed "Salts," compounds of lime, magnesia, phosphorous, soda, potash sulphur, etc., and are particularly essential to growing animals. They are constant constituents of the blood and tissues of the body as well as the bone, aid in digestion and by combining with substances which might be injurious, eliminate them from the body.

They are particularly abundant in grass, and hay, produced on limestone soils. A considerable supply of ash is found in all coarse food stuffs, hence this constituent does not cause so much concern as do protein, carbohydrates, and fat. In a ration largely grain, attention must be given to insuring a supply of ash.

Water forms a considerable portion of all food, even in those considered dry, the percentage varying from about ten per cent. in grains, through a large amount in green forage, to over ninety per cent. in tubers.

"A good food for a working animal should contain the above constituents in such proportions that the greatest possible percentage of nourishment can be extracted from it, and a sufficient amount and bulk can be consumed to satisfy all requirements, viz: maintain the body temperature—appease the appetite—and produce the required work, without upsetting the digestion or occasioning loss of flesh. If no one food will answer all these demands then the ration should be arranged so that its several components will do so in the aggregate, and such foods are usually described as '*well balanced.*' From a well balanced ration the animal can extract the largest possible amount of nutriment, though from no food, however suitable, is it possible for the total amount of its nutritive value to be absorbed by digestion."

"At any point of observation we find the ration for the horse usually composed of only one or two kinds of grain and a limited number of coarse dry fodders, the feeder insisting that these are practically all that can be given this animal with safety and economy." One need not go far, however, to find the list more or less changed, sometimes entirely so, yet with the same local claim as to superiority and economy.

The almost universal feeds for horses in this country are: In the Northern States, oats and timothy hay; in the South, corn as a concentrate and dry corn leaves for roughage; on the Pacific Coast crushed barley is the common grain, while the hay comes from the wild oat, barley or wheat plant.

Passing to other countries there is an interesting array of dietary articles for the horse: "In some sterile countries, horses are forced to subsist on dried fish, and even vegetable mold; in Arabia on milk, meat-balls, eggs, broth, etc.; in Persia and Mexico, barley is a common food for good horses; in some parts of India, balls the size of billard balls are made up with salt, pepper, other spices, flour and butter and are thrust down the animal's throat and grasses or hay fed as roughage; in the tropics, barley, corn, guinea corn, sugar cane tops, molasses, sugar and bamboo shoots are fed; in France, Italy and Spain besides the usual grasses, hays and grains, the leaves of limes, the tops of acacia and the seeds of the carob tree are used.

THE CONCENTRATES AND SUBSTITUTES.

From among this variety of concentrates, the experiences of the better civilized nations have shown that oats are generally speaking the best of grains for horses.

Weight of oats vary greatly from as low as twenty-five pounds per bushel for very inferior, to over fifty pounds in superior. The average weight of the samples furnished the

Army in 1913 was thirty-six pounds per bushel. The nutritive value of these different oats furnished, varied greatly. While the weight of the oats per bushel is not the sole test, in general the heavier the weight of oats per bushel the greater its nutritive value.

The characteristics of good and inferior oats, and the principle defects in oats, or means used to conceal such defects, are described in many treatises and are simply mentioned here. Such are: Foxy, kiln dried, mustiness, mouldiness, sprouting, rat-tainted, and dirty oats.

Sometimes clipped oats are considered among the defectives. Clipping is simply the removal of excess beard, generally by rapid passing of oats over a revolving wire brush or screen. Clipped oats are easily detected by appearance of the altered oat with squared-end and the adhering of a large quantity of the removed beard to the hand when plunged deep into the sack. Clipping is not essentially an actual defect as a shorter, plumper appearing oat with more weight per bushel is obtained by the buyer. The fact that it was thought advisable to subject oats to this process indicates, however, that the sample was not of a very high class originally.

Feeding Oats.—Oats are the safest grain to feed horses. The latter are able to consume and digest a larger quantity of them than any other grain, without special preparation, and without their digestion being upset. This safety is due in no small measure to the presence of the oat-hull, which causes a given weight of grain to possess such volume that the animal rarely suffers from gorging, as the digestive tract cannot hold a quantity of oat grain sufficient to produce serious disorders. In this regard oats resembles bran and is in contrast with corn. With horses at *heavy* work the amount which they may be fed is practically as much as the animal cares to consume, provided a suitable quantity of roughage is included in the ration. This amount of grain will vary from twelve to sixteen pounds per day. For animals at *moderate* work an average of ten pounds per day suffices, and working horses, when rested for any length of time may receive four to six pounds per day. If the animal has poor teeth, from old age, etc., is hard pressed for time, or eats hurriedly from natural greediness, or for fear that his neighbors may rob him, as is especially the case in a large body of horses fed in an open stable, he is inclined to swallow the grain ration without proper mastification. In such cases it is of decided advantage, when practicable, to bruise the oats. The grain should not be crushed flat, but simply enough to insure that the husk of each grain is split. Otherwise the oats are best fed whole to mature horses with good teeth.

The boiling or steaming of oats is not recommended, facilities are not generally available and the practice is more suitable to the needs of the hospital than the troop stable.

Recent experiments indicate that new oats are not as dangerous as generally supposed. They should, however, be fed with caution.

Some Substitutes for Oats.—In large parts of North, South and Central America, India, and South Africa, Indian corn is the staple grain. It was practically the sole grain obtainable for horses during the French intervention in the Republic of Mexico from 1861–67.

In the chase after the bandit Villa and his followers into Chihuahua and Durango, in 1916, history repeated itself. Corn was the only grain the native inhabitants had, and they possessed so little of this grain that American troops, in the interest of humanity, had to limit the demands of themselves and animals to the barest necessities. For days at a time, parched corn was the sole food obtainable for man and beast.

In the watered valleys of the state of Chihuahua, and Sonora (and possibly in all northern Mexico), the native grasses grown in abundance and cure on the stalk; and unless ruined by the winter rains or snows (very infrequently the case), they furnish very palatable and nutritious natural hay. The grazing is ideal for the raising of stock, and for an invading cavalry force would materially supply any deficiency in the regular supplies of roughage.

Containing as it does, a small amount of mineral or bone-building matter, corn is unsuitable for the rearing of young stock. It is richer in digestible carbohydrates and in fats, than is oats. Carbohydrates produce, as is well known, a large amount of heat in the process of digestion, which fact explains the common observation that corn when fed in quantity

with prairie hay, is too "heating" to be fed to working horses in *hot* weather. It is at its best in cold weather.

There are two general varieties of corn—the dent and the flint. In both varieties, the grain should be dry, of reasonable size, of a bright color, and quite hard and free from dirt. When bitten, it should taste sweet, and should have no distinct odor. The average weight of shelled corn is fifty-six pounds to the bushel, and seventy to seventy-eight ears weighing about seventy pounds, when well dried, will make fifty-six pounds or a bushel of shelled corn. One pound of shelled corn equals six-tenths of a quart.

Corn travels badly in bulk, once it is shelled from the cob, and is very liable to get "heated" during long voyages or in closed storage. It then becomes darker in color, softer to the feel and acquired a pungent odor. It may also suffer from mustiness or mouldiness. In all cases where quality is under suspicion, the points of the grain should be closely examined, as this is the spot where the damage is most easily detected. It is liable to be attacked by weevil.

Where its use is general and it is fed as the sole grain ration, it is customary to feed it on the cob.

Ear corn is safer to feed than shelled corn, as the grain keeps best on the cob, the horse eats corn on the cob more slowly and chews the grain more completely. One hundred pounds of corn shelled, mixed with 125 pounds oats has a greater theoretical food value than 225 pounds of clear oats. When fed as the sole grain fourteen to eighteen ears of corn will constitute a ration. By horses accustomed to its use it may be consumed whole without ill effects; but where practicable it should be crushed as the grain is hard, difficult to masticate and takes a comparatively long time to digest. It is best fed not whole and as the sole grain component, but crushed and mixed with other concentrates, as with oats, with small additions of crushed beans and peas. Corn fed with oats should not replace more than one-third to one-half the oat ration.

The change from oats to corn should occur very *gradually*, the transition period lasting from two to four weeks according to the extent to which corn is to replace the oats.

Owing to the fact that this grain is very palatable to the horse and is slowly digested, thorough mastication is of paramount necessity. The admixture of chaff, or a small amount of cut hay (not less than one inch lengths) to the grain to insure proper mastication, is particularly demanded.

Since it is a slowly digested food, horses should *not* be watered until a considerable time has elapsed after feeding corn.

New corn may produce indigestion. The dent varieties having more starch, are softer and more easily masticated, though no more nutritious than the flint varieties.

Corn meal alone, is a sodden substance in the animals' stomach, and while in this condition is not readily attacked by the digestive juices, and should be diluted or extended with something of a light character. Bran serves well for this purpose, because of its lightness and cooling effect, as well as because of the protein and mineral matter it furnishes. It is not recommended except for emergency use.

Corn oil meal and corn oil cake, by products of corn utilized in glucose breakfast foods and other manufactured products are rich in protein and should not be fed in large quantity but mixed with other grain feeds. They are not recommended.

BARLEY.

This is one of the most widely cultivated cereals, growing from seventy degrees north latitude to the sub-tropical zones. Formerly one of the chief bread plants of many ancient nations, it is now utilized principally in brewing and stock feeding. In this country, as a feed for animals, its use is confined almost wholly to the Pacific Slope, where corn and oats do not flourish in equal degree. In the East it is a general horse food. The Arabs maintain their horses almost exclusively on this grain, using it unground. The Berbers of North Africa use it likewise with excellent results.

Characteristics of Barley.—"The grain should be plump and short, quite hard, with a thin wrinkled skin and small, fine, but not shrunken ends; its color should generally be a pale golden and it should be free from any distinctive odor.

Specimens grown in hot countries are generally smaller than those from temperate climates." (*Animal Management.*)

It should weigh about fifty-four pounds to the bushel.

Feeding Barley.—With horses native to the soil, where it is grown, it is frequently fed whole and as the sole grain ration, but not always with impunity. For all others it must be specially prepared, or it rapidly gives rise to indigestion and colic. Since fifteen per cent. of the total weight of this grain is closely adhering indigestible hull, it is best fed *parched*, boiled, or crushed by passage between rollers, thus splitting the hull without crushing the kernel as the finely ground meal forms a pasty unpleasant mass with the saliva. This pasty condition, however, can be partially remedied by the addition of wheat, bran, or corn meal to the barley meal.

Barley is higher in digestible protein than oats and considerably higher than in corn. It contains higher precentage of the carbohydrates than oats and less than corn. Barley has less oil than oats or corn. Barley replacing oats should be fed in the ratio of thirteen—twelve pounds.

By-Products.—Dried brewers' grains, pound for pound for oats, has been successfully fed. They are much relished by the horse. "They should be fresh and given without delay, as they rapidly sour." The German War Department has abandoned their use, and they are not recommended as a general, but solely as an *emergency* food.

RYE.

Rye is used to some extent in northwestern Europe as a horse food, but no records of its use exist in this country. Rye does not differ materially from wheat in composition. It is a distinctly inferior horse food. In countries where it is so fed, it is said to be coarsely ground or cooked and mixed with chaff. In large quantities it is said to cause diarrhoea. If cooked, it should be fed promptly, as it rapidly ferments.

This grain is liable to suffer from the growth of the *ergot fungus*, which may be recognized as a small body about one-half inch long of a purplish black color. As a horse food in the field it should not, except under pressure of necessity be fed alone as a whole ration, but mixed with other concentrates available.

In Germany two to four pounds are fed to work horses daily together with oats or other concentrates. Rye should not constitute more than one-fourth of the grain ration.

RICE.

Palay or paddy, (unhusked rice) is extremely indigestible for animals unaccustomed to its use; for those constantly fed on it, it is a serviceable grain and keeps them in workable condition. It is improved by being crushed. It is best fed, not as the sole grain ration, but in lieu of a portion of the oats. The best mixture appears to be five pounds of oats and four pounds of palay per day, per animal (horse). Rice must be used with the husks on, as the woody fibre is needed to give bulk.

It is poor in protein and rich in carbohydrates. The amount necessary for a full ration is somewhat greater than oats.

WHEAT.

Shrunken and poor quality of wheat grain, during large crop years is now largely fed to farm animals in the West.

Wheat is generally regarded as a very unsuitable food for horses. Compared with corn it carries a higher percentage of carbohydrates and protein. It is reputed a colic producer.

It is stated wheat has been given whole up to seven and one-half pounds without ill effects; mixed with corn, oats or bran it is superior to either alone, for weak horses. It is essential that the grain be quite dry as it is otherwise extremely indigestible; it should, if possible, be crushed or *parched* and mixed with some other concentrate, or with chaffed hay to insure mastication.

Flour is constantly given in India as a nourishing food to animals, undergoing severe exertion. Low grade, "dark feeding," or "red dog" flour, usually contains the germ of the whole wheat and because of this, is rich in protein and fat. Such flour is of high food value for hard-worked horses.

During mastication, wheat and flour adhere to the gums, forming a pasty mass. This can be prevented by admixture of bran, corn meal, cut straw or hay or some such substance with the wheat or flour.

Bread has been fed to London cab horses with economy and success, the only drawback being that many loaves were consumed by the workmen. Coachmen of Paris feed brown bread to their horses, and this food is given in countries where hay is dear. To prevent stealing, it has been recommended that straw be mixed with the dough before baking.

Stale bread from bakeries has been fed to horses at the ratio of one pound of bread to two pounds of oats. But it is usually fed as a luxury rather than a regular ration, or oftentimes as a supplemental ration from damaged or surplus flour. Wheat and its products are to be regarded only as an emergency ration when no better ration offers, or to supplement a shortage of regular supplies.

A ration of two parts of cracked wheat to one part by weight of bran, together with the usual hay ration, has been successfully fed to hard-working horses.

WHEAT BRAN.

Bran should be dry, and sweet, flaky, free from lumps—the color varying with the character of wheat from which it is divided.

Chewed, it should not taste gritty and when the hand is plunged into it, it should be perceptibly covered with flour on withdrawal. It is infrequently adulterated by an admixture of barley or rice hulls and sand. Close examination will detect the hulls, and a hand full placed in water, the sand.

Under the influence of damp, bran becomes sour and lumpy; this is its commonest defect.

Bran contains a high percentage of ash, protein and woody fibre. It rarely contains sufficient proportion of flour to be considered a work producing food, but is used as an adjunct to the grain ration, in order to ensure mastication, increase bulk and to mix with heating foods. Given as a mash, it is supposed to be laxative and in the British Service is a pretty constant item of the Saturday night and pre-holiday ration.

"A bran mash should be made by scalding two to three pounds of bran in a bucket with boiling water, which is then covered and allowed to stand until cool enough to eat; the addition of a little salt makes it palatable." (*Animal Management.*)

The bucket used must be kept clean, as the bran mash ferments rapidly.

A refreshing and quickly made partial substitute for bran mash, can be made by putting a couple of handfulls of bran in tepid water and permitting the horse to drink.

The French Army in 1911, after most careful and prolonged experiments in feeding bran in various ways, issued an order very materially changing the practices as to bran feeding long followed in that Army.

Simple bran as a substitute forage, is replaced by a bran mixture, known as "improved bran." A summary of this mixture which is worthy of consideration, follows:

Improved bran can be used for replacing oats three to two by weight. Improved bran is a bran mixture consisting of bran, seconds, and thirds in the following proportions—bran one-half, seconds one-fourth, thirds one-fourth. It must come from milling of wheat, and should be fresh, odorless and sweet to the taste. It may be bought mixed, or can be supplied separately and mixed by the troops using it.

The following instructions will govern the use of this bran: In the dry state it absorbs its weight of water. Swallowed in this state, it augments in volume while in the stomach, due to the fluids it find there, and produces indigestion.

Fed *dry* to a hungry horse it is very dangerous. Mixed dry with oats, bran interferes with the mastication of the grain. The loss in mastication is proportional to the amount of bran in the mixture. The horse eats proportionally much quicker, mixtures containing a high percentage of bran; he gets the impression of a food already finely divided, needing little chewing, and he bolts it.

In mixtures poor in bran, the latter on the contrary reveals its presence and produces a slower mastication.

Bran *wetted* and mixed with oats produces a mastication of the latter still more imperfect than when mixed dry. The time taken to eat it is reduced, for the animal gets the impression of a food not only already finely divided but insalivated

as well. This method of feeding bran is a permanent danger to the digestive organs.

Bran fed alone, either wet, merely damp, but well mixed up, or as a thin mash, is very refreshing as it excites the horse to take in a large quantity of liquid.

From the above it results:

1. That the feeding of *dry* bran is prohibited.

2. That it is advantageous to mix a small quantity of dry bran not over one-tenth, with the oats of a horse which plays with his grain and does not eat freely for any reason.

3. That the best way to feed bran is separately, either as a mash or dampened.

Supplied to horses once or twice a week in the form of a "mash" made with scalding water, bran proves a mild, beneficial laxative.

Used continuously, the animal's system becomes accustomed to it, and the laxative property is less marked.

BEANS AND PEAS.

Characteristics.—Beans should be hard, dry, sweet to taste, light brown in color. Peas should be dry and sound, not of a dark color. Both beans and peas are very liable to weevil. A bushel of either beans or peas should weigh about sixty-four pounds. The varieties distinguished by their color, are blue, white, grey, etc. Among the common varieties of leguminous seeds (peas and beans) distingished by name and that are available in the United States, Canada and Mexico may be mentioned, the northern field pea, and cowpea, the Soja (Soy) bean and the horse bean. Some varieties of beans and peas cannot be fed. The "Java" bean is reported as unsuitable, as it possesses poisonous qualities.

New beans are indigestible, and they should not be used until they are a year old, with increasing age, however, they depreciate and are liable to become infested with weevil, and darker in color. Peas wet when harvested or stacked, become black. Peas and beans are considered the nutritious of the foods given to animals, as they possess an exceedingly larger proportion of flesh forming elements; but owing to this fact

they are very *heating* and *cannot be given in large quantities* under any circumstances, and are not advisable at all, unless the animals are subjected to long continued or sudden and severe labor, or are undergoing exposure. They should never be fed as the sole concentrate, and never under the above conditions. The amount which it is advisable to give in addition to other forage should in *no case exceed four to five pounds;* and they should *always be split or crushed* on account of the extreme toughness of their husks, but not ground fine as it leads to waste. Feeding of the legumes is less dangerous in a cold than in a warm climate.

These legumes ground, mixed with cornmeal, ground oats, middlings, etc., have in certain localities proved a satisfactory and economical substitute for *not exceeding* one-half the usual grain allowance.

All small, hard grains such as wheat, barley, rye, kaffir corn, millet, the legumes, beans and peas, should always be rolled or parched to open the tough husk.

NOTES ON CAVALRY EQUIPMENT.

The Editor:

COLONEL RHODES' contribution under the above title in the July number of the JOURNAL tempts me to submit two letters on the subject which I found with the papers of Lieutenant General Chaffee, while selecting data to be embraced in a volume on his life and services. One of the most valuable attributes of the CAVALRY JOURNAL, of which I am glad to say I have a complete set, is the vast amount of historical matter contained in its issues. It seems very appropriate that the views contained in these letters on equipment from the pens of two officers of life long experience in the cavalry should be preserved in permanent form in the pages of the JOURNAL. I am very familiar with General Chaffee's service, not only through a friendship of forty year's duration, but by reason of a recent study of his career from the documentary side, and I think his experience of march and battle is second to that of no one who ever held a commission in our army. There were many able young cavalrymen in our service at the close of the Civil War. With Merritt, Custer, Wilson and Mackenzie, easily in the first flight, among the juniors none were regarded with higher esteem than Chaffee and Wirt Davis.

Out of much counsel there will come light when there arises some young officer with talent for analysis and energy to press his conclusions against inertia until he awakens a demand for correct action. Certainly the cavalry has no legitimate complaint that its suggestions for improvement go unheeded. Never in our history have would be inventors had such patient hearings and prompt experimentation of their plans as have come from the bureaus, especially the Ordnance Department, in recent years. It should always be borne in mind that generations are apt to travel in circles after their forebears, and that every supposed new idea is not necessarily an original one.

The Ordnance Bureau has had to deal with many inventors whose suggestions are not new. Many inventions are basically wrong in principle, while some without mechanical defect or violation of principle are not improvements on present or past systems. The establishment of perpetual motion still tempts some men with mechanical turn of mind to become inventors.

WILLIAM H. CARTER,
Major General, Retired.

AUGUST 12, 1910.

Col. E. J. MCCLELAND,
President, Cavalry Equipment Board,
Rock Island Arsenal, Illinois.

DEAR COLONEL:

Your letter of July 7th was not delivered to me until the 18th, an unusually long time on the way, but really a short time in comparison with the number of days I have delayed in making reply. I have not had time to give the subjects you refer to, very serious consideration. When one finds fault with the soldier's equipment, he ought to come forward with a remedy which can be demonstrated an improvement.

Horse Equipment.—I do not suppose our cavalry officers propose to abandon the McClellan saddle. There is nothing to substitute, and, besides I understand serious effort has been made by the Ordnance Department during quite recent years, to shape the bars to fit the average horse's back as near as possible. Seemingly, this is all that can be done to remove objections to the McClellan type of saddle. But I still hear complaints about sore backs, and if not as many as formerly, a good many show up on nearly every long march. The bars of the saddle are so narrow, that the back gets all the pounding; the ribs of the horse afford no support, on the principle of the Aparejo—the best weight carrying saddle ever invented. Some day a cavalryman will work up a service saddle much like the pig-skin in its bearing surface on the back of the horse. It will be heavier than the McClellan, but this is a matter entitled

to no consideration whatever if half the sore backs made by the McClellan are eliminated.

In a private letter received before yours dated 7th of July, you asked whether the picket pin was used during the Civil War, and I answered in the affirmative. It was several years after the war that the herding of horses became general. No one dared herd in the Indian country until about 1875. Often at night, horses were put on half lariat, and the men laid down in a circle about them, to prevent Indians stampeding the horses by the sudden rush of a few horsemen among them. In time of war, when large cavalry forces are employed, I greatly doubt herding would be permitted. During the period of peace, I would do no more than prescribe *where to attach* the lariat during war period. Why annoy one generation of soldiers with a string and bob that will only be used possibly by the first, more likely by the second, generation that will succeed them.

I have often thought it bad practice to saddle—as is often done in our service at a gallop, so to speak. Also I think it bad practice to pack before saddling. In the first instance, insufficient care often results; in the second instance, weight over-masters the man, so he must heave or push on the load. You have often seen the horse shudder when the soldier comes down on him with the saddle packed.

The Saber.—Seemingly I have nothing of value to suggest as regards the horse equipment.

Since the introduction of the magazine rifle, theory has slain a million cavalry, more or less—all at least that have appeared on the battlefield in sight of the theorist. What is equally bad for the Saber: This same theory has rendered the spirit of our officers, which is necessary to support and make the saber effective in the hands of the men, as pulseless as the Ashes of Murat. We have no saber-men, worse still, we never will have when the sentiment is strongly unfriendly towards the saber. Unfortunately, the battlefields of the Civil War seldom, very, very rarely indeed, afforded opportunity for its use. The regular cavalrymen of 1860 were the best saber-men we ever had, and they, too few, dispersed and mis-employed, to make record of the saber skill that was in them. Best not pretend to a service that we will never be prepared to perform

efficiently. Eliminate the saber from the soldier's equipment, and our cavalry will nearer conform to fact, viz: Mounted Infantry additionally armed with the revolver. The saber abandoned, the charge as foragers when desirable, would substitute the charge in line with the saber; the latter would never be ordered, of course.

In the past, I have opposed the discard of the saber, but I apprehend the day is not distant when its use will be discontinued, and your Board is in position to decide the question now.

The Cavalry Pack.—For many years, there has been heard an outcry against the weight of the cavalry pack; just as there has been much protesting against the heavy burden of the foot-soldier. Everybody knows that both operate to seriously reduce the efficiency of the army at an important time, viz: in line of battle, after long marches for concentration in strategic positions, etc. It is under such conditions, that these overloads make recruits very rapidly for the quartermaster's depot for disabled horses, (sore backs), and the wagon trains become the rendezvous for an army of stragglers—exhausted men. In my opinion, there is but one remedy for a bad condition which the heavy pack is responsible for, and that is, *two* kits for the soldier:—one luxuries, to be always transported in wagons, the other necessaries, to be always carried on the person and horse.

"War is Hell."—Let this obervation of General Sherman be taken to mean nothing worse than undergoing rigorous personal discomfort for a few days at most, and it will be an easy matter, following an important theory of our Tariff law, to lighten the equipment on the person of the soldier for campaigning. A theory of the Tariff is to tax luxuries, and admit necessaries free. Food, arms and ammunition, in portable shape are necessaries; every other item pertaining to the soldier's kit as now made up, in the last analysis, belongs to the category of luxuries. We all admit the presence of the full kit with the soldier is desirable, but the admission does not solve the transportation problem, which, unsolved, is detrimental to the morale and efficiency of the army. Every soldier should have a roll, viz: Shelter-tent in which to confine his over-

coat, blanket, extra clothing, shoes, etc., all secured with shawl strap and plainly numbered. The roll should never exceed by more than two pounds, the uniform weight to be determined and announced in orders, for the articles specified for the kit. This roll to be always transported for the soldier.

If the soldier should be separated from the train and his roll for a few days, he might perhaps think—"War is Hell," but to remove somewhat his destitute condition, I would supply each man with a close-woven, water-proofed, poncho-style, all-wool blanket, good quality, and liberal dimensions. I have in mind the Indian who for years, as you know, has wrapped his blanket about him, and laid down to pleasant dreams—his saddle for a pillow. As between two articles—overcoat and poncho-style blanket, the latter will afford the most all-round comfort. Of course this blanket would be carried by the soldier, (packed on saddle or worn according to circumstances) and would be the only articles of his equipment so carried in addition to food, arms, ammunition, canteen and mess-kit. You will observe that the poncho-blanket, in conjunction with the roll, the soldier's bed, when he is with the train, will be two blankets and overcoat, instead of one blanket and over-coat, as now:—thus an added comfort. You will note, too, that in garrison, the poncho-blanket will cover him there. Thus his clothing allowance will not be increased, save the poncho-blanket should be better, finer quality, than the ordinary bed blanket, consequently would cost a little more.

Wagon Transportation.—Should the roll I have referred to, be transported for the soldier, the transportation should be definitely determined, and made as certain to the call of the troop commander, as is the troop or company to respond to the orders of superior authority; therefore, the troop and company wagon should be *properly lettered and numbered*, and the mules duly assigned; in other words, this wagon transportation should be under the care and control of the troop commander, and the troop and company wagoner should be the driver of the team. The four-mule wagon of the Quartermaster's Department will not properly answer the needs of a troop and company on campaign; indeed that outfit is a fraud, in my

opinion, on a serious campaign, if we except the flying ammunition columns.

The troop needs transportation for—(War strength):

100 rolls, each about 20 lbs	2,000 lbs.
Baggage, 3 officers each 150 lbs	450 "
Officers mess and stores	200 "
Office desk and 3 chairs	150 "
500 rations (5 days), 5 bls. per ration	2,500 "
Kitchen store, pans, pots, etc. (nested)	400 "
Wall tents	300 "
	6,000 lbs.

For economical reasons, (6 mules *vs.* 8 mules), all this should be in one wagon, therefore a strong *capacious* wagon is best. Six heavy and strong mules will "negotiate" very readily on good country roads (8,000 lbs. [4 ton] wagon), 20 miles in eight to nine hours, and their power to do this should be taken to fix the allowance of wagon trasnportation for each company.

In a four-ton wagon, box especially made with overhang sides to increase packing space to van capacity, an additional 500 rations could be loaded, when the total weight would be 8,500 lbs. approximately.

If it is required, as should be the case, that a soldier on the march shall always carry two days' field rations on his person, the baggage wagon indicated (four-ton capacity) adequately provides for the wants of 100 men for a campaign of twelve days, and if average daily march be fifteen miles you have 180 miles as the distance traveled, without recourse to the army supply train. Naturally the troop commander should be made to suffer serious punishment if unauthorized loading—kind or quantity—should be found aboard. The employer may be held responsible for wrongs done by employees.

You will note that I do not suggest the intrenching tools be transported in the company baggage wagon. If these tools are not carried by the soldier, and I think they should not be until contact with the enemy, they should be transported in wagons, specially provided, and to march at suitable pace with the troops. Before any serious battle in life, there is

time for prayer and preparation! The commanding officer of the regiment should be personally responsible for the intrenching tools of his men.

The company transportation herein suggested you can, I think, figure as amounting to nothing more than a moderate premium paid by government to avoid far greater loss.

(*a*) You cannot successfully overload the American soldier. Easy to hand him the package, but he will throw away the overload and suffer stoppage of pay. Of course he will be resupplied, but in the meantime there is a period of decreased efficiency.

(*b*) An overloaded soldier is full of discontent, a grumbler, spiritless, often a straggler from necessity.

(*c*) A sore back horse, from overload, would have the attention of the Society for the Prevention of Cruelty to Animals in any city of the United States.

I think the General Staff—it has much to do with overload and proper transportation—will admit that every pound of freight removed from backs of soldiers and horses for a day's march, will serve to enhance their physical condition when in line of battle after the march.

Wishing your Board very great success in its efforts to adjust, remedy or remove in appreciable degree, the cause for complaint, fully justified, which officers and soldiers make with regard to the pack, namely, that it is too heavy for man and horse.

Yours truly,

(Signed) ADNA R. CHAFFEE.

AUGUST 31, 1910.

General ADNA R. CHAFFEE,
United States Army,
987 Magnolia Ave., Los Angeles, Calif.

MY DEAR GENERAL:—

The Recorder of the Board, Captain Davis, has acknowledged already the receipt of your interesting letter of the 12th instant, but it is the wish of all members that something further than the routine acknowledgment be made to you. We do

not overlook the fact that your many excellent suggestions have long and wide experience behind them, and they are, therefore, doubly valuable to the Cavalry Board.

Referring somewhat in detail to the subjects you cover, I will indicate the present attitude of the Board, and if you find time later to further advise us, where you think we need advice, we will be most happy to hear from you.

Saddle.—The McClellan saddle has many excellent features all of which we hope to retain. The side bars, however, are too short, and do not conform in other respects to that portion of the back that should bear the load. We are now taking plaster casts of the backs of a number of horses, and we will know to a certainty the normal form that should be given to the bottom of the side bars. So far as we know this has never been done before, and hence we expect more accurate results than former saddle designers have obtained. If all backs were normal, our task in fitting the saddle would now be practically solved, but unfortunately they vary greatly and to meet this difficulty, we are experimenting with an adjustable device, placed between the side bars and under parts of the cantle and pommel. This will allow the side bars, automatically, to open or close when placed on the back, according as the horse has a broad or narrow back. The saddle we are trying promises well, but I will not claim more for it until thoroughly tested. We feel that every new part of the equipment, before final adoption, should be tested on many practice marches. Of one thing I am certain, viz: You will not be able to say that with our side bars the "ribs of the horse afford no support." However, some horses have short, sway backs, and some longitudinal adjus ment of the side bars should be made, if practicable, for them. We have not yet found a solution for this difficulty.

Picket Pin.—Your statement that the picket pin was much used for grazing purposes during the Civil War, and that it is often difficult to find a stick to cut for a stake has made me hesitate about voting for its elimination. It looks as if we can put it to an additional use and thus make it acceptable to the many who oppose its retention. With a slightly changed, but still suitable form, it makes a satisfactory (detachable) handle

for a small intrenching spade. The latter, in a leather pocket, will hang on the off side below the side bar, back of the cantle and serve as a shield to hold the vertically hanging saber and picket pin—(shovel handle)—The English use a horse shoe in a leather pocket in the same way to carry the saber.

We agree with you entirely that it is an error to pack before saddling, and we will try and make our report so strong in this respect as to cause stringent regulations to be drawn to prevent it.

Saber.—I concur in your statement that we have no "saber-men," but we may have if the War Department will put the saber on the same level as the pistol and rifle in the matter of instruction, and offer reward for becoming expert in its use. If we give our best best swordsmen additional pay, and send them on pleasant trips to big competitions, we may reasonably expect to see a new birth of swordmanship and of the spirit for charging in our cavalry. What would be our efficiency today with the pistol and rifle if we had never given the soldier any encouragement in their use except such as is occasionally found in the post on a "field day?"

Under our present regulations, at least, we never fire ball cartridges from pistols to the front, or while charging on the drill ground. There seems to be a general fear of shooting the horse in the head, or the friendly trooper on the right or left. Hence, with the pistol, we never practice a charge under war conditions. In meeting the enemy in a charge, each man will certainly try and shoot the opponent in his immediate front. Is it not too much to ask our men to deliver this fire for the *first* time as they close on the enemy? We certainly must be prepared to enact the part of mounted infantry, and for that reason, I stand for as good a rifle as is given to the foot soldier, but when thrown unexpectedly on the enemy's cavalry, there may be no time for the use of the rifle, and it would seem that the saber would be a more efficient arm than the pistol with which to meet his on-coming rush. Of course, the day is past when we can charge, with either pistol or saber, unbroken infantry, or a battery from the front, unless they be out of ammunition, in which case, we had better dismount and shoot them down.

The Cavalry Pack.—We are deeply impressed by your remarks about overloading, and had intended to fight for sufficient transportation. We wanted the two kits—"luxuries" and "necessaries," as you put the matter, and it is our intention to strengthen our argument by quoting your letter.

We note your comment about the overcoat and poncho style blanket. Our attention has been called previously to the latter, but we have not yet seen one that we thought would answer our purpose. Have you one that we might examine?

Your remarks about the necessary wagon transportation are so well thought out and given in such detail that they will materially assist us. I believe in your troop wagon, "properly lettered and numbered," and will get it if possible. Why not? The batteries have their wagons.

In the old days on campaigns and in long marches on the Northern Plains in the Sioux Country, I thought 4,500 pounds a good load for a six mule team. I see you assign 6,000 pounds on good roads, but will the roads often be "good" enough? I, too, prefer the old big wagon with six mules.

We had thought that the larger intrenching tools had better follow on pack mules rather than in wagons, because in this way they can be delivered wherever the horseman can go.

It is probable we will carry the rifle on the near side, back of the cantle and hanging from the side-bar—the small of the stock caught in a steel frog, with a good spring; the muzzle up. The general appearance will be that of a rifle on a man's back, but the weight will be on the horse. The rifle will be steadied by a ring attached to the cartridge belt, but will place no weight on the soldier, nor will it strike his back. If the soldier be thrown, the rifle pulls loose from the horse, and thus not only remains with the man but cannot drag him by clinging to the saddle. As the trooper dismounts, the rifle pulls from its saddle frog and hangs vertically, muzzle up, by a strap attached at the belt. This strap is too long to take up any weight in the mounted position. The trooper can walk about for short distances, adjust his saddle, etc., and mount with convenience with the rifle hung as described, from the belt. This furnishes by far the best method any of us have

seen for carrying the rifle. Its weight will be counterbalanced by the saber and picket pin on the off side. This change will require us to go to pommel pockets in place of the present saddle bags, and they will be much smaller.

In conclusion, let me say we are greatly impressed by your argument for a *reduced load.*

We shall welcome a good idea at any time, and if anything further suggests itself to you, I hope, General, you will send it to us.

Sincerely yours,

E. J. McCleland

THE TENTH CAVALRY IN MEXICO.

By Captain O. C. Troxel, Tenth Cavalry.

THERE have appeared in the Service Journals at various times, articles dealing with special phases of our experiences in Mexico, covering some action in which a particular troop or troops were engaged, equipment of troops, sanitation, or what not, but I have seen none that dealt in any way with the work of cavalry along its broader lines—that of pushing well out to the front, separating itself from its friendly troops, continuing its work while relying absolutely on the country for its sustenance, and operating in name and in fact as Independent Cavalry. Whatever phases of cavalry work our cavalry in Mexico did not get, certainly none will deny that we did get the part mentioned above. In this article, however, I propose limiting myself to the one phase of how we "lived on the country" and certainly no cavalryman who served in Mexico is more justified in saying that he did *all* the things mentioned above than the members of the Tenth Cavalry, who composed the expedition to near Parral under Colonel W. C. Brown, then in command of the regiment.

I speak of the Second Squadron and Machine Gun Troop Tenth Cavalry, which served in Mexico from March 20th to April 22d, without one mouthful of Government rations, one grain or spear of Government forage, one cent of Government money, no Government clothing, nor aid of any kind; and, when on May 1, 1916, it arrived back at San Antonio, Mexico, from the south, it was truly a case of the survival of the fittest, for there had been no picking of officers, men or horses for any part of the expedition.

We had from 6:00 P. M., March 9th to about 7:45 P. M., April 12th, passed over 750 miles of road space from Fort Huachuca, Arizona, to Santa Cruz de Villegas, near Parral,

in twenty-eight marching days. This, of course, does not measure the extra work done by those men and horses on advance, rear and flank guards, patrols, foraging parties, etc. They were what remained of the same troops that had left Fort Huachuca on March 9th, with wagon and pack trains. There had, however, been certain changes in personnel over which we had no control. Our wagons were left at Culberson's Ranch; the sick men and horses were left at Colonia Dublan; our pack train was on April 5th ordered back to Namiquipa to procure supplies for us, and we continued south retaining one mule per troop. Our sick men and sick animals at that time were sent north with the pack train. There were no further changes in personnel, except for the occasional buying of a horse or mule to keep the command mounted.

Our march overland to Culberson's Ranch was in no sense severe, but the weather was hot, only now and then did we have hay, watering facilities were always poor, the supply insufficient, and frequently none except at our nightly camps, and the country was sandy and devoid of grazing. We thus marched 160 miles before we entered Mexico, we lost several horses from sand colic, and all horses had begun to feel the effects of the march.

At this place, we were joined by the Seventh Cavalry and Battery B, Fifth Field Artillery, and with packed saddles for officers and men, five days' rations and three pack trains, made the march to Colonia Dublan, a distance of something over 100 miles, from shortly after midnight of March 15-16th to the evening of the 17th.

On the evening of the 18th, the Tenth Cavalry received orders to turn over to the Seventh Cavalry all of its remaining rations, and the Seventh left camp at 3:00 A. M. At about 8:00 A. M., March 19th, we received orders to receive the rations in the hands of Battery "B" and entrain for the south. The Battery had already eaten of their five days' rations for three and two-thirds days. As there were not enough freight cars for Troops "I" and "K," only Regimental Headquarters, First and Second Squadrons, Machine Gun Troop, and the Pack Train were entrained. Troops "L" and "M" had not joined.

Our troubles in patching and nailing up the cars, getting material for camps, collecting wood for the wood-burning engine, and getting started late in the afternoon, with the animals inside the freight cars and the officers and men on top—in truly Mexican style—were exceeded, if possible, only by the troubles in keeping the engine going by having the men get off and chop mesquite to burn in it, only to find that the wood must be used to send the engine some place for water, and so on *ad infinitum*.

As a result, all but the first squadron detrained at about 11:00 A. M., March 20th, at El Rucio, about twenty-seven miles from Dublan. For this noon meal, we ate the last of our Government rations except for perhaps some flour, and our pack train carried only oats. From this day on, we were to be "on the country." Each officer had a small amount of money. Personally, I had something less than $10.00, but I had fortified myself with a check book which was to prove of no use to me as we were to strike only one place (Cusi) where money could be obtained for checks.

At first, we had not much trouble in getting a few supplies in exchange for receipts given by the Quartermaster, but as we went further south the natives became poorer and more reluctant to part with their supplies for a possible "scrap of paper," and one cannot blame them.

Considering all the varied circumstances of our being in Mexico, what should we do? To further embitter the Mexican people by taking away almost their last food and forage and not replace it with currency which they knew to be good and with which they could replace the stores taken, seemed to be the action to be taken only as a last resort. It was then that Colonel Brown began giving his personal checks for supplies taken, and continued doing so until his totals aggregated something like $1,680.00. We were so entirely dependent on the country, especially as we had to depend each night on the supplies where we happened to be since we had no pack train, that I do not believe we could have continued south as we did had it not been for this assistance.

As to rations and cooking after leaving Colonia Dublan: We entered Mexico with no other cooking utensils than three

camp kettles per squadron, and, with five troops (we separated from the First Squadron on the morning of April 1st) this gave each troop a kettle three days out of five. This was run by roster among the Mess Sergeants. Later as we were able to find them, kerosene oil cans were purchased at $1.00 apiece, which helped materially.

The only articles of food that we could get regularly were beef and frijoles—very seldom could we get even a poor quality of flour, or corn meal. However, when we could get corn in sufficient quantities to justify us in taking it from the horses, I made a practice of sending out scouts to locate little hand-mills about the size of coffee-mills, and had corn ground up for meal. The details often worked way into the night, but the great tendency was to grind too coarsely and thus get quantity instead of quality, with resultant cramps and diarrhoeal effects among the men. This ground was mixed with water and fried into cakes which the men generally made too thick, and therefore, not being well cooked, were very indigestible. We were very seldom able to get lard or salt and when we got the latter it was common dirty stock salt (rock) and little chunks of it would appear in the eating. Baking powder was impossible either on account of its abscence or cost. Sugar and coffee were practically out of the question. Individuals could at times obtain small quantity of burnt Mexican coffee and were glad to have it even without the sugar. There were a few eggs but they were expensive and the difficult part was in making change for small purchases as there seemed to be no change in the country. We were always crazy for fruits, jams, and sweets of any kind and practically nothing of this kind to be had. When on the few occasions, sugar was obtainable, one could always see men eating it just so. I never allowed meat bones to be thrown away. After cutting off the meat as best we could with pocket knives or mess knives, for individual cooking, the bones would be carried to the next camp, and if we were to have the kettle that night, they would be put on to boil and boiled all night over the fire kept up by the picket line guard. About an hour before reveille, the cooks would be wakened and they would add from three to five cups (three was sufficient) of ground corn, and then just before serving, scrape off all meat from the bones, stir up well, and serve. This breakfast was fit for a king to our minds, and was much enjoyed by all. I have eaten nothing to equal it either before or since and I hope I never have to, but it was good then.

We generally had to eat our beans (frijoles) for breakfast as there was not time in camp to prepare them for any other meal. Even then, the altitude was so high that they could not be thoroughly cooked and so there were more digestive troubles. We tried grinding up wheat for use in making bread but it did not seem to serve as well. Personally, I am very fond of parched corn and nearly always started out in the morning with a pocket full and would have nothing else to eat till night. "Parched corn coffee" also was much better than water.

As to clothing: Each man started with the authorized allowance in his pack. Unfortunately, the men had gotten so used to going out for Border duty and wearing their oldest clothes that many did the same thing this time. This made conditions worse than they should have been. Hoods of stirrups were used to tack on as half-soles of shoes, when tacks were available. Breeches were patched so long as patches would hold together, the men gambling to see whose shelter half was to be cut up for the purpose. Occasionally the Quartermaster bought and issued civilian clothing of all descriptions, and for hats the men took the lining of the saddle bags in the few cases where hats were lost or completely torn up. I got my patches from the lining of my overcoat.

As to horses: Fodder was often obtainable and when at hand was generally insufficient in quantity. There was practically no grazing except the dry grass as it lay dead on the ground. The horses would eat this for about half hour and then stand with hanging heads or lie down. No oats was in the country and corn was generally insufficient. Instead of getting about twelve cups per day, they had often for days at a time only three or four per horse. Occasionally, we had to feed wheat, which seemed to cause flatulency but I do not remember of any bad case of colic in my troop due to it. At one camp we had only ground up corn on the cob, and mostly cob, to feed. We lost a number of horses the following day from inability to keep up.

At all halts, I had my horse unbridled and led to the best place in the vicinity for grazing. Every opportunity was taken to water them and often the distances between watering places were so great that one was hard put to it to decide whether to let them drink the strong alkali water met with or wait hoping for something better. I, personally, saw to it that at least twice a week, the horses were held for a time in the water for the purpose of soaking and cooling their feet. I, also, found it necessary to pick out the places for and supervise the grazing, and I do not care to answer the criticisms of officers whom I have heard condemn this as being the work of a non-commissioned officer. It is shorter and more to the point to say that such officers are simply too lazy to do it.

As for horse-shoes, the horsehoer had his emergency equipment and each man had one fore and one hind shoe (fitted). I learned afterwards what I probably would not have approved at the time and that is that my horseshoer (a new man, too) had taken sixteen extra shoes in his saddle bags. These latter came in handy. At each halt, the horsehoer and his assistant, one assigned to each platoon, stood ready to tighten shoes as called for by the riders whose first duty at each halt was to examine their horses' shoes with that object in view.

I made each man feel that I would do my utmost to prevent his walking so long as his horse was not laid up through being barefooted or by having a sore back, and impressed it on them that I would do nothing for them in such cases, if investigation showed them to have been neglectful, and that, in any case, the individual whose horse became unserviceable from any cause was out of luck. The result was that grooming and saddling became one of very great importance to them and each squad leader inspected the horses of his squad and reported to me that they were or were not in such and such condition and pointed the individual horses out to me that needed attention. This was in addition to the inspection that both the farrier and myself made. Also, no cast-off horseshoe was ever passed by, if passed when marching at a walk. That was one thing for which I always granted permission to fall out, and the only other time when I gave this permission was after I had personally had a detailed explanation of the necessity therefor. The men soon stopped asking. There was, however, one article that we could not make up and that was the horseshoe nail, but thanks to the high, dry altitude we were troubled little, if any, by rust, as each man carried them in a greasy rag.

On April 10th, we were ordered to turn all our horseshoes into a common pile for the common good of the command. This was heart rendering to the men as well as to myself to give up our hoarding but I was proud to see something like thirty-five shoes turned by my troop of forty-three men. One other troop turned in a similar quantity and one troop turned in one shoe. It is easy to determine which troop was the cause of the order and which one got the most shoes from the pile, but still it was the necessary thing to do. We had no forge and tools for fitting and shoeing but could occasionally get some assistance from the very incomplete blacksmith shops at ranches. The first real opportunity for fitting shoes and trimming the feet was down near Parral when we were able to borrow an outfit from the troops of the Eleventh Cavalry that joined us there under Colonel Allen and Major Howze.

Undoubtedly, a great deal of the fatigue experienced by our horses was due to their long hoof walls, none of which had been trimmed nor to which had shoes been properly fitted at least since March 16th—one month before.

We had the old model equipment and depended on lariats entirely for the picket line. Broken lariats were never thrown away but tied together many times for re-use or used for halter tie ropes.

On our way back from Parral, corn was generally plentiful and we had some hay. I heard much comment as to the advisability of putting the animals on full feed at once. For me that was decided by my stable sergeant. The horses had had a full feed at night and were to have a full feed in the morning but, in addition to these feeds of corn, there was some wheat for which we would have no transportation the following day. He, in disobedience of my orders, got up at 2:00 A. M. and fed the wheat rather than leave it. I wanted to try him by court-martial but awaited results. The result was that I became a convert to the Indian's method of "eating all you can while

you have it and starve when you have to," when it comes to feeding hard working horses. I, also, adopted the same motto for the pale face.

During the return march north from San Antonio, a very curious thing developed. Prior to May 1st, I had not had a sore back in my troop—not a man had walked on this account. At San Antonio, we rested for three or four days and again at Lake Itascate. It was at this latter place that I noticed some of the withers thickening and becoming quite hard, eventually requiring the lance, and this while the horses were doing absolutely nothing. It was a great surprise to me at the time and if crying could have done any good, I think I would have tried it. To think that this should have happened after the trouble and pains taken! On sober thought, I realized that it was just what I might have expected. However, there were only a few of these and none broke out after we started to use the horses again.

After separating from the First Squadron on April 1st, with whom we did not again join until about May 14th at Namiquipa we had a very pretty action again Villistas. We struck them at about 1:30 P. M. They had undoubtedly already begun to retreat and our action was with their rear guard only. They opened up at long range on Troop "E" (Captain S. D. Smith) our advance guard. We could see them leaving the village of Aguas Calientes and turn to the left around a low mountain peak. Troop "F" (Captain W. S. Valentine) was sent across the saddle hoping to head them off on our extreme left; I, with Troop "H," was sent up over this peak just to the left of the village, Major Chas. Young, accompanying me; the machine gun troop (Captain A. E. Phillips) went forward to take care of the ridge to the immediate right of the village; and Troop "G" (Captain Geo. B. Rodney), was rear guard and escort for the pack train, was for the moment held, until it was learned that they were melting away in our front.

Having gained the peak and finding no enemy, I got word from Captain Valentine that he was engaged further to my left and pulled my troop off in that direction. My troop remained in line of foragers at the trot and came up on Captain Valentine's left rear and continued in the oblique direction so

that eventually Captain Valentine's front was covered, leaving him free to mount and follow, which he promptly did. Troops "E," "G," and machine guns went on through the town.

When the Mexicans saw my reinforcing troop, they scattered and their fire became much more diminished. It was all going wild, so that my troop continued at the trot in hopes of striking the main body. I finally saw what appeared to be about 150 men about two miles ahead. I assembled my troop on ground favorable for rapid movements, sent a message to Colonel Brown and went after them at the gallop, closely followed by Captain Valentine. The "cracks" of their rifles began sounding pretty frequently again and we formed foragers and later dismounted for fire action, but soon saw that that was not the proper thing to do. By this this time "F" Troop was alongside and we pursued them up to a horse-shoe shaped ridge on the top of which they were seemingly to make a stand. Captain Valentine went off to the right and I dismounted one platoon under First Sergeant and, with the other, advanced at the gallop, under his fire to one end of the horseshoe, by which time the Mexicans' fire had ceased and, as we later found out, they disappeared from the face of the earth to meet us on many occasions afterwards as perfectly good, loyal Carransistas. Having gained the ridge, all trace of them was gone. We began riding in ever increasing circles until we found where they assembled in sufficient numbers to make a trail. We followed this over the ridge and down to a ranch (Mesteña) on the other side, where the people claimed that about 150 Villistas had passed. It was then probably 5:00 P. M. Messengers were sent to Colonel Brown and Captain Valentine and we prepared to stay there for the night. The other troops came in about 8:00 P. M. We never saw these Villistas as opponents again. I made no notes at the time and have been unable to get data from others at the late date, so I will not try to give any figures. However, none of our men were hit and the horses were the only part of our command that had not enjoyed the skirmish. One horse was wounded, one of mine dropped exhausted, one died that night, we killed one the next morning, and one could just get along by being led. I do not know the loss of animals in other troops

We captured several ponies and mules and a part of their pack train. We know of three Mexicans killed and reports from Mexican sources as noted in American papers gave their casualties as forty-two, but I doubt the number and I do not believe any of our officers think we got that many. As they were never out in the open and as it was a running fight, we had no opportunity to look for their casualties, nor did we particularly care to do so.

I have wished many times that I had deliberately kept such notes as would have enabled me to give real data—figures and dates—covering our experiences, especially as to horses, their forage, shoeing, conditions, etc., so that this might have been an article from which more valuable information could be gleaned for our future operations such as will undoubtedly come to our cavalry.

However, should I be ordered out on exactly the same proposition again, and know that I had the same problems to face in the same high, dry altitude, and with the same strict allowance, I would beg my commanding officer for one more mule per troop (making a total of two) and about two mules for the squadron to carry such as one forge and one set of blacksmith tools and a small quantity of farriers, saddlers and medical supplies. *I would also want some money* unless I was operating in hostile country and could take full advantage of that fact. This, of course, presupposes that the squadron will stay together and, as a matter of fact, it need never be so far separated that each troop can not occasionally take advantage of the articles on the two squadron mules.

After returning to Dublan, the officers of the regiment were called together and required to vote on what cavalry actually needed for just such operations and the transportation necessary for this purpose. Again I do not remember figures, but I do remember that we could have, by our votes, been divided into three distinct classes, depending on the experiences passed through, viz: *First*, Those who did not engage in any scouting operations; *Second*, Those who mostly made trips from some base, out and back on some special mission; *Third*, Those composing the expedition south under Colonel Brown. The first class voted for much more plunder and transportation than the other two, and the third class, the least of all.

Reprints & Translations

OUR WAR WITH GERMANY.*

A MONTHLY CHRONICLE OF EVENTS.

I.

(April 6th—April 18th.)

AT eighteen minutes past one o'clock on the afternoon of Friday, April 6th, the United States went to war against the Imperial German Government. That was the hour and moment at which President Wilson wrote his name in approval at the bottom of the parchment bearing the resolution of Congress making the formal declaration. No pomp of circumstance or ceremony attended the signature of this resolution, the most importance and far-reaching in its effect that any President has signed since Abraham Lincoln put his name to the official draft of the immortal Emancipation Proclamation. As you enter the main north door of the White House—the "Big House" to distinguish the residence from the office wing—there is a small room at the right, used by the chief usher, about eight by ten feet in dimension. There, seated at the usher's desk, and with only his wife and cousin present besides three employees of the executive and White House Staffs, the President signed the national decree of outlawry against the Imperial Government of Germany.

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Immediately he issued his proclamation notifying all who might be concerned; enjoining vigilance and zeal upon all United States authorities, civil and military; calling upon all American citizens to give loyal support to the nation and warning all alien enemies to preserve the peace and obey the laws. Simultaneously official word went to army and navy, and as far as long adherence to the practice, if not the policy, of pacifism permitted, the United States was on a war footing, with the most powerful military organization the world has ever known as its enemy.

Thereupon, with characteristic American confidence—with characteristic Anglo-Saxon confidence—there was a general setting to work to put the United States into proper condition to make good that declaration.

The case for the United States against the Imperial German Government had been long in the making. President Wilson had displayed more patience than some of his countrymen would have shown, and there had been times when it seemed that the outlaw practices authorized and permitted by the German Government must force the United States to armed resistance. Only the promise solemnly given on the 4th of May, 1916, by the Imperial Government, to curb these practices on the part of its uniformed subordinates, prevented the break from coming that year. Then, when on the evening of the last day of January of this year, the Imperial German Government served notice on President Wilson that it intended to revoke that promise at midnight—only six hours later—it was evident to all who had any skill in reading American character that the crisis had come.

Only the Imperial German Government failed to understand. But this was but the addition of one more to the already long list of its failures to comprehend the psychology of other peoples. Proceeding upon the theory that any sort of wanton practice might be made lawful by its proclamation, that Government scorned the suggestion that it would drive the United States into the list of its open enemies, and scoffed at the prediction that even in the event of war the United States could inflict material damage upon the German cause. And so the Imperial German Government reflected the possibility of

preventing American participation in the war, even after President Wilson had issued his call for a special session of the Congress, and it was apparent to all the world what course he would take when it met.

The Congress assembled on Monday, April 2d, and at a joint session of the Senate and House of Representatives that evening President Wilson presented the case against the Imperial German Government in an address which will always rank among the greatest, as it is among the most important of American state papers. Opening with the statement that there "were very serious choices of policy to be made" which it was neither right nor constitutionally permissible for him to make, the President laid before Congress a concise summing up of the course of Germany under its decision to "put aside all restraints of law or humanity." He described how "in the progress of the cruel and unmanly business" on which the Imperial Government had embarked every restriction had been swept aside and the work had gone on "with reckless lack of compassion or of principle."

The German submarine warfare against commerce, the President said, "is a warfare against mankind. It is a war against all nations * * * Challenge is to all makind." The armed neutrality which, in an earlier address to Congress the President had felt would be sufficient answer to Germany's menace, he was now convinced was impracticable, "because submarines are, in effect, outlaws, when used as German submarines have been used. * * *."

"There is one choice we cannot make, we are incapable of making," declared the President, "we will not choose the path of submission and suffer the most sacred rights of our nation and our people to be ignored or violated. The wrongs against which we now array ourselves are no common wrongs; they cut at the very roots of human life."

And then Mr. Wilson made that recommendation to Congress which it had been his deepest hope to avoid—the recommendation that it make formal declaration of war:

"With a profound sense of the solemn and even tragical character of the step I am taking, and of the grave responsibilities which it involves, but in unhesitating obedience to what

I deem my consitutional duty, I advise that the Congress declare the recent course of the Imperial German Government to be in fact nothing less than war against the Government and people of the United States: that it formally accept the status of belligerent which has thus been thrust upon it, and that it take immediate steps not only to put the country in a more thorough state of defense, but also to exert all its power and employ all its resources to bring the Government of the German Empire to terms and end the war."

This course, the President said, would involve "the utmost practicable coöperation" with Germany's present enemies; the extension to them of "the most liberal financial credits" so that our resources may be added to theirs so far as possible; the "organization and mobilization of all the material resources of the country;" the "immediate full equipment of the navy," especially with means of dealing with the enemy submarines the immediate addition to the armed forces of the United States of at least 500,000 men "to be chosen upon the principle of universal liability to service" with subsequent equal increments as needed; and finally, the "granting of adequate credits to the Government," sustained, as far as may be equitably, by taxation.

Having thus summed up against the German Government, made his recommendation for action and stated what he conceived to be involved by it, the President proceeded to a declaration of the motives justifying the proposed action.

This message of the President met with instant response and approval from all parts of the United States and from all the civilized world. His statement of motives was received as "an appeal to every instinct, every impulse, every tradition of democracy." Among his countrymen the voice of criticism and political opposition was hushed, if not wholly silenced. Colonel Theodore Roosevelt, who had been one of the most vigorously critical of Mr. Wilson's political antagonists hailed the message as one of the greatest of American state papers, and called at the White House to express his appreciation of it and to offer his services in raising a division of troops for prompt service in the field against Germany.

The press of England and France, and of the newly republican Russia greeted the message and the advent of the

United States into the ranks of the enemies of the German Government with enthusiastic approval and every manifestation of profound satisfaction. Similar expressions came from Italy and from Belgium, and from Japan came the added suggestion that the United States might assist in furnishing transportation for an army of a million Japanese soldiers to go to Europe and take part in there the final task of overthrowing the German armies.

But while the Entente Powers rejoiced over the acquisition of a new ally the press of Germany, which had maintained a cynical and sneering indifference up to the moment of the actual break, received the President's merciless description of the Imperial Government with an outburst of savage rage which manifested itself in the application of such epithets as "dishonest," "untrue," and "perfidious" to the President and his words, at the same time indulging in the old line of threats and boasts about this marking the certain end of the Monroe Doctrine. Yet the rest of the world considered that it more certainly marked the end of the Imperial German Government if not also of the House of Hohenzollern.

Congress proceeded to act promptly upon the President's recommendation. A resolution formally declaring "the state of war between the United States and the Imperial German Government which has been thrust upon the United States," and authorizing and directing the President to put the country in a thorough state of defense, and also "to exert all of its power and employ all of its resources to carry on war against the Imperial German Government," was introduced immediately in both Senate and House.

Action was delayed one day in the Senate by the opposition of Mr. La Follette, who numbers among his constitutents probably larger percentage of voters of German descent than any other Senator. When the vote was taken after a debate in which Mr. La Follette had assailed England and defended the German course, the resolution, amended so as to pledge the nation's entire resources to the war, was carried by eight-two to six. The influence of German constituencies manifested itself also in the House, where it had the assistance of Mr. Kitchin, the Democratic leader, who, like Miss Rankin, of

Montana, the first woman elected to Congress, simply could not bring himself to cast a vote for war, and who practically admitted, in debate, that he was for peace at any price. The House adopted the resolution as it passed the Senate, about 3:30 o'clock on the morning of April 6th, by a vote of 373 to 50, and as soon as it had been signed by Speaker Clark and Vice-President Marshall it was sent to the White House for the President's approval.

Besides the opposition to the declaration inspired within Congress by German influence there was an organized opposition of small proportions but noisy character, coming from professional pacifists and peace-at-any-price people. One delegation from Boston was so vigorous in its opposition to combat that one of its members assaulted Senator Lodge at his committee-room door, and was knocked down by the veteran Massachusetts statesman. The adoption of the declaration of war, and the promulgation of the President's proclamation materially checked this purely pacifist opposition, but did not seem to exert any noticeable influence upon that proceeding from German sources, either in or out of Congress. Some of the pacifists took their cue from William J. Bryan who telegraphed the President asking to be listed as a volunteer for any service he could render as a private whenever the President desired to call upon him. The man who assaulted Senator Lodge announced that he had been cured of his mental slant and would support the war as best he could.

Mr. Kitchin and some of his followers in the House, and Mr. Stone, in the Senate, stated publicly that since the country had determined to make war despite their opposition they would support the country's attitude, although it was against their convictions. Mr. Kitchin retains his place as leader of his party in the House, and will have charge of the war revenue measures, having conducted one of them, for the $7,000,000,000 bond issue, to successful passage already. Opposition responsive to the influence of German constituencies continued, being especially marked in certain cases in the House as well as in the case of Mr. La Follette.

The promulgation of the formal declaration of war brought at once from the heads of the Allied Governments formal

expression of rejoicing over the action of the United States, and of deep satisfaction with President Wilson's statement of the motives and purposes of the American nation. President Poincare, in a personal message to President Wilson gave expression to the profound emotion stirred in the French Republic. King George, Lloyd George, the British Premier, and Asquith, his predecessor, with other members of the British Government, were quick to telegraph their joy that the "whole English-speaking race is to fight as comrades side by side in the most momentous struggle in history," and to give recognition, on behalf of "all the peoples of the British Empire", to the "chivalry and courage which call the people of the United States to dedicate the whole of their resources to the greatest cause that ever engaged human endeavor."

From Rome came similar messages, and from Petrograd came word that the American Republic was giving new strength to the cause of liberty and assisting to render solid the foundations of the new democratic Government of Russia. From Japan, also, and from Belgium and others of the Allied Governments, there came the same note of deep rejoicing. Even China, which had already broken diplomatic relations with Germany felt the urge to follow still farther, and declare war. But from Germany there were renewed snarls of rage with scornful belittlement of what the unorganized and unprepared United States could do to injure mighty Germany.

Most striking and significant was the response from American citizens of German birth or descent. Despite the active opposition of the representatives in Congress of some of the strongest of these constituencies, it was made apparent by the public utterances and acts of many influential men of German blood that no matter what the severance of their ties of kinship might cost them their loyalty was to the United States and their allegiance would be true.

One result of great importance flowed from the American declaration which had not been anticipated. That was a solidification of Latin-America behind American leadership such as had not been believed possible. Here at last was a stand taken by the United States to which the rest of the West-

ern Hemisphere seems willing to credit genuine unselfishness and sincerity.

The island republic of Cuba led in this acknowledgment. As an expression of duty to the United States, in gratitude for what it had done for her, and of duty to the principles of justice and humanity, President Menocal, on the day following the declaration of war by the United States, asked the Cuban Congress to give him authority to take the same action. And without a dissenting voice the Cuban Congress responded. "Whatever effort Cuba shall make to assist the United States of America" so ran the report of the Cuban committee, "will be looked upon as the generous action of a grateful people, and of a friend who can never forget the sacrifice and effort made by the United States to coöperate in our struggle for independence."

In line with this action by Cuba, although not yet as far-reaching, was that of Brazil in breaking off relations with Germany. Brazil had as motive the same wantom disregard of her rights by Germany that had impeeled other nations, and her rupture of relations was expected to lead very soon to declaration of war. Argentina declared intention to maintain neutrality but announced that the Government supported the position of the United States. Chile, Uruguay and Paraguay took similar action. Peru, Bolivia and even Columbia showed their sympathy with the position taken by the United States. Bolivia terminated diplomatic relations with Germany.

In Central America Panama promptly ranged herself with the United States as an avowed enemy of Germany. Costa Rico announced that she was with the United States and "would prove it if necessary." Guatemala and Nicaragua indicated their strong sympathy with the United States, and only in Mexico, where German intrigue had made strong efforts against us, were there symptoms of unfriendliness. Never has there been such sympathy of purpose and of action of the part of Latin-America with the leadership of the United States.

Having declared war against the Imperial German Government, and having directed the President to employ all the resources of the United States to bring that war to a successful termination, Congress set about the work of passing

upon the recommendations of the President as to the means of employing the nation's resources. While Congress was making ready for this work agents of the Government were seizing the German merchant ships and auxiliary cruisers which were lying in American waters, and beginning the task of making them ready for war service. Many of them had been badly damaged, especially in machinery, by their crews. The crew of the interned cruiser *Cormoran*, lying in the harbor of Apia, Guam, blew up the ship to prevent her falling into American hands in serviceable condition, several of them losing their lives in the explosion. There were ninety-one German ships seized, aggregating 593,790 tons. The German crews were removed from all these ships and taken to immigrant stations or other suitable places for detention. German ships were seized at seventeen different continental ports and in the Phillipines, Hawaii, Porto Rico and Samoa.

At the same time that these ships were seized many persons suspected or charged with espionage or other violation of law or the President's orders to alien enemies were arrested. Statutes enacted in 1789 were invoked in some of these cases, and seizures were made without reference to local courts. Many evidences of enemy activity of greater or less degree were discovered, including the finding of mines placed in such position as to destroy two of the ships held at Philadelphia when they were moved. The National Guard was called out in many of the States and stationed to protect railway bridges and other public works which might be injured or destroyed by explosives. In numerous cases such guards were fired upon from ambush at night, and some casualties occurred. Guards repeatedly fired on prowlers who refused to heed their orders, and some such persons were killed. But in general good order was preserved, and there was no material disturbance. An explosion in a munitions plant hear Philadelphia resulted in the loss of more than 100 lives. The belief was widely held that the explosion had been caused by alien enemies, and numerous arrests were made. No definite proof has come to public notice as yet, however.

Meantime Washington has hummed with activity in preparation for energetic participation in the war. Estimates

calling for appropriations of $3,400,000,000 for the first year were submitted to Congress by the War and Navy Departments. The President's recommendation that a substantial loan to the Allied Governments, and adequate credits for our own Government, be provided for, was acted upon with great promptness. A bill passed the House of Representatives, unanimously, on April 14th, and the Senate on April 17th, providing for an issue of $5,000,000,000 of three and one-half per cent. bonds and $2,000,000,000 of short-term Treasury certificates. This bill authorizes the President and Secretary of the Treasury to invest three billions before the end of the war in securities of Governments at war with Germany. The intention of the Government is to grant assistance to Russia at the earliest possible time. Some influential bankers have advised against attempting to float the entire loan at once on the ground that the transfer of so large a sum in a short time would tend to upset domestic conditions. But evidences of the popularity of the loan were very numerous, and offers of large individual subscriptions poured in to the Treasury Department.

Immediately upon the announcement that war had been declared advice as to how best to act against Germany began to flow into Washington from all parts of the United States and even from Europe. Two especially clear lines of action were proposed. One was for the immediate lending of credit and the early despatch of troops to France, both for their moral as well as their physical effect. The other proposal was that the most helpful course for the United States would be to furnish food and other supplies to the Allied Governments, and to build ships with all our energy in order to insure the transportation of such supplies.

Congress prepared to follow the action as to war funds by authorization for increases of the army and navy. The Senate very promptly passed the Army Appropriation Bill which had failed of enactment at the regular session, together with some minor military measures. Much opposition to the President's recommendation for selection of the new troops upon the principle of universal liability to service appeared in both the House and the Senate. Many Senators and Representatives advocate just one more trial of the volunteer system despite the fact that

it has failed at every crisis in the history of the country when it has been invoked. President Wilson has given no indication of withdrawing from his position as this is written. Preparation is going forward for raising an army of more than a million men at first, with subsequent plans depending upon the course of events.

The demand for ships has met with ready response. The Federal Shipping Board acted favorably upon suggestions that it undertake the construction of wooden ships, and the initial steps to accomplish that were taken quickly, with the expectation of having the first vessels available for service within a few months.

Simultaneously the purchase in large quantities of supplies for all services began, the War Department making one contract for 3,000,000 trench bombs. The National Defense Council, acting in close harmony with the different Government Departments, labored to secure the best service from the industrial organizations of the nation. The Presidents of the leading railroads of the country met at Washington and named a board of five men to direct the operation of all the American railways throughout the war in order to insure the fullest coöperation with the Government, and "in the effort to produce a maximum of national transportation efficiency."

The representatives of organized labor lost no time in pledging the support of labor to the effective conduct of the war, and manifested it in their support of the huge bond bill in Congress.

Responsive to the suggestion that the greatest possibility for effective service from the United States was in the provision of food, the Administration at Washington and those of practically all the various States called upon the people to exert every energy in the production and frugal use of food. Warnings against waste were issued everywhere, and the wives of cabinet members set the example of saving food by cutting down their own meals. Organizations to stimulate agriculture and to furnish the needed assistance to farmers have been effected in many States, the purpose being to facilitate supply of money, or of seed or fertilizers, and to assist in securing farm labor. A National Food Board was suggested by the

National Defense Council, and Herbert C. Hoover, chairman of the American Commission for Relief in Belgium, accepted its chairmanship, with an urgent appeal for national economy. In many ways and along many lines the nation began its belated preparations for war. Steps were taken for consultation with the Allied Governments in Europe. Army and navy officers in London and Paris communicated with the authorities of their services, and discussion of methods of effective coöperation began. Then it was announced that a commission from the Allied Governments would come to Washington and that former Premier Arthur J. Balfour would represent the British Government. It was also announced that ex-Premier Viviani and Field Marshal Joffre would represent the French Government. Preparations for the reception of this commission are under way as this is written.

Following the declaration of war against the Imperial German Government, the United States took no action against Austria, Bulgaria or Turkey. But those Governments being allies of Germany, in turn broke off relations with the United States, and accordingly this Government seized fourteen Austrian ships that were lying in American Waters, and is prepared to include Austria in the declaration of war if that becomes necessary.

Thus the great democracy of the New World has joined the great English and French democracies of the Old World, and the new democracy of Russia, in mortal challenge to the Imperial Autocracy of Germany, and the American democracy has begun to rouse itself for the struggle.

II.

(April 19th—May 17th.)

As this is written, six weeks have elapsed since we went to war with "the Imperial German Government" and we are making practical demonstration to ourselves that it takes time to prepare for war, and that we have used the time in past years for something else.

Few accomplishments of this six weeks' period are completed, but there are many beginnings, and much of what has been done is of vast importance. Both in purely domestic affairs and international matters the way to our successful physical participation in the war has been made clearer; on the international side by the arrival in the United States of formal commissions from Great Britian, France and Italy, empowered to give our Government aid, information and assistance as to the needs and situation of their countries and the actual existing military conditions which we must face: on the domestic side by the completion of two great legislative acts of preparation, and the advancement of several others of commanding importance.

The travel of the British and French Commissions was shrouded in secrecy until they safely terminated their voyages. The British Commission, headed by the Right Honorable Arthur James Balfour, Secretary of State of Foreign Affairs in the Lloyd George Government, reached Washington on April 22d, having landed at Halifax. The French Commission, headed by René Viviani, Vice-Premier and Minister of Justice, and Marshal Joffre, the victor of the Marne, landed at Fort Monroe two days later and proceeded at once to the national capital.

The American people were deeply stirred by the coming of these distinguished Frenchmen and Britons. Especially were their emotion and enthusiasm aroused by Marshal Joffre. From the moment the formal official receptions in Washington were over the demand for opportunity to meet and pay respect to the High Commissioners has been continuous. Wherever it has been possible for them to go there has been an outpouring of people to emphaize the genuineness and heartiness of their welcome. Both Commissions were invited to visit the House of Representatives and the Senate, and both Houses were addressed by Mr. Balfour and M. Viviani. An unending round of luncheons, dinners, receptions and public functions has marked the stay of the Commissioners in the United States. Mayor Thompson, of Chicago, distinguished himself by opposing an invitation to the French Commissioners to visit Chicago.

Whereupon he was accused of being disloyal to his country and efforts were made to cause his prosecution.

The arrival of the two missions was followed immediately by a general announcement from Washington that the needs of our allies in Europe were men, ships and food, and that every effort should be made by this country to facilitate prompt supply to meet these needs. The bill authorizing the raising of armies for the war was pending in both Houses of Congress, with its three angled fight over draft, volunteer system and Colonel Roosevelt. The urgency of the British and French Commissioners in favor of prompt sending of American troops to France greatly stimulated the debate and had marked effect upon the fate of this bill in Congress.

Marshal Joffre was especially vigorous in urging the sending of an American force at the earliest possible moment. He made some outspoken remarks on this subject in a meeting with the Washington newspaper men, but someone at the State Department had the temerity to delete part of what Joffre had said from the version given to the press for publication.

General Bridges, of the British Commission, openly asked for American troops as soon as they could be sent. Marshal Joffre met numbers of Congressmen at dinners and other social functions and did not hesitate to emphazise his opinion on the importance of sending Americans to the front immediately. The distinguished French and British Commissioners were diplomatic but effective.

At the same time reports of the gravest character concerning the work of the German submarines were published with sober emphasis, and Administration officials, especially Secretary Lane, expressed serious apprehension as to the outcome. These reports were followed by announcement that Americans were on the point of success in devising an effective weapon against the submarine. But this announcement was immediately scotched as premature.

On Sunday, April 29th, both the British and French missions went to Mt. Vernon and visited the tomb of Washington, paying tribute to the work and worth of the great American. It was the second time that an English tribute had been laid on that tomb. The French Commissioners also visited the

tomb of Lincoln, on the occasion of their trip to Chicago. Both commissions were guests of the city of New York for three days. On this occasion Marshal Joffre went to West Point and reviewed the cadets of the Military Academy. While there he was notified of his election to membership in the Society of the Cinncinati, and received the emblem of the order. He is the second Frenchman to be received into that society, the first having been Marquis de Lafayette.

The first of the two great legislative acts of preparation for the war to which reference has been made had only to do with the authorization for the raising and lending of money—and therefore was easy. The second involved the determination of the policy upon which to raise the armies that are to be sent against the Germans—and therefore was much more difficult.

The bill authorizing five billions of war bonds and two additional billions of treasury certificates was passed unanimously in each branch of Congress, but certain amendments in the Senate necessitated a conference, which consumed several days, so that it was not until April 24th that President Wilson signed it. This law authorized the President to purchase securities of foreign governments to the amount of $3,000,000,000. On April 25th, Mr. McAdoo, Secretary of the Treasury, handed a treasury warrant for $200,000,000 to the British ambassador as the first installment of the three billion loan to our allies. Under the same authority he has since advanced $100,000,000 to the French, to the Italians and a similar amount to the Russians. Other loans are now in process of arrangement.

At the same time the machinery was set in motion for the flotation of a huge part of the authorized war bonds. The "Liberty Loan of 1917" it was christened by the Treasury Department. It is designed to float $2,000,000,000 of the bonds—two-fifths of the total authorization—in the pending issue.

Announcement of the bond issue was made by Secretary McAdoo on May 2d. Telegrams had been sent from the Treasury Department to banks and bankers all over the United States. Responses began to pour into the department

the next day foreshadowing subscriptions in such sums that Mr. McAdoo was reported as expressing the enthusiastic belief that the entire loan would be subscribed within a few days, and that before the close of the subscription period, on June 15th, it would be much oversubscribed. Subscriptions aggregating more than $600,000,000 were received within three or four days. But when the immediate response from banks and bankers was concluded there followed a slump in subscriptions which showed that the investing and patriotic public had not been reached, and that through organization and much work were needed in bringing about the successful flotation of a bond issue of such huge proportions.

Thereupon the assistance of bankers and other outsiders was requested by the Treasury Department. A practical banking publicity committee was formed in New York and other committee elsewhere. General organization was undertaken with the purpose of putting the merits of the loan fully before the people generally throughout the country as well as before the comparatively small investing public, so as to begin the mobilization of the nation's credit reserves for the success of the Liberty Loan.

Thus this first step, the authorization of credit for seven billions of dollars, was in fact only the initial one of a long series of important steps that will grow more and more important as the war goes on, the beginning, in fact, of a wearisome march that will not end until many years after the close of the war, however soon that happy event may come.

The second of these important legislative acts of preparation is really hardly completed at this writing. In his great appeal to Congress of April 2d, President Wilson, advocated raising the armies of the United States upon the principle of the obligation of universal military service. There was great antagonism to the adoption of the draft principle among the Democratic leaders in Congress, and especially in the House of Representatives, where the chairman of the Military Affairs Committee, Mr. Dent, and the Democratic floor leader, Mr. Kitchin, and Speaker Clark were all opposed.

The adoption of Mr. Wilson's recommendation meant the reversal of the policy of relying upon volunteers to fill up the

forces—the policy that has been invoked at the outset of every war the nation has fought from 1775 down to date, and that has failed at every trial. But the fact of that unbroken series of failures did not prevent influential men in both Senate and House from continuing to support the volunteer principle.

The House Committee on Military Affairs reported a bill favoring the volunteer system, but permitting use of the draft when the volunteer system failed, thus fixing odium upon the draft. The Senate committee reported a bill upon the draft principle, thus making it possible for the Government to take first the men most needed and making draft a mark of distinction rather than of shame.

The issue was further complicated by the application of Colonel Theodore Roosevelt for permission to raise a volunteer division for immediate service in France, the division to be composed of men not subject to draft, and with himself in command or in command of one of the brigades, if the Government desired to put a regular army officer at the head of the division. This made a three angled fight. There were straight out supporters of conscription who wanted that and nothing else. There were straight out supporters of the volunteer system who wanted that without seeming to care what else happened. And there were those who wanted Colonel Roosevelt to have the opportunity he desired, and who didn't care much on which plan of raising the army they tacked that provision.

In the House, Mr. Kahn, a "regular" Republican from California, led the fight for the Administration proposition and opposed the Roosevelt plan. In the Senate, Mr. Harding, of Ohio, chairman of the Republican National Convention which refused to nominate Mr. Roosevelt for the Presidency last year, led the fight for the Roosevelt division plan. Debate lasted five days in the House. Speaker Clark, replying to a delegation that favored the draft, declared that in his State "conscript" and "convict" had about the same meaning, a statement which was promptly contradicted by telegrams from the Speaker's home district announcing that it was strongly for the Administration plan. As the debate went on in the House the Administration grew stronger and stronger, and after it had triumphed by striking the volunteer provision from the

bill and inserting the draft plan, and by defeating the Roosevelt division, the opposition faded away so that the bill was passed, as amended, on April 28th, by a vote of 397 to 24.

The Senate began debtaing the bill on April 21st, three days before the House took it up, and reached the voting stage a few minutes after the House concluded its roll call. Here the Roosevelt plan triumphed, an amendment being adopted authorizing the raising of four volunteer divisions. The general volunteer plan was defeated, the Administration draft plan adopted, except that the age limits were fixed at twenty-one and twenty-seven, instead of twenty-one and forty, as in the House, and an amendment was adopted forbidding the sale or gift of liquor to an officer or soldier in uniform. The Senate passed the bill by a vote of 81 to 8, and it went to conference after a delay of three days for unraveling of a parliamentary tangle.

In conference the bill stuck more than a week. The House conferees would not agree to the Roosevelt army nor would the Senate conferees take the House age limits. At length, on May 10th, a compromise agreement was reached by the conferees, dropping the Roosevelt division and fixing the age limits for conscription at twenty-one to thirty, both inclusive. That seemed to clear the way for early final action on the bill. Mr. Roosevelt telegraphed Senator Harding that he did not want the army bill held up because of a fight over his offer to lead a division to France. But while the conferees had been wrangling something had been happening in the House, and sentiment in favor of the Roosevelt plan was greatly increased. So when the conferees report came up in the House for action on May 12th, Mr. Anthony, of Kansas, a Republican, who had been a strong political opponent of Mr. Roosevelt, moved to recommit to the conferees with instruction to them to reinsert the Roosevelt amendment. That motion carried, after a red hot debate of two hours, by a vote of 216 to 178. The conferees report which had been submitted to the Senate was withdrawn by unanimous consent and the bill went to conference again. Agreement on this point was reached on May 15th, in accordance with the instructions of the House. But when the conference report was submitted again to the House on May 16th, that body sent the bill back once more on a question of the pay

of enlisted men. The Senate conferees agreed to the House contention and the House at length accepted the report, leaving the bill with the Senate for final action.

Administration influence was strongly exerted against the adoption of the Roosevelt plan in the House, but for the first time failed to command success on a really important occasion. The provision if finally adopted, is permissive only, and not mandatory. It remains to be seen what the President will do with it. In a speech to the Red Cross on the day the House acted President Wilson, commenting on the grimness of the war, exclaimed, "This is no time for amateurs." But he may not have meant Mr. Roosevelt.

Meantime organization had been largely developed for registration of young men throughout the country for selection under the draft, and the Army administration is ready to proceed with the conscription of the men necessary to fill the Regular Army and National Guard to war strength, and to raise the first 500,000 of the newly authorized forces. Selection of men for training as officers was completed for the first section in the first week in May and they were ordered to the different training camps for three months' instruction before selection of those to receive commissions.

Recruiting on the old volunteer plan continues for the Regular Army and the National Guard, as well as for the Navy and Marine corps. But despite vigorous efforts on the part of the authorities, it has been marked by languor rather than energy, and fell materially short of producing the needed men. Josephus Daniels, Jr., son of the Secretary of the Navy, enlisted as a private in the Marine Corps.

While this fight over the Roosevelt plan was going on in the conference on the army draft bill the Senate was having a lively time over another Administration measure called the "Espionage bill" because it aimed, among other things, to check and punish espionage. Also it included, at first, the grant to the President of a board power of censorship over the press of the country, as well as a grant of complete power to embargo upon all exports. The Senate had laid aside this bill on April 21st to take up the army bill. Repeatedly the Senate sat with closed doors for the freer discussion of these provisions. At one time

the embargo provision was radically amended, on the initiative of Senator Hoke Smith, of Georgia, so as to affect only shipments to neutral countries adjacent to Germany. But in response to Administration influence that action was reconsidered and Mr. Smith withdrew his amendment. Thereupon an embargo provision substantially what the President desired was adopted.

The censorship section, after provoking lively discussion and many amendments, was stricken wholly out of the bill on May 12th by the close vote of 39 to 38. On that same day the Senate adopted an amendment forbidding the manufacture of intoxicating liquors for beverages from grains during the war. Two days later the Senate reversed itself, struck this provision from the bill; defeated a motion to reinsert the censorship, and passed the bill, with the emabrgo plan retained very much in the shape desired by the Administration. At intervals, during the consideration of the Espionage bill, the Senate turned briefly to something else. It devoted one day to secret debate of a resolution authorizing the President to put into service the German ships seized and held in various American ports, which was passed. Then the House considered it in the open and also passed it. Men are at work on all these ships repairing the damage their German crews did to them before they were seized. It is expected that all will be ready for service in a comparatively short time. Some are ready now.

The Espionage bill was taken up in the House, after the Army bill was passed, and immediately developed the same kind of attack on the censorship provision as in the Senate. This provision was first defeated by a majority of 53, and then reinserted in a modified form by a majority of 5, after many of those who had voted against it had left the chamber. Thereupon the bill was passed by a vote of 260 to 105.

It was determined to send a commission to Russia and the appointment of Elihu Root at its head was announced. Other members include representative American bankers, captains of industry and men prominent in the ranks of the American Socialists and the American Federation of Labor. The Army is represented by General Scott, chief of staff, and the Navy by Rear Admiral Glennon.

Congressional activity gave considerable time, in committee, to the drafting of certain measures of preparation for war, and to the consideration of other measures that arrived, in completed draft form, from one or another of the Administration executive departments. The House Ways and Means committee devoted many perplexed and painful hours to preparation of a war revenue bill that should raise the colossal sum of $1,800,000,000 per annum by taxation. This bill was reported to the House on May 9th, and immediately became the subject of violent controversy. It doubles the normal rate of income tax—from two to four per cent.—after reducing the exemptions one-half — from $4,000 to $2,000. It increases the surtaxes on large incomes by immense differentials, reaching a total of thirty-three per cent. on the highest class. It levies an additional one-third on the incomes of last year, many of which have already paid their taxes for 1916.

It proposes to levy a ten per cent. *ad valorem* customs duty on all articles now in the free list, and to add ten per cent. *ad valorem* to the rates of duty on all articles now in the duitable list.

It proposes an excess profits tax of sixteen per cent., together with inheritance, or estate taxes, ranging from one-half of one per cent. to fifteen per cent. It proposes material increase in postage rates, especially on second-class matter, affecting newspapers and other publications, includes a wide range of miscellaneous taxes, covering practically every phase of amusement and many phases of commerce and industry. Also it proposes a small consumption tax on tea and coffee.

The taxes proposed in this bill are enormous for Americans, but at that they are less than the rates imposed by the British tax laws. As this goes to press a lively fight is on in the House over this bill, and some amendments to the committee draft have been adopted.

Suggestions or request for Congressional grants of power for war purposes came from many executive departments or bureaus, and many bills and resolutions meeting these suggestions and requests were introduced. Their sponsors all sought to have it appear that each was strictly an "Adminis-

tration measure" in order to give it the prestige on which it might be accepted by the House and Senate.

One series of these bills, from the Department of Agriculture, seeks to confer upon the Secretary of Agriculture and the President complete control of all food and fuel supplies, their production, price, manufacture, and distribution, as well as power to commandeer supplies and plants and to establish regulations fixing use and right to possession of supplies of food, clothing and fuel. The proposed grants of power are made absolute and unlimited for the period of the war.

Herbert C. Hoover, head of the Belgian Relief Commission, who has been suggested as American Food Controller, arrived in Washington on the day these bills were presented to Congress and at once got into the fight for their enactment. Mr. Hoover's experience during the war lends weight to the urgent emphasis he lays upon the absolutely imperative necessity that this country shall produce the utmost possible quantities of all kinds of food for supply to our European allies. He joined immediately in the campaign to stimulate food production which the Department of Agriculture is conducting.

Meantime the Council of National Defense and its Advisory Commission have been extremely busy, chiefly with matters of organization, preparation, the appointment of committess, the allotment of duties and labor, and the general shaping up for the immense task that will fall upon the executive administration when once the United States really get into the fight. Washington is a great blur of committees, with new ones falling out of the appointment hopper almost hourly. The legislative effort is first to centralize the administrative power. Then the Administration decentralizes by appointment of committees that ramify to the last detail of the work.

Inland transportation management, in the hands of the special railway committee of the Advisory Commission, has made great advance toward completion of its organization, separate committees for the different districts and lines of work having been named, with practical transportation men at the head of each.

The Committee on Raw Material has made similar preparation, by the appointment of subordinate special committees

for the different materials, each headed by a well known captain of industry. The German organization of the Technical Staff of the War Office is not more thorough in this respect.

Under the lead of the Council of National Defense a three days' conference was held in Washington, attended by specially appointed representatives of the defense councils of the various states. More than forty States were represented, ten of them by their Governors, and others by the chairmen of their defense councils. Meetings were held at which the entire Government program was explained and discussed. Members of the State councils also had the advantage of meeting and hearing the members of the British and French Commissions, who were then in Washington, and learned at first hand of the immediate needs of these two of our allies.

The United States Shipping Board, having got its plans for construction of wooden ships under way, turned its attention to the problem of speeding up construction of steel ships. General Goethals, president of the shipping corporation organized by the Shipping Board, strongly favors steel construction. Tremendous stimulation of ship building has been accomplished. The Government announces it has also bought seven Austrian ships which were in American water from an American firm that had purchased them from their Austrian owners. The Administration asks Congress to appropriate a billion dollars for further and faster ship building.

Industrial preparation for war received substantial assistance from the large manufacturing interests of the country. The steel manufacturers voluntarily gave the Government exceptionally advantageous prices for all materials it needs and arranged to give it also priority in delivery. Oil men made similar arrangements. The wool men stopped transaction until they learned what the desires of the Government were, holding the entire supply at the first call of the Government.

Many wealthy men offered yatchs and power boats to the Government for free use during the war.

Some disposition manifested itself among smaller interests not to follow this lead, but it was not extensive, and the power to commandeer, provided in so many bills pending in Congress,

will take care of it all if any of the bills pass, as seems most likely.

Pending enactment of the general censorship authority asked in the Espionage bill, the President established a censorship over cables and telegraphs and telephones to foreign countries by executive order. The first day of its operation in New York more than 40,000 words were passed without stopping one.

At Washington, Secretary Lansing of the State Department, issued orders to his subordinates forbidding them to give any information whatever to newspaper men under pain of dismissal. The Attorney General took similar position. Then there was established a Government daily publication, called the Official Bulletin, with the avowed purpose of presenting official proclamations, executive orders, statutes, and "all other subjects related to the prosecution of the war to which publicity may properly be given."

Food prices continued to mount throughout the month. Crop prospects were not encouraging, despite the utmost efforts of the Government to stimulate production. The wheat situation on May 1, was the worst for thirteen years President Wilson issued a fervent appeal to the farmers of the country, and many organizations were effected to supply seed, or funds, or assist in securing labor for farms. Washington began an official inquiry into the increases of food prices, attended by representatives of nearly all the States.

While all this was going on, and the furor over the British and French Commissions was absorbing the attention of the country, the Italian Commission arrived unheralded in New York and went to a hotel instead of being entertained as the other commissions were.

Congress having authorized the borrowing of seven billions for war purposes began to make specific provision for spending some of it. Army and Navy estimates aggregating more than three billions were submitted, and the House Urgent Deficiency appropriation bill, to meet some of these estimates, carried $2,699,485,000. That was in addition to the regular army appropriation bill of a little less than three hundred millions.

As reported to the Senate the bill carried more than three billion dollars.

The needs of transportation in France and Russia especially call for immediate assistance. The railway committee of the Advisory Commission of the National Defense Council plans early shipment of materials—rolling stock, rails, etc.,—and the Government has called for nine regiments of volunteers engineers, to be sent to France at the earliest possible moment, to help in regenerating the French railways. Many practical railway men will go to Russia.

American Socalists and labor men are exerting themselves to hold the Russian radicals from yielding to German intrigue.

A special force of about a thousand American surgeons is also being made ready to go to the fighting zone.

Nor is it to be overlooked that the American steamer Mongolia reported that she sighted a submarine off the coast of England on April 19th, and shattered the periscope. The commander of the U-boat was killed.

III.

(May 18th — June 16th.)

The period of about four weeks covered by this review of American participation in the "War of 1917"—as it has been named officially by our Government—opened with the approval by the President of "Public — No. 12 — 65th Congress," the so-called "Draft Act" authorizing the President to raise by "selective draft" the forces necessary to supplement the Regular Army and the National Guard in battle against the Germans. It was on May 18th that Mr. Wilson signed the draft bill. Immediately he issued his proclamation notifying the country of the new law, the calling attention, in memorable phrase, to the fact that "it is not an army that we must shape and train for war; it is a nation."

That proclamation fixed June 5th as the day for the registration, under the new law, of all young men who had

passed their twenty-first birthday but had not yet attained their thirty-first birthday, the day, to quote the President again, "upon which all shall present themselves for assignment to their tasks."

This act contained a provision authorizing the President to raise four divisions of infantry by voluntary enlistment. This provision was designed to warrant the acceptance by the President of the services of former President Theodore Roosevelt, who had offered to raise one or more divisions of men exempt under the terms of the draft, for immediate service. Upon issuing his formal proclamation the President issued also a statement announcing that "at any rate at the present stage of the war" he would not avail himself of this authority. Coincidentally announcement was made at the War Department that it had been determined to send an expeditionary force of about one division of regular troops to France as early as practicable, under command of Major General John J. Pershing.

The "Roosevelt division" had been the subject of much controversy. Its leaders issued a statement announcing the disbandment of the men who had enrolled with him, and urging all who could find other means of rendering service to their country to do so.

The four weeks following the signing of the draft bill witnessed a threefold development of American war activities. First there has been actual military and naval participation. American men and American warships have arrived in the theater of action. At least one destroyer *Flotilla* has been taking part along with British ships in the hunt for German submarines. Other naval vessels have arrived in French waters, and an American squadron has been reported in South American water. Various medical units have reached France preparatory to active service. General Pershing himself, with his staff, has reached Europe and been received with great enthusiasm and cordially in both England and France. They are already at work in France making preparations for the arrival of the men of the division. The enlistment of engineer and other special troops for early service in France is proceeding, and vigorous efforts are making to secure early service of considerable numbers of medical officers.

Second, there has been methodical, steady and patient organization, proceeding in a regular, orderly manner, without the hysteria too often displayed by Americans under somewhat similar circumstances, and with materially less evidence of confusion, blunder and useless delay.

Third, much effort has been expended in Congress, and some accomplishment achieved, in the way of equipping the Administration with further emergency war powers. The measures upon which complete agreement by both Senate and House was reached were not numerous, but some of their provisions were of extreme importance.

The censorship voluntarily imposed upon themselves by the newspapers and other publication of the country finds its counterpart in the conduct of the people generally. The conspicuous feature of the month is the willingness of the American people to support strong handling of war problems without asking delicate questions and insisting upon full though embarassing replies. A striking illustration of the effectiveness of this voluntary censorship, and of this popular self-restraint, was the return to France of Marshal Joffre and M. Viviani, which was not published or even hinted at publicly here until their safe arrival in Paris was announced there. Another was the departure of General Pershing and his staff, unmentioned until they were safe in England. Another was the similarly-treated return home of Mr. Balfour and other members of the British mission. Another was the case of the destroyers. In all these cases first public announcement came from Europe, at the close instead of at the beginning of the incidents. Troop trains passing through American villages these days are greeted and cheered by citizens who understand the serious import of it all and who ask no questions of who they are, whence they come or where they go.

The first phase of organization work under the draft bill culminated on June 5th in the registration of approximately nine and a half millions of young men for possible service in some military unit. Elaborate plans for this registration, covering the entire country, had been made in the office of the Provost Marshal General of the army at Washington. As the preparations for registration progressed, there was much

talk of active opposition from one element or another of the people. Pacifists, anarchists, socialists, pro-Germans and those too lazy or too timid to fight, acted in harmony if not in alliance, to oppose the draft, the registration and the war, and made so much talk that it was easy to believe that something serious might be attempted on registration day.

The Government prepared carefully to meet any development such opposition might inspire, but the experiences of registration day proved that there was no general organized opposition, and that most of the preliminary threatening was only "the sound of the wind and the voice of the crane." A few arrests were made for refusal to register, the defendants constituting a collection of cowards, congenial slackers and professional objectors. In a few cases trial has been held and conviction followed by severe sentence. The settled policy of the Government has been leniency—where dangerous motive for delinquency was not shown—belated registration being still permitted under careful restriction, and after satisfactory sworn explanation. But the display of disloyal or treasonable spirit has been sharply and severely punished.

Preliminary estimates by the Census Bureau were that a total of 10,298,000 registrations might be expected. Early reports indicated that this expectation had been exceeded. But official returns showed that some States had fallen from twenty to nearly fifty per cent. below the Census Bureau figures. Other States exceeded the estimates. Returns from adjoining States sometimes varied widely. Missouri, for instance, registered only 71.6 per cent. of her estimate, while Illinois returned 104.7 per cent.

After the registration it was realized that the census estimate had not taken account of the men already in service in the Regular Army, Navy, Marine Corps, National Guard and other affiliated organizations, who were not required to register. Deduction of some 600,000 should have been made from the estimate on this account, with further allowance for the cessation of immigration during the last three years. However, figures from the States which have reported up to the time of this writing show an average registration in them of more than ninety-two per cent. of the census estimate.

Announcement was made by the Provost Marshal General that plans were practically complete for the appointment of exemption boards to act upon the claims for exemption put forward by a considerable percentage of those registering. Two broad classes of exemption are recognized, agricultural and industrial, it being the purpose of the Government not merely to organize an army but also to equip and feed it after it has been formed, as well as to continue in as large measure as possible the steady flow of food and other war supplies to our allies.

The Provost Marshall General is also practically ready to begin designation of registered men for selection for the first contingent of the new army. The law provides that the new army shall be raised in units of 500,000 men. It also provides for the draft of recruit training units. The War Department has announced that these units will be organized on the basis of one battalion for every four of the army, and at the same time so that the first draft will take 625,000 men.

Meantime work proceeds steadily at the various camps where selected young men are in training to be made officers of the new army. The supply corps of the army labored at top speed to procure adequate equipment, and to provide suitable cantonments for the training of the new army when it has been drafted. Many measures of genuine preparedness, although belatedly undertaken, have been driven forward, and the purpose has been emphasized to prepare the way first before calling masses of men together. There is evident intention not to repeat many of the glaring mistakes of the spring of 1898. The War Department announced its intention not to select the men for the new forces until about September 1st. That would give time for completion of the equipment and training camps necessary for their organization and training, and also for completion of the course of training for the young men now preparing to become officers of the line in the new organization. The War Department announced, on June 8th, that a second series of training camps for officers would be held from August 27th to November 26th, preparing the way for the draft of the second contingent of 625,000 men.

Throughout the period covered by this review a great nationwide campaign has been carried on under the direction

of the Secretary of the Treasury for the successful flotation of the Liberty Loan of 1917, in which two billion dollars of three and one-half per cent. Government War Bonds are offered for public subscription. The subscription books closed at 3:00 o'clock on the afternoon of June 15th, but before that time it was evident that the loan was a huge success. The total subscription announced as this goes to press reach almost three billions, an over-subscription of nearly fifty per cent. The enormous over-subscription is the more remarkable from the fact that the loan carried only three and one-half per cent. interest, whereas, especially since the influence of war prosperity began to be felt in the United States, investment carrying a materially higher return has been easy. The Liberty Loan called to the patriotism of the country, and the response is a final and crushing answer to the pro-German sneer and the war is "not popular," and that there "is no enthusiasm for it."

The Liberty Loan campaign was carried on not only by an organization which embraced practically every banking agency in the country, but was participated in also the thousands of corporations, partnerships, and business firms, as well as individuals everywhere. Wealthy men and powerful financial institutions responded with single subscriptions that in numerous cases meant the investment of many millions by individuals. Great industrial concerns subscribed freely on behalf of their employees, to whom they gave the privilege of taking bonds on the installment plan. Banks generally offered the same facilities to the public, and in this way the humblest citizens were enabled to contribute their share toward the memorable success.

The few Rockefellers, Morgans, and other immensely wealthy men subscribed in multiple millions, but many thousands of laborers, clerks, housemaids and other honest citizens in the lesser walks of life matched this millionaire patriotism with subscriptions of their hard earned and hard saved fifties and hundreds.

While all this important work was going on under powers already conferred upon the Government by Congress, the national legislature labored on a series of measures containing additional grants of power, many of them of such magnitude

and scope that simple mention of them in previous years would have been sufficient to call down an overwhelming flood of opposition. But the Congressional response to the Administration demand for war powers has been one, if not the chief, of the marvels of American participation in the War of 1917.

When this review month opened there were pending in Congress two bills which together were designed to give the Government complete power over the whole food problem, in all its phases, production, distribution and consumption. Also there was pending a measure appropriating more than three billion dollars for war expenditures, in which there was included a provision of $500,000,000 for purchase and construction of ships, with an authorization of $250,000,000 additional for the same purpose. Another pending bill imposed taxes by which the House, that framed it, expected to raise $1,800,000,000 annually to meet part of the expenses of the war.

Probably the most celebrated of all measures pending at the opening of this review month was the so-called "Espionage Bill," which included the provision ardently desired by the Administration for the establishment of a government censorship on newspapers and other publications as well as another provision urgently demanded by the Administration empowering the Government to exercise complete control over all exports from this country during the war. The Administration "Enemy Trading Act," and "Priority Bill" were in course of preparation. They were completed, duly introduced, favorably reported from their respective committees, and one of them, the Priority Bill, after receiving much wordy attention in the Senate, was passed by that body on June 16th.

But two of the more important of these measures reached the final Congressional stage during the review month. Both have been signed by the President as this was written. They were the Urgent Appropriation and Espionage Bills. The Appropriation Bill had been held up at almost the last moment because some alert genius had discovered within it a provision for the purchase of a naval training site at a price which naturally suggested a gouge of the Government. Many such provisions in river and harbor, or public buildings bills escape unfriendly notice or comment, but this one consumed days in the

Senate and House, sent the bill back to conference, finally invoked the special aid of the President, and went through at last revised so as specifically to put the whole responsibility for what ever expenditure is made upon the President. If that does not make him supremely solicitous about items in the pending River and Harbor Bill it would be interesting to know what would.

Earnest endeavor on the part of the Administration was unable to overcome Congressional opposition to the proposed press censorship provision of the Espionage Bill. In striking contrast, there was almost no consideration of the chapter giving the President power under which he might, if so disposed, throttle the foreign trade of the United States The like of it has not been heard of in American legislation since the Presidency of Thomas Jefferson, and the experience of that time has been forgotten for three generations.

The proposed censorship evoked the vigorous personal support of the President. He urged it in letters to Congressmen, and in a special conference with Congressional leaders. Compromise offers were made, providing for jury trial, without avail. Amazing and startling publicity work was indulged in on behalf of the Administration for this provision, with tales of spy work and the transmission of information to the enemy, all without the desired effect. The bill went through Congress without an avowed censorship provision. But when the conference report was finally agreed on, on June 12th, it contained, in Subsection "b" of Section 2, of Title 1, a provision that whoever, in time of war, "with intent that the same shall be communicated to the enemy, shall collect, record, publish or communicated, or attempt to elicit any information with respect to the movement, numbers, description, condition or disposition of any of the armed forces, ships, aircrafts or war materials of the United States, or with respect to the plans or conduct, or supposed plans or conduct of any naval or military operations, or with respect to any works or measures undertaken for or connected with, or intended for the fortification or defense of any place, or any other information relating to the public defense, which might be useful to the enemy, shall

be punished by death or by imprisonment for not more than thirty years."

Of course newspaper publication of war news is not made "with intent that the same shall be communicated to the enemy" but it is bound to make such communication possible. Much depends upon the official construction and application of that provision.

The Department of Commerce, which will administer the power to control exports, has let it be known that that Administration will have steadily in mind the prevention of food or other supplies reaching the enemy; the controvertion of supplies needed in the United States; and the conservation of ocean tonage, by the consolidation or prevention of certain shipments. The control will be exercised through a system of licenses and will largely if not wholly supplant the control hitherto exercised by the British.

Besides these measures Administration concern is felt chiefly for the two food bills, the Priority Bill and the Enemy Trading Bill. The first food bill—to stimulate production—passed the House on May 28th, and the Senate on June 2d. The action of the Senate, and its request for a conference, were duly reported to the House, but a feeling developed there that the two food measures should be considered practically together, and so the conference was not ordered until June 12th.

Draft of the second food bill was completed during the first week in June. It is designed to secure government control of food distribution, and the President has announced that it will be administered through an agency specially created at the head of which he will appoint Herbert C. Hoover, the young American who has made himself world famous as head of the American Commission for Belgian Relief. This bill has encountered much opposition because of vast powers it proposes to give the food controller. President Wilson, Mr. Houston, the Secretary of Agriculture, numerous other Administration officials and Mr. Hoover, have all exerted themselves to secure early action, declaring that it is absolutely essential that it shall become law by July 1st. But there is no assurance that it will be passed by that date. Meantime the harvesting of the new crop has begun, and the Government

complains that it is without power to prevent wasteful use of or speculation in the new supply of food grains.

The War Revenue bill passed the House on May 23d, after a proposal to tax cotton $2.50 a bale had been violently rejected by the solid south. The Senate Finance Committee has devoted much time to amending the House provisions, thereby provoking mutterings of resentment from the south end of the Capitol. The Senate revision of the Tax bill has been accompanied by a great flood of prohibition proposals. They have taken almost every conceivable legislative form, ranging all the way up to constitutional amendment resolutions providing for absolute prohibition. About half the Senators have tried their hand at framing prohibition bills to be submitted as amendments to the Tax bill. Many of them forbid the use of grain as distillers' material. One scheme, which seems to have material support, proposes a prohibitive tax on grain used for distillation of liquors, such as $20 a bushel.

The controversy over the building program of the Shipping Board's Emergency Corporation, which has smouldered ever since it became known that General Goethals, head of the corporation, did not think much of the indiscriminate enthusiasm for wooden ships, reached an acute stage on June 7th. In a speech at New York, before the Iron and Steel Institute, on May 26th, General Goethals expressed his disbelief in the optimistic talk of some of the wooden ship advocates, and remarked that his observation of boards had taught him that they were "usually long, narrow and wooden." Chairman Denman, of the Shipping Board, responded in a public statement on May 28th, and it was then announced that the controversy was settled. Mr. Denman did not contend that wooden construction was as good as steel, but did assert that it was possible by using wooden construction as well as steel, to secure an additional number of ships promptly.

On June 7th Messrs. Clark and Eustis, the two engineers of the Corporation who were the original proponents of wooden construction, made public statements sharply criticising General Goethals. Next day General Goethals publicly dismissed them both from the service of the Emergency Corporation. Later there were symptoms of a public renewal of the row, and

it seems clear that it is impossible to harmonize the conflicting views, both of which are very strongly held.

The close of the review month is marked by the arrival of the American mission in Russia. Mr. Stevens, with his railroad engineers, after proceeding slowly across from Siberia, inspecting the road and making suggestions for reorganization as he went; and Mr. Root, with the diplomatic mission, reached Petrograd on June 13th, and were enthusiastically received. Before his arrival there the State Department at Washington made public the note from President Wilson which Mr. Root was to deliver to the Russian Government. With his usual felicity of expression, Mr. Wilson set forth the purposes of the American Government in entering the war, and stated the case of the Allies so strongly and clearly that both England and Italy have already announced their adoption of the note as their own statement of their own cases.

One statement of this note is especially remarkable. In a single phrase Mr. Wilson destroyed for all time the German plea for a peace on the basis of the *status quo ante*. "It was the *status quo ante*," wrote the President, "out of which this iniquitous war issued forth."

IV.

(June 17th — July 17th.)

Two events of exceptional significance and interest mark the fourth month of American participation in the war between autocracy and democracy—the arrival of American fighting men in considerable force on French soil, to take up there the final training preliminary to their entrance into the actual conflict; and the exhilarating renewal of the Russian offensive in Galicia, with its immediate and striking successes. The first is the chief purely American event of the month, certainly from the spectacular point of view, although it may not have all the ultimate importance that attaches to certain other circumstances which, even though they are clearly beginnings, have hardly attained as yet the stature of full growth. The

second, being Russian, and therefore not technically entitled to consideration in a review of merely American activities, yet does have a sure claim to inclusion here not only in the tie that binds the newest of the great world democracies to us, but also in the steady encouragement and the strenuous efforts at assistance that have proceeded from America to Russia.

Our domestic situation during this month has been one chiefly of Congressional and Administrative wrangling; of bickering over proposals of legislation, or execution of laws already passed, or, sometimes, regarding arrangements that it was attempted to effect extra legally and *ultra vires*. The situation at home is still marked by confusion and uncertainty especially with regard to some of the most important of national equipment for the war. But as this is written, just at the close of the review period, there seems to be developing a better tendency, and the fifth month now promises to open, as the fourth did, with a distinctly successful achievement.

Subscriptions for the Liberty Loan, which closed just as the preceding instalment of this review went to press, aggregated the colossal sum of $3,035,226,850. This was an oversubscription of more than fifty per cent. More than four million different subscriptions were received, representing a national participation in a first loan not accomplished by any other of the nations involved in this conflict. This oversubscription made necessary the curtailment of allotments to certain subscribers. The Treasury Department ruled that full allotment would be made to all subscribers taking bonds to the amount of $10,000 or less, and that a graduated reduction of allotments would be made on subscriptions above that sum, so that the greatest percentage of reduction would fall on the largest subscriptions.

The Liberty Loan campaign was followed immediately by a Red Cross drive to secure a hundred millions by private donation for the work of the Red Cross with our armies. This campaign, also, was successful, although not heavily oversubscribed as was the Government loan.

As the payments to the Treasury on the Liberty bonds bring funds under the disposition of the Government the amount of the American loans to our Allies, as provided in the seven

billion dollar bond bill, mounts steadily. It has now exceeded $1,300,000,000. The United States is taking a large part in financing England and some of the other Allies, the loan to England now aggregating nearly three-quarters of a billion.

General Pershing had been in Paris long enough to have both that side of the Atlantic and this become accustomed to the idea of the American general and his staff working in the French capital, when this country was thrilled on the afternoon of June 27th by the publication of dispatches from a "French port" announcing the arrival of the first contingent of the American soldiers who are to fight the Germans under Pershing's orders. The departure of these troops had been conducted with such quiet skill that the vast majority of Americans, even in the port from which they sailed, had not the least notion that they had gone, and the first general American information that they had left was conveyed in the announcement of their arrival in France. The news that they had crossed the ocean successfully was received with very much the same manifestations of emotion that would have greeted the receipt of the news of a victory.

But it was followed promptly by word from Washington that the publication had been premature, and there was obvious perturbation among the different offices of censorship in the capital. It appeared, at length, that the several sections of the expedition had not all arrived when the first publication was made, and it had been feared in Washington that this premature publication might endanger the safety of the later sections. However, they all arrived safely, and General Pershing said that "not a man was lost, nor was there any serious illness." The French newspapers had been restrained from printing the news until the despatches of the American correspondents were permitted to come through, some days after the arrival of the first section. But the British papers printed the news on the first day. Just when there was a disposition in this country to make inquiry into these circumstances, on the afternoon of July 3d, the Committee on Public Information in Washington, whose chairman is credited with being the head of the censorate at the national capital, issued an announcement that the troop ships had been attacked twice by German

submarines—once well this side of what had been regarded as the possible danger zone, and again the next day. The first attack was said to have been at night, in considerable force, and the Information Committee reported that it had been repulsed by superb work on the part of the American warships convoying the transports. The Committee announced that its report was based on an official report from Rear Admiral Gleaves who commanded the convoy.

This publication stirred the country profoundly. But it was followed by a very singular circumstance. An Associated Press correspondent, who was traveling to France on one of the convoying warships, telegraphed a categorical denial that there had been any attack on the troop ships. The official report from Rear Admiral Gleaves was not made public, and as this is written a resolution is pending in the Senate, calling on the Navy Department for full information concerning the affair.

The landing of American troops in France was the occasion of the greatest enthusiasm among the people of the port where they landed. The Americans were promptly christened with a name which seems likely to stick to them as long as they are in the service in foreign lands. "Sammee! Sammee!" shouted the enthusiastic French. "Vive Sammee!"

The report that the troop ships had been attacked by submarines led of course to a sharp outburst of spy talk. It was asserted that the Germans must have known of the sailing and route of the troop ships, and must have had information on which to arrange these attacks. Whether this affair was the cause of it or not there has been a tightening of the surveillance of enemy aliens, and several prominent Germans have been interned, including one man who was an assistant to Dr. Albert, the German financial agent in New York; another who was a prominent electrician and a well-known New York City banker.

Meanwhile the work of preparation for the new American Army has gone forward rapidly and steadily, and with extremely little fuss and feathers. The organization of the preliminaries for the selection by draft of the 500,000 men for the first contingent of the new National Army, and of the additional 125,000 for the reserve battalions for this first contingent is practicaly completed, and the draft is likely to be made even before this

appears in print. The order for mobilization of the National Guard has been issued, and before this is on the press many of the Guardsmen will be in their concentration stations. At the same time an immense amount of work has been done in preparing the equipment for the new armies, securing the supplies of clothing, food and other materials, and making ready the cantonments where the different divisions of the National Army are to be trained. Contracts for the building work at these contonments have been let and every effort is making to push the work so as to have as many as possible of them near readiness for the men early in September. So with some of its men actually in France, some hundreds of thousands more about to go into camp preparatory to going to France, and another half million about to be selected to begin their training, the Army is making every effort to get where it can strike effective blows.

Very little information has been permitted to reach the public concerning the activities of the Navy. Announcement of successful recruiting is made, and of the letting of contracts, construction of submarine chasers, together with information from South America of the arrival of an American squadron at Montevideo. And Secretary Daniels has asked Congress to appropriate $45,000,000 for navy aeroplanes, hyrdoplanes and seaplanes, and another million for more destroyers and chasers and boats of that general type.

The air phase of military prepaartion has received much attention throughout the month. The Board on Aircraft Production, of the Advisory Commission of the Council of National Defense, has recommended a huge appropriation for this construction. Men of eminence in various lines which gives them authority have argued that the expenditure of half a billion dollars or more would be certain to end the war soon and favorably. They want to "put out the eyes" of the Germans in the air. This proposal has received marked attention and wide support. President Wilson himself is said to be strongly in favor of something of this kind. Some of the men advocating the measure have urged the appropriation of a billion dollars for airplane construction. The aircraft Production Board estimates that an output of 2,000 airp'anes a

month can be accomplished by November. The figure most favored for appropriation is $600,000,000. On July 14th—anniversary of the fall of the Bastile—the House passed unanimously the bill authorizing the President to construct airplanes without number and to increase the signal corps of the army without limit in this direction and appropriating $640,000,000 for these purposes. Almost unlimited power, authority and money were given to the President without hampering restrictions. Hearing had been held by the House Committee on this bill in secret for a week. It was argued that information as to American plans for aircraft production should not be made public, and the effort was to produce a bill that would confer the authority without giving undue information to the enemy.

While our troops were landing in France and getting ready to encounter the deadly products of German ingenuity, and while at home Army and Navy were exerting themselves to the utmost in further preparation, Congress has spent almost the entire month in wrangling over the question as to whether or not it will grant power to the President to control the production and distribution of necessaries. That one bill has been the unfinished business in the Senate for the whole month, and has been mauled and twisted and amended and altered until its best friends would hardly recognize it, so that at length Senators Martin and Simmons, the two leaders of the majority party in the Senate, openly appealed to the President for his advice and assistance. The Senate having agreed by unanimous consent to vote on the bill and all amendments to action on July 21st, the prospect is that some kind of food control bill will be passed by the Senate before it adjourns on that day. The House passed this bill on June 23d, after a week of discussion. The final vote was 365 to 5. Just before taking final action on the bill the House adopted an amendment that no foods, food materials or feeds should be used in the production of alcoholic beverages, except for medical and scientific and government uses. This bill went at once to the Senate, and was substituted for the measure then under consideration in the Senate. It immediately opened the whole range of the prohibition question in the Senate, and immensely complicated

the question of food control. Opponents of food control at once seized upon this prohibition feature of the bill as a means of defeating it, and others who are more interested in prohibition than in food control took advantage of this opportunity to secure action on their favorite measure.

Literally scores of amendments were drafted and submitted, dealing with all conceivable phases of the question of food control and prohibition.

Meantime the first food bill, providing for the greatly needed survey or census, which was passed by both houses over six weeks ago, is held up in conference awaiting action of the control bill.

While this wrangling went on the President and Herbert Hoover, whom Mr. Wilson had announced as his choice for food administrator, made repeated public appeals for action. It was pointed out that the new crop is coming forward, and that because of the delay on this bill the market is absolutely quiescent; that if anything is to be done it must be done quickly. Still the Senate could not be hurried. The President wrote to Mr. Hoover asking him to begin his organization any way and to do what he could without the enactment of the law. Thereupon Mr. Hoover issued a public appeal to the women of the country, urging them to join the Food Administration by signing a pledge card agreeing to work for the conservation of food and prevention of waste. "Food will decide the war," said Mr. Hoover in this appeal. Mrs. Wilson, wife of the President, was one of the first to register in the Women's Good Army. Mr. Hoover pointed out that the saving of a single one-pound loaf of bread per week by each of the hundred million people of the United States would mean the releasing of 100,000,000 bushels of wheat for shipment to our Allies in the course of a year. As an incentive to saving and an illustration of what the united action of the American people could accomplish he showed also that the saving of two cents per person per meal would amount in a year to more than the first issue of the Liberty Loan, or over two billion dollars.

Before the Senate Committee on Agriculture Mr. Hoover testified that speculators had taken more than $150,000,000 from the country in flour alone, and that the entire output of

the American canning industry for 1917 had been sold before any of the materials reached any of the canners.

As the bill stands in the Senate at this writing it covers a wide range of products besides foods, feeds and fuels, and includes a provision that no foods or feeds shall be used for the product on of alcohol for beverage purposes, at the same time giving the President power to commandeer stocks of distilled liquors in bond and to say whether the prohibition of the use of food materials shall apply also to beer and light wines. This is a power that the President does not care to exercise and he advised Senators who consulted him late in June not to include beer and wines in the bill. But the President has asked the Senators for a good many powers which they were not at all pleased at granting, and this beer prohibition question seemed to offer an opportunity to grant him something willingly.

Conferences between Democratic and Republican leaders are reported to have reached agreement on a measure creating a Food Board of three, subject to confirmation by the Senate—where Mr Hoover has some virulent opponents—and limiting the control to shipments in interstate commerce. That emasculates the bill and is described as wholly unsatisfactory to the Administration.

The House has occupied part of the month by putting through several minor war measures, and two important ones, that known as the "Enemy Trading Bill" and the bill providing for unlimited aeroplane construction. The House passed a Rivers and Harbors Bill, a measure increasing the membership of the Interstate Commerce Commission, and the bill known as the "Priority Bill" conferring on the President the power to determine preference between shipments by rail, one of the less controversional of the important war measures. The Senate found time, between bouts with the food control bill, to pass a "daylight saving" bill, which is not to go into effect until next year, and consideration of which the House has postponed until the next session.

Acting under authority of the so-called "embargo" section of the Espionage act of the President, on June 22d, signed an executive order creating an Exports Council, for the control of exports. It consists of the Secretaries of State, Agriculture

and Commerce, and the Food Administrator. It has already prepared for an Advisory Board which shall do the actual work of controlling exports, and a bureau of licenses has been erected in the Department of Commerce. On July 8th, the President issued a proclamation setting the exports control in motion from July 15th. In accordance with the terms of the statute the President gave a list of the articles to be controlled, including fuels, foods and food grains, fodder and feeds, iron and steel and their products, ship plates, arms, munition, explosives and so forth. The countries named included practically every one listed in the geography, so that the Exports Council is now equipped with authority to lay a complete prohibition upon the shipments of any of these materials from the United States if it finds cause for doing so. Our European Allies are basing great hopes upon this American controller of exports. Figures have been published by the Government to show that very great supplies of food and feeds have been going into Germany through Holland and Sweden especially. Government reports showed that food sufficient for 7,700,000 soldiers for a year went into Germany from Holland alone. The neutral countries, especially Scandinavia and Holland, have manifested great anxiety over the exercise of this new power by this Government. President Wilson, in announcing it, explained that our purpose would be to supply first ourselves, then our Allies and then to do what we can for neutrals. But the figures published of the situation among our allies and of our own crop prospects leave very little supply for the neutrals.

The Root Commission to Russia, which had just reached its post when the last instalment of this review was prepared, has now concluded its labors with every indication of success and is about to return to the United States. In a speech on the occasion of their reception by the Council of Ministers in Petrograd, Mr. Root said, "We fight for your freedom as well as for ours, and we ask that you fight for our freedom as well as for your own." In reply Minister Tereschtenko said, "We shall fight together to secure liberty, freedom and happiness for all the world." It was after that that the new Russian drive in Galicia began. While this was going on in Russia the new Russian mission was received with enthusiasm in this country.

In receiving Ambassador Bakhmeteff, President Wilson promised new Russia the "full support and steadfast friendship" of America.

In reply to the Belgian Mission, which had presented him a letter from King Albert, the President made a significant statement regarding the conditions which will satisfy the United States when the time comes to talk of peace. He said that America "welcomed the opportunity to express our solemn determination that on the inevitable day of victory Belgium shall be restored to the place she has so nobly won."

While Congress—especially the Senate—has been backing and filling over the question of food control there has been a somewhat similar indecision among some of the executive officers over measures of war preparation, chiefly prices for different war materials, especially steel and coal. On June 20th the Federal Trade Commission made a report to the President and Congress proposing the pooling of all coal and coke production and distribution, and of all water and rail transportation, the transportation companies to receive a reasonable rate of compensation for the public use of their properties and the coal and coke producers to have a uniform profit per ton. Several hundred coal operators gathered in Washington late in June in conference on coal prices, and were addressed very frankly by Secretary Lane, of the Department of the Interior, one of the members of the Council of National Defense. Subsequently the operators agreed to the principle of government price fixing, and in conference with Mr. Lane and a member of the Federal Trade Commission agreed upon a price of $3.00 a ton at the mines for bituminous coal. The next day Mr. Baker, Secretary of War, repudiated this price and termed it, "exorbitant, oppressive and unjust." After there had been time for interference by the President, Mr. Baker explained that he had not intended any reflection upon any one in what he said, but he did think $3 too high.

Simultaneously there was much discussion over steel prices. Mr. Denman, chairman of the Shipping Board, let it be known that General Goethals, with whom he had a difference of opinion as to wooden or steel ship construction, was inclined to make contracts for ship steel at $95 a ton, which was a good deal

higher than he could approve. The navy was getting steel for $65 a ton and Mr. Denman thought the Shipping Board ought to get it for $56 a ton. The upshot of this was a visit to Washington of a committee of the Iron and Steel Institute composed of the heads of several of the big steel concerns. They reached the capital just as the President issued a statement denouncing profiteering, assailing ship owners for high freight rates and declaring that fair prices must prevail, and that our Allies and the public generally must have the same prices that the Government gets. The steel conference resulted in an agreement by the steel men to furnish the Government all they possible can produce, and to have the prices determined costs, upon which a fair profit is to be allowed.

Thus the fourth month of our war with Germany closes with something actually accomplished and a fair prospect of considerably more.

WHAT HORSE FOR THE ARMY?*

Hitherto unpublished letters from French Cavalry Officers to Enlighten our Government which is about to spend Millions of Dollars in the Purchase of Horses.

WE are reliably informed that our Government is about to purchase $67,000,000 worth of horses for the Army!

In view of that fact it is the duty of all horsemen, as well as a matter of patriotic interest to every citizen to help the Government in arriving at the best types of horses to be obtained and the best methods for obtaining them.

Last March, *The Rider and Driver* wrote to Mr. Baker, the Secretary of War, urging upon him reforms in the methods of

*Reprint from September 1, 1917 issue of "*The Rider and Driver*" by the kind permission of the Editor.

buying which have been since attempted through a change in the personnel of buyers from military men to civilians.*

Whether this will work out satisfactorily remains to be seen.

There is no question as to the good faith of all concerned.

As exclusively reported in one of our previous issues, a number of young gentlemen representing the sports of polo, hunting and racing have been given commissions in the Army as Captains and Majors and are now distributed throughout the country buying horses. We were informed recently that one of these gentlemen has reported that he cannot find more than eight or ten horses per day. This is undoubtedly due to the very high standard he would naturally exact.

Horses for the Army must be selected for much harder work, less care and feed than if they were intended for even the most strenuous of sports as in the latter they receive most careful training and the best of care.

It has been suggested to us by a gentlemen formerly in the business of buying and selling horses that "second-hand" horses would be better than so-called "green" horses and that these could be obtained in all large cities at the rate of at least 100 per day.

The advantage of this kind of horse would be principally its hard condition, enabling it to go immediately into hard work, whereas, the green horse would have to be trained for a long while, not only as to sights and sounds, but also as to muscle building, hardening of feet and bone and development of heart and lungs. If the second-hand horse were drafted for the first shipment abroad, or even later shipments up to six months, or a year, the green horses could be purchased in the meantime and gotten ready to take their places later on.

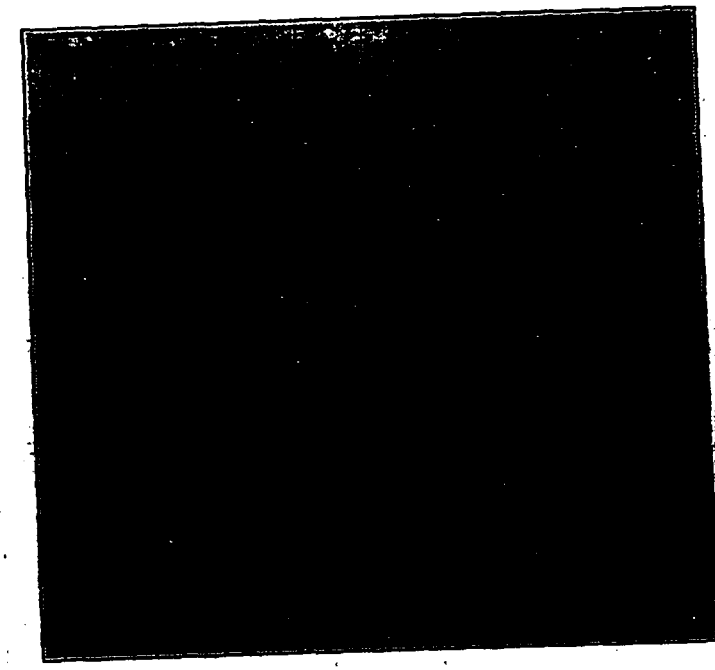
The fancy horse, like the fancy uniform, is not practical in a campaign.

The officer may have a prancing, beautiful charger, but when he goes into field work he puts it aside and takes on his work horse as well as his working clothes.

*We wonder what argument could have been advanced in favor of this change. We know of none.—*Editor.*

Man and horse must be inured to hardship of every kind and able to "rustle" for their living in the country into which they are projected.

The type of horse for the Army, no matter what branch of the service, should be a short-legged animal with the best of feet and bone. His size and weight should vary, of course, according to the purpose to which he is to be applied. For



IMANZADA

A half-bred Arab of good size and muscular development, winner of a charger class at New York State Fair Horse Show, whose son, Kingfisher, made a remarkable record for endurance under Major Frank Tompkins, U. S. A., on his memorable raid after Villa into Mexico.

heavy artillery the draft horse is essential; for flying artillery the lighter breeds of harness horse could be used, such as the hackney and trotter as well as the thoroughbred. The cavalry horse for officer as well as trooper should also be graded in size but above all things should be short backed, as between the withers of a sloping shoulder and the close coupling of the ribs

at the loins and while covering ground, so to speak, must be, also "close to the ground," meaning without much "daylight underneath," the most essential attributes in providing balance so absolutely necessary.

A long-legged horse is bound to be wobbly and although fast at the gallop cannot be handy in maneuvering.

SHAGYA

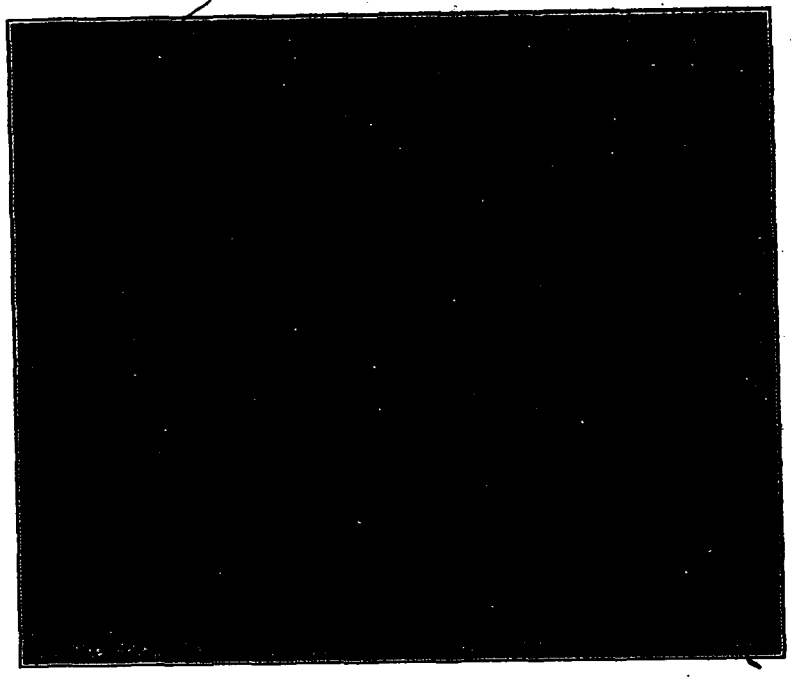
A grand type of short-legged, short-backed, large boned stallion, whose descendants up to Shagya XVIII are still in the stud at Baboina, one of the Hungarian studs.

The *Rider and Driver* has no axe to grind, or special breed to advocate, but believes that horses of the type we have picked out for illustration in this article represent visually the kind of horses that should be produced.

Their breeding, whether Arab, Thoroughbred, Hackney, Saddlebred, or Trotter, is important only as it fixes these types and imparts to the constitution nervous energy, endurance and courage!

In a word, the buyers of horses for the Army must be eclectic, basing their selection upon the foundations so well established in the Government Studs of Europe as the result of years of experience.

For illustrations herewith we are indebted to Colonel Spencer Borden, who several years ago made a tour of those



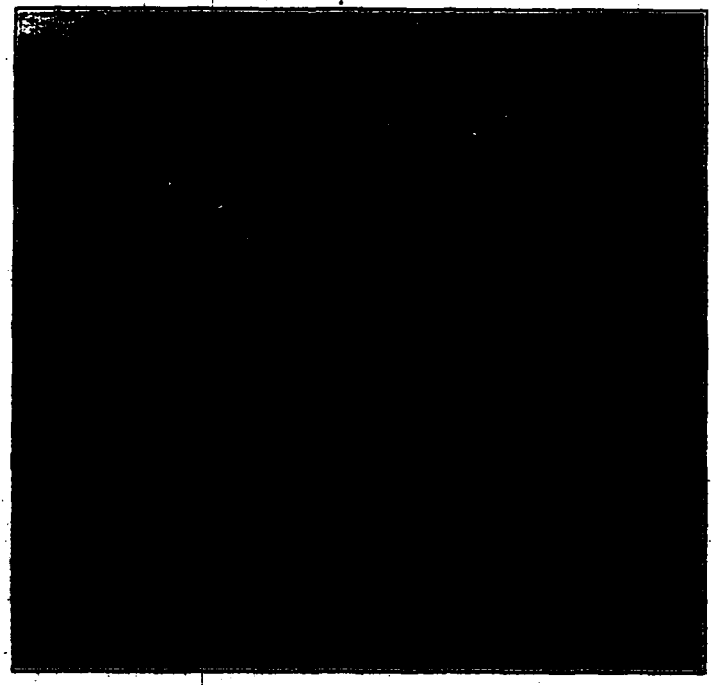
BUONA VISTA.

An excellent type of thoroughbred stallion of the short-backed, short-legged, good boned, big joined and good footed variety, the Premier Stallion at Kisber, the Hungarian Government studs.

studs and wrote a book on the subject. We will not comment upon his well known fealty to the Arab horse, having with his sportsmanly consent selected the cuts according to our own judgment as to their representation of the proper types.

Fortunately, also, we are enabled through the courtesy of a friend to publish some letters from officers of high rank in the

French Army, which answer a circular letter sent out by Lieut. Col. Rhodes, Commandant at the Fort Riley Mounted School, also editor of the "U. S. CAVALRY JOURNAL," asking the opinions of cavalry officers at home and abroad.*



KOHEILAN

First prize pure Arab, Paris, 1900, representing the Hungarian Government studs, which in 1911 comprised three, 234 stallions, representing pure and half-bred English thoroughbreds, pure and half-bred Arabs and several cross breeds produced from Arab and thoroughbred blood; these are bred annually to about 130,000 mares producing an average of 100,000 horses foalded each year.

These have not been published hitherto, the Rhodes questions having been submitted to them by Major Frank Parker, U. S. A., now serving in France.

*We have these letters from the French officers and about eighty from our own officers. Some of them were published in the last number of the CAVALRY JOURNAL and others will follow.—*Editor.*

De Ribains, Colonel of Cavalry in the French Army, to Major F. Parker, of the American Army:

DEAR COMRADE:

You ask for my opinion on the subject of "Type of Horse for the Cavalry."

The question is so large, that a complete answer would call for a full history of horses. For such work I have neither time nor means of answering, especially at the present time.

On the other hand in a note which you sent me, Lieut. Col. Rhodes, Commandant in your Mounted Service School, asks certain precise questions to which you ask from me *personal and brief* answers which I hasten to give.

You will find them herewith.

Agree, my dear friend, to the expressions of my distinguished and devoted regards.

G. Q. G., May 7, 1917.
(Signed) DE RIBAINS.

Questions asked by Major F. Parker, U. S. Cavalry of Colonel De Ribains, Attache at General Headquarters, (reserve) of the French Army:

1. Proper height of cavalry horse?

I think the cavalry horse should not be over 15 hands 3 inches in height; taller than that he is less handy, less docile, less enduring, more difficult to feed, the rider has more trouble in saddling.

2. The Arab Horse?

I have had no practical experience with the African horse, but all who have used them agree in giving him credit for steadiness, and, in spite of his small size, his ability to go long distances under heavy weight. The fault they find with him is that he is short in his gaits, and rough to ride.

3. Proportion of pure blood desirable in an army horse?

A half-bred.

Crossing a strong mare, stout and well gaited, with a stallion of pure breed having substance himself, seems to prom-

ise the best results, capable of adaptability to the exigencies of active service in War, viz.:

Ability to live on the country.
Toughness and bottom.
Weight carrying ability.
Long and supple gaits.
Steadiness.

All of these indispensible qualities for a cavalry horse, whatever kind of warfare is encountered.

4. The thoroughbred horse?

In my career I have ridden a number of pure bred horses; it is among them that I choose my chargers; they have always proved staisfactory: nevertheless, *I have to admit that the thoroughbred horse demands sepecial care, and should not be considedred in choosing a troop horse.*

In the future, if America wishes to establish a race of cavalry horses, it seems that among the many mares available, it should be possible to select a sufficient number, *first of the right type*, secondly *well tested*, to establish, with its pure bred stallions, a complete breeding plant, which would insure the possession of sufficient resources to remount its cavalry in a satisfactory manner.

G. Q. G., May 7, 1917.
(Signed) DE RIBAINS.

GENERAL HEADQUARTERS OF THE ARMY OF THE N. AND N. E., ÉTAT MAJOR 3D BUREAU.

At G. Q. G., May, 1917.

TYPE OF HORSE FOR THE CAVALRY.

1. Height?

A cavalry horse should never be over 15.3. The best height is between 15 hands and 15.2.

It is easy to find among small horses such as are of the right type: near the ground, short and broad on the back, short and solid in limb, good feet, long underneath.

Their rations need not be so large as a big horse.

Grooming and saddling are easier.

Larger horses of suitable type, sufficiently compact, may be sometimes used as officers' mounts.

It is nearly always best in active service to have a horse of small height, say 15.1½ hands.

2. I have had no experience with Arab horses. But it is beyond question that the Arab horse, or the horse of Arab type is the most easily kept (rustique) of any horse we have in France. Now, the ability to live in the country (rusticity) is the first requirement for a cavalry horse. The horses of Nomadic peoples, Arabs, Cossacks, etc., make *excellent* cavalry in war.

3. Before the present war, general opinion held that a cavalry horse should be a *galloper*, offspring of a galloping mare.

Such a horse was a thoroughbred race horse, or the offspring of a thoroughbred.

Major Tompkins seems to criticise the thoroughbred, the race horse, too severely. Such a horse is not necessarily put to racing at two years of age, and used up at four. Further, he is not necessarily a weed, too long, flat, sided, etc. There were in France before the war, magnificent thoroughbred horses, big and able to carry weight. Many officers rode such horses, and our remount service sent a certain number to all the regiments every year. But in France by reason of his high cost, a horse has become a luxury to be "done up in cotton."

Infinite care, from the time he was weaned regulated the choice of his feed. The war horse in France could only be fed oats, to the exclusion of all other grain. Further, the War Department forbade any substitution; oats could not be exchanged for either corn or barley.

Extreme regularity was demanded in hours of work, rest, drink, feeding. The horse only worked during the most favorable hours of the day, and, without exception, was never saddled for more than two or three hours at a time. It was extremely uncommon, that, excepting when on maneuvers a horse was saddled all of one day, and camping in the open was unknown.

Under these circumstances there should be no surprise, that the extremely painful conditions of campaigning have given our cavalry a severe test. Further, the month of August, 1914, was extremely hot. It thus happened that the loss of horses in the average of our squadrons ran as high as fifty per cent. to the total by the middle of September. This waste fell on all kinds of horses; thoroughbreds, Anglo-Arab, half-bred, horses of no known breeding. The veterinarians recognized the condition of being dried-up (deshydrate) by excessive sweating and lack of drink; fatigue, loss of sleep carried the horses to a state of misery analogous to that of an animal *hunted to death.*

Horses ten years old, or more, stood up the best. As to degree of breeding, it seemed not to have any *great* influence on the powers of resistance. The chief factors of resistance seemed to be the conformation of the horse, his ability to carry his load, his adaptability to the exigencies of a new life, in fine his "rusticity" and temperament.

The cavalry horse of today must be able to march for a prolonged period at a rate of six and eight kilometers (four to five miles) an hour at the walk or trot without fatigue or worry, carrying a load of 150 kilos. (300 pounds.)

This calls for a horse of medium height, in good condition, *and well bred.* Breeding gives the nervous foundation, it supplies energy. And since we must have a horse able to get into a combat against other cavalry (exceptional but possible) the offspring of *pure-bred* animals will prove the best.

My opinion, therefore, is that crossing the breed-mares of the country with thoroughbred or Anglo-Arab stallions, should produce good cavalry horses. But under all circumstances the Government should be most critical in its choice of reproducing animals; *and it should not waver in the demand that the offspring must not exceed 15.2 in height.*

In my twenty years service, I have always had at least one pure-bred horse, either as charger, or second mount. I have ridden them in maneuvers, steeplechase, and cross-country.

Among the ten or fifteen horses that have passed through my hands I have had some fretful, nervous, flighty, no good

for service in war. The majority, however, easily became accustomed to contact with other horses in the troop. These became cool, saving themselves for my urgent demand, and able to deliver supreme efforts. But these are the horses that should only be put in the hands of good horsemen.

Their most common fault was lack of "rusticity" (born and raised in luxurious stable near race tracks) and weakness of their feet. I had three thoroughbred horses—one at the moment of the great mobilization—whose feet made them worthless for any long service on bad or difficult ground. The smiths who shod these horses had to be veritable artists.

During the present war I have met some officers who declared themselves entirely satisfied with thoroughbred chargers, while others said they would not have them in their squadrons. From this it must be seen there is no invariable rule.

There are conditions governing different cases.

Choose or make your cavalry horses.

With good breeding, stout, a good top line, good legs, good feet; of medium height, small rather than tall; gentle, good rustlers, not ugly to other horses, cool in temperament.

(Signed) COMMANDANT ANDRE,
Major of Cavalry, G. Q. G., 3d Bureau.

G. Q. G., May 5, 1917.

HEADQUARTERS OF THE ARMIES OF THE N. AND N. E., ÉTAT MAJOR 3D BUREAU.

NOTE ON THE PROPER HORSE FOR CAVALRY IN WAR.

Taking into consideration the fact that cavalry is no longer used excepting as *mounted infantry*, and that we must renounce the idea that it is a branch of service ever again to be used for shocks in fighting a campaign of charges, my idea is a cavalry horse should possess the following characteristics:

1. Height of a cavalry horse: He should be *small.*

(*a*) Because big horses have generally faults of conformation which make them less able to resist in carrying weight, and fatigue.

(*b*) Because small horses are more closely knit, better backed, thicker set. This produces a resistant body, short and muscular back, good flesh, protecting it against saddle galls.

(*c*) Because it is easier to feed small horses and keep them in good condition.

(*d*) Because their general equilibrium makes them tougher, able to endure fatigue, handy in their movements, more capable of supporting all the exigencies of mounted infantry.

2. The Arab Horse.

I have had no practical experience with this kind of a horse. The Barb seems to be in the category of horses suitable for use in war. The endurance and "rusticity" of these horses are excellent reasons to expect them to succeed in use as cavalry horses.

Still, it does not seem to them one needs choose *only* this kind of blood. Every country has animals having similar qualities. France, with its Breton horses, of the Coelay country, its Ardennais, certain small Normands, its horses of the mountainous regions about the Centre; England with its hill types from Ireland; America with its South Western horses, its Mexicans, etc., have all horses that "rustic," stout, susceptible of use as cavalry horses.

3. Degree of blood in the cavalry horse.

It is difficult for me to settle the degree of breeding I should choose in a cavalry horse; for crossing gives results of different kinds, according to the kinds of horses used.

One should give the most breeding possible to a cavalry horse, without unbalancing his organism and creating a nervousness that interferes with his use. The cavalry horse must be steady and cool-headed.

It is therefore necessary to let experience regulate the amount of breeding with each kind of horse.

4. The Thoroughbred Horse.

I have never ridden any other kind of horse. In times of peace, I asked of them every kind of service. In this war, as part of the First Cavalry Corps, I made the Belgium Campaign. On the return from these *raids*, I was detached to the Provisory Division of General Cornulier Lucinieres, all that is left of the Cavalry Corps. After these experiences I decided that the thoroughbred horse would be the best for the cavalry, if the riders knew how to ride and care for him. As the majority of troopers are incapable of saving such superior animals from ruin, they must be taken out of the general remounts for the cavalry and reserved for the officers.

The statement which represents thoroughbred horses as nervous, unable to endure fatigue, lacking in powers of resistance, too delicate for war, should be left to cavaliers who do not deserve the name.

Conclusion.—The cavalry horse should be of medium weight, rather small, steady so as to serve as means of conveyance for cavalrymen who must do the work of foot soldiers, since they have come down to that kind of work.

(Signed) CAPTAIN LE BLEU.

GRAND HEADQUARTERS OF THE ARMY OF THE N. AND N. E.,
ÉTAT MAJOR, 3D BUREAU.

G. Q. G., 4, May 1917.

NOTE ON THE CAVALRY HORSE FOR ACTIVE SERVICE.

1. Height of the Cavalry Horse:

The cavalry horse should be:

(*a*) Well balanced and smooth, so that he will have easy and running gaits; otherwise, a badly balanced horse fatigues his rider, he tires himself and uses himself up rapidly; he is subject to saddle galls, and for these reasons he suffers and gets on badly every way.

(*b*) *Short* on top, so he can carry weight; the load of the cavalry horse is all the time increasing.

(*c*) *Near the ground*, because he will have smoother gaits, he will be less stiff, and tire less easily.

(*d*) *Trappy and well set up.*

This combination of qualities hardly ever can be found in horses above medium height.

Indeed, tall horses that are stout in proportion, need much more feed, which is a great drawback in war.

It therefore happens that one must, incontestably, look for horses medium in size, even small horses, compact and strong. The ideal size is 15 h. to 15 h. ½. He must never be above 15½ hands, but may be less than 15h. without inconvenience, if trappy and stout.

2. The Arab horse.

I only know the *barb*, that is the horse indigenous to Northern Africa, with a slight dash of Syrian (pure Arab) blood.

This horse, to my way of thinking is the perfect type for the cavalry horse.

(*a*) He is exceptionally able to take care of himself in the country (rustic); having always lived in the open air, on the high tableland country of Northern Africa, exposed to great variations of temperature.

(*b*) He is very steady, the product of a country where water and feed are scarce.

(*c*) His physical conformation (low in stature, about 14.2 on the average, full in the chest, back and joints short, clean, dry limbs) make him capable of carrying weight a long time, without fatigue, so the gait is slow.

(*d*) He is gentle and kind, which makes him easy and not tiresome to ride.

I have always campaigned in Morocco with barb horses, under the most trying conditions, and the loss in horseflesh was practically *nil*.

I took part in a campaign through the Saharan regions, and observed many squadrons of barb horse. Their daily rations five kilos (ten pounds) of barley, without any other forage, and they drank but once a day. Their march often covered forty to fifty kilometers (twenty-five to thirty-two miles) for several days on end, under very hard climatic conditions. They carried from 110 to 120 kilograms (230 to 264 pounds)—(including rations for horse and rider) and the horses remained saddled generally sixteen hours per diem.

Their gait of course was slow; the gallop almost never employed excepting in combat.

On the return from this campaign, which lasted about three months (with a few days' rest) the horses of my squadron came back in most satisfactory condition. The losses due to other causes than gunfire, were only 68 horses out of a total of about 120.

I am certain that in the present war, the cavalry horses have had no more fatiguing work, nor greater privations than these I mention. Only one thing can kill a barb; that is racing speed. He can go on from day to day sixty to eighty kilometers (thirty-seven and one-half to fifty miles) if you only ask four or five miles an hour as the rate of speed.

In Morocco I had two thoroughbred horses. One a big 16.2, but nervous, and of the "thoroughbred-hunter" type, suffered terribly and returned a skeleton; he was seven years old, sound and in good health.

The other, a thoroughbred, eight years old, winner of races at Longchamps, and frequently applauded in other places. This horse, of medium weight, was well set up, of good conformation, very vigorous, and of cooler temper. He stood the fatigues and privations better than the preceding. Indeed, he afterwards served as a charger for a lieutenant of Spahis through the Moroccan campaigns, 1909 to 1913, and I believe is still alive and well.

I attribute to the *exceptional* constitution of this horse the manner in which he came through this campaign.

I think one can only draw from these two examples one conclusion on the subject of the aptitudes of a thoroughbred horse to serve as the mount of an officer in a campaign. It is a fact that an officer's horse carries less weight and has better care than the ordinary troop horse; on the other hand, he is often called on for more prolonged and intense efforts. He must also be subjected to short rations and the miseries of

camping. Consequently, he also should be extremely "rustic" (able to take care of himself).

3. Amount of pure-breeding for a cavalry horse:

I have no knowledge as to the manner in which our pure-bred horses have carried themselves in the present war.

In general, those that I have seen in my old regiment of Dragoons, seemed to me too nervous to be called good troop horses.

Finally, the type of horse, in my opinion, most suitable for cavalry in modern warfare is the *Barb* (the remounts given to all our regiments of Chasseurs D'Afrique and Spahis) because of their "rusticity" (adaptation to surroundings) and ability to carry weight. This type is notably improved when crossed with pure Arab blood, which brings to the combination qualities of energy and initiative.

Military Notes

The Editor:

AMONG all the Commanding Officers that I have had, one stands sharply out because he had the most complete loyalty of every one of his officers, all of whom would work their heads off for him without complaint.

I have often compared him, and his methods, and the results he obtained, with the personality, and the methods, and the results accomplished by the Commanding Officers I had before him, and those I have had since, and I have about come to the conclusion that we were all so loyal to him because he was loyal to us; that our initiative developed under him, because he had, and showed it to us unmistakably, complete confidence in us.

Believing this, I have adopted this as my guide: *Loyalty alone induces loyalty: initiative is developed by confidence, and successful leadership depends on initiative, confidence, and loyalty.*

My answer to the question asked in the accompanying paper is that too many of our commanding officers, in the past, have not had confidence in their subordinates, and let them know it; as a result loyalty wavered, and initiative died.

Will you publish this article of mine, with this letter, but without my name? And will you invite replies?

WHY IS IT?

I have just concluded my duties as a member of an examining board. Several first lieutenants of cavalry appeared before the board. They had had, some of them, eight years of service as officers, some of them nine years, one of them ten years.

They were excellent officers. The members of the board knew them intimately; each member knew them all to be men of fine character, excellent principles and habits, efficient officers as far as past requirements had demanded results of them. There was nothing that could happen in the course of the examination, except the physical tests, that could have convinced the members of this board that these officers should not become captains. To the board they were already captains, and it was merely complying with the law in examining them. It was only a form, this examination; the men had already, by their performances of the preceding years, demonstrated their fitness for promotion.

This formal examination, conducted, as I have said, merely to save the face of the board, to enable its members to sign the required certificates, proceded as carefully as if we did not already know the future value to the service of these officers. Examination papers were prepared that fulfilled all the requirements of the general orders bearing on the subject. The written and oral exaninations brought prompt and accurate answers to our questions. In the practical tests in Drill Regulations, Small Arms Firing Regulations, Field Fortifications, Hippology, Military Topography and Packing, a sufficient knowledge of the technique of the various subjects was unmistakably apparent. But the results of the practical examination in Minor Tactics came as a bewildering disappointment.

The officers being examined showed no training in leadership; their estimates of the situations were insufficient and inaccurate; their tendency, instead of *commanding* the men of the troop assigned them, with which to solve their problems, instead of giving orders to their platoon leaders when a situation requiring action was announced them, assumed a far-a-way look, as if they were searching their memory for precedents, and answered as if they were reciting a lesson in abstract theories: "I would do so and so;" "I would give such and such orders;" "I would send such and such a message."

A few months ago I was directed to conduct the field firing of the machine gun companies of several different regiments. Before the companies assembled the captains were informed that this was *their* opportunity, that I would conduct

the firing, but that the daily programs were to be their own. I made this single stipulation in my instructions to them:

> This I shall insist on: at the conferences incident to the practice no adverse criticism of the automatic machine rifle, cal. .30, model of 1909, will be permitted. Little as I know of this arm, I know enough of its defects and limitations, and so do you. What we want to do at this practice is to find out what expert men can do with it, not what they cannot do. Bear this in mind, and come here prepared to show how well you can do with your rifles, in spite of their defects.

When the companies assembled, I divided them into three groups; the officers of each group formed a committee; each day's firing was in charge of one of these committees. They were informed that they would be in full charge; that I would discuss results with them, after the firing, but that the means by which those results were to be obtained were left entirely to them; that "the bridle was off"; that they need have no fear of being found fault with if the results were not satisfactory.

It took a long time to convince those officers that their plans could actually be carried out without being first examined by some one and approved. After I had repeatedly refused to have anything to do with their daily programs, before they carried them into execution, I realized that their habit of dependence on approval precedent to any action, was a fixed one, and, one day when they were all assembled, I asked them: "Why is it that you don't go ahead when you want to do something, without asking if it is all right to do it?" One of the officers, a lieutenant, and an officer generally recognized throughout the service as an expert on the mechanical employment of machine guns, replied: "Why, Colonel, all my service I've been jumped so hard if anything that I attempted to do without authority went wrong, that I have learned that the safest way is to do only what I knew beforehand will be approved." And the other chimed in: "Same here!"

I find by searching the Army Register, that the first lieutenants referred to above have, one or more of them, at some time, served in the 3d, 6th, 8th, 9th, 10th, 11th, 13th and 15th Cavalry. The officers of the Machine Gun Companies have similarly served in the 7th, 8th, 9th, 10th, 13th and 15th Cavalry, and in the 4th, 7th, 8th, 11th, 13th, 14th, 20th, 21st,

22d, 23d, 24th, 25th, 26th and 30th Infantry. All these officers entered the service during the Spanish War, or since then.

This, then, is the condition indicated: several lieutenants of cavalry, averaging nine years' service as officers, who have served in eight different regiments, are practically untrained in leadership. They are thoroughly trained in administrative duties; they are expert horsemen; routine duties in camp or garrison have no secrets from them; they exhibit a sufficient knowledge of military law, and, theoretically of the Field Service Regulations. They can apply the Drill Regulations on the drill field; they do not know how to fight.

At the conclusion of the examination I said to a group of them: "Gentlemen, you impress me as being like a dentist who knows how to rent his office, employ a secretary, purchase his supplies, keep his office in a sanitary condition—but who cannot fill teeth."

In the case of the officers of the Machine Gun Companies, here was a group of thirteen officers, who had served in twenty different regiments, whose service covered varying periods up to eighteen years, and whose initiative was, by their training in those regiments, completely destroyed.

And I wish to add that these were good officers, as we reckon officers in our Army, all of them; there was not a drone or a dullard among them. I think that they represent the line of the Army very fairly: * * * do they furnish a sufficient sample to lead to the inference that the officers of the Army, of their grades and length of service, are as they are, *untrained to leadership, and without initiative?*

WHY IS IT?

NEW CAVALRY EQUIPMENT.

IT will be of interest to the service to know that sufficient sets of the new cavalry equipment have been manufactured at Rock Island Arsenal, to equip two troops of cavalry at peace strength, and the troop officers.

These have been sent to the Commanding Officers of the Third and Seventeenth Cavalry Regimentals, for thorough

test and report, and upon the conclusions arrived at in this final test, will depend whether or not the equipment will hereafter be manufactured to replace the equipment now in use by mounted troops. Photographs and descriptions of the new equipment have already appeared in the CAVALRY JOURNAL, but it will be of interest to know that the invoices of the equipment include the following articles. As will be seen from this list the Cavalry Equipment Board retained of the 1912 Equipment, every article which field tests showed to be meritorious. Chief interest of cavalry officers will center in the success of the new saddle; and also of the slip-device for carrying the rifle, on the trooper's back—an innovation which has seemed to the members of the Cavalry Board to be inevitable in the light of modern cavalry methods.

70 saber scabbards, service, model of 1913.
70 canteens, model of 1910.
70 canteen covers, model of 1910.
70 cups, model of 1910.
70 forks, model of 1910.
70 knives, model of 1910.
70 meat cans, model of 1910.
70 spoons, model of 1910.
70 pouches for first aid packets, model of 1910.
70 gunslings, model of 1907.
138 spur straps, upper, model of 1911.
138 spur straps, lower, model of 1911.
70 pistol holsters, model of 1916.
70 saber knots, model of 1912.
70 bandoleers, cavalry, model of 1912.
69 cooling straps, model of 1912.
69 currycombs, model of 1913.
69 feed bags, model of 1912.
69 grain bags, model of 1912.
69 horse brushes, model of 1912.
69 lariats, model of 1912.
70 picket pins, model of 1912.
70 shovels, cavalry, model of 1912.
70 wire cutters, model of 1910.
70 picks, cavalry, model of 1912.

70 hatchets, cavalry, model of 1912.
70 U. S. rifles, cal. .30, model of 1903, modified.
14 drift slides, No. 4.
14 drift slides, No. 6.
70 front sight covers.
35 oiler and thong cases, complete.
35 brushes and thongs.
35 spare parts containers, containing:
  35 extractors,
  35 firing pins,
  35 strikers.
7 cleaning rods, model of 1910.
7 cleaning rod cases, model of 1910.
14 screwdrivers.
70 cavalry sabers, model of 1913, modified.
138 spurs, model of 1917.
69 cartridge belts, cal. .30, cavalry, model of 1917.
1 record case, N. C. O., model of 1917.
69 ration bags, model of 1912.
70 grooming cloths.
69 halters, stable (Johnson's), model of 1917:
  (each includes extra tie.)
69 intrenching tool and picket pin carriers, model of 1917.
69 pommel pockets, service, model of 1917.
69 saddles, service, 18 in., model of 1917, with felt pads (35 with open wood stirrups, L. C., and 34 with hooded stirrups; 49 No. 1 and 20 No. 2.)
69 saber carriers, service, model of 1917.
69 bridles, cavalry, model of 1917.
1 officer's saddle, complete, model of 1917, with sockets for attaching pommel pockets.
1 cavalry bridle, complete, model of 1917.
1 stable halter, (Johnson's) with extra tie.
2 spurs, model of 1917.
2 spur straps, black, upper, model of 1911.
2 spur straps, black, lower, model of 1911.
2 spur straps, russet, upper, model of 1911.
2 spur straps, russet, lower, model of 1911.
1 saber carrier, model of 1917.

1 cantle bag.
1 cooling strap, model of 1912, O. D.
1 curry comb.
1 grain bag, model of 1912.
1 feed bag, model of 1912, O. D.
1 horse brush, model of 1912.
1 lariat, model of 1912.
1 picket pin carrier, special, model of 1912.
1 pommel pockets, model of 1912, with socket attachment for attaching to saddle.
7 arm chests, rifle.
70 pick covers, cavalry, model of 1912.
70 hatchet covers, cavalry, model of 1912.

WHAT IS A REJECT.

(From the Breeder's Gazette.)

IN the agreement for purchasing public animals issued by the Quartermaster Corps of the United States is an interesting section. It's number is seventeen, and it reads as follows:

"No animal tendered by the contractor and rejected by any purchasing officer shall again be tendered for inspection under this agreement by the contractor except upon express permission obtained from the purchasing officer designated to inspect animals under this agreement. Wilful violation of this prohibition by the contractor shall be ground for the immediate rescission of this agreement."

In the April number of "The JOURNAL OF THE U. S. CAVALRY ASSOCIATION" Captain James N. Munro, Q. M. Corps (cavalry), has an article entitled "Notes on our Remount Service." Among other things the Captain notes:

"On one occasion some fifty-three or four horses were inspected by one officer, who accepted only two from the lot. The remainder, all rejects, were led a distance of less than half a mile, presented under another contract to another officer and accepted to a horse. This occurred not once but many times until official cognizance was taken of it and means were taken to stop it."

What means were taken? What remedy should be applied to an inspector who accepts only two horses out of fifty-three good ones and repeats the offense many times? The agreement does not tell. Section 17 provides that the contractor may apply for permission to show again to the same Board that rejected and for failure so to do may have his contract rescinded. He may appeal from Cæsar unto Cæsar. The rejecting officer has no appeal. He can only apologize. Captain Munro testifies to the efficiency of the horse contractor thus: "I found that contractors generally do their best to furnish as nearly the type of animals that their inspector will accept as it is possible for them to do under the terms of the contract."

Further on the Captain gracefully admits, "Inasmuch as I was without any practical experience with artillery horses I made every effort to get the opinion of artillery officers as to their requirements. I received a variety of opinions equal to the number of officers consulted."

There you have it.

"*Horses is horses*" and no two men look at them alike. Why then apply the opprobrious epithet of "reject" to a good horse that one man will not have and another one will? Why prohibit a contractor from disposing of good, suitable, serviceable horses that anybody ought to take the first time through?

L. A. H.

CHANGE OF UNIFORM FOR MOUNTED OFFICERS.

CHANGES in uniform of the United States Army are most important and of course should not be considered unless for some real purpose. It has always appeared to me that the dress coat for mounted troops is a monstrosity. I do not believe there is any doubt among mounted officers but that the present dress coat is not only unsightly but inconvenient in every way for mounted troops. A long tailed coat built on the style of the civilian Prince Albert coat certainly is

improper for mounted troops. What we need is a short coat built on proper lines which would not only be better looking but very much more convenient for mounted officers. The old idea that the dress coat should be the same for all officers, both mounted and dismounted, has long since been exploded. If changes of any kind are contemplated by the War Department in the near future of course now is the time for it to be done. It is hoped that all mounted officers will favor a change of this kind.

CAVALRY.

NOTES ON THE CAVALRY WORK OF THE CENTRAL POWERS.

THE work done by the German cavalry is reported to have been excellent, in reconnoitering, in clearing the fronts of hostile cavalry, and in locating the main bodies of the enemy.

During the war, there have been no large engagements of cavalry against cavalry, in connection with any general engagement; and cavalry, as such, has not exerted a decisive influence on the outcome of any battle. But it is reported on excellent authority, that in the sphere in which modern military conditions have placed it, cavalry has proved itself as indispensable as ever.

During the great drive of the German Army through Belgium and into France, the screening and reconnoissance work of the German cavalry is said to have been admirable, and of a value not easily to be estimated.

On the eastern front, the cavalry work has chiefly been that of reconnaissance on a large scale, and of patrolling. There have been numerous fights with the enemy's cavalry, and although details are lacking, it is known that dismounted action and the use of machine guns played an important part in these engagements.

On the western front, the German cavalry (like the British), has taken its place in the trenches, and the great

value of dismounted action by cavalry, has been forced on the German commanders. The Germans have made it a practice to make their cavalry patrols small, and have so supported the latter with artillery and machine guns, that the Entete cavalry in the first months of the war was drawn within range and suffered heavy losses. In 1915, General von Hindenberg expressed the opinion that cavalry patrols would be not smaller than a squadron, and would invariably be accompanied by field guns and machine guns.

During the campaign of 1914, the Austro-Hungarian cavalry performed its customary role of screening, reconnoissance, patrolling, and flank guard duty. For some time after this period of "war of movement" however, it was little used except behind the lines. Later in the war, after having been forced to revise the rules of cavalry warfare, it entered upon a combination of mobile action and trench warfare. One observer states that, "it fought like infantry and rode like cavalry."

On one occasion, a cavalry division marched forty-two miles, in one night, went into action and fought on foot during the day, and the following night returned to a position near its point of departure. This meant eighty-four miles in thirty-six hours, including a day of fighting on foot. The strength of this Austro-Hungarian division was 4,000 troopers.

On another occasion in East Galicia, an officer's patrol of one officer and twenty men covered 342 miles in six days. The average load per horse was 300 pounds, and there were no sore backs. The mounts were of the stocky type, weighing about 1,000 pounds, well bred, and from 15 to 15.2 hands in height.

X.

A WATERPROOF DRESSING.

The Editor:

I HAVE read with interest your "Notes on Cavalry Equipment," appearing in the July issue of the U. S. CAVALRY JOURNAL, and note that a waterproof dressing is needed in order to render the use of web ration pockets practicable.

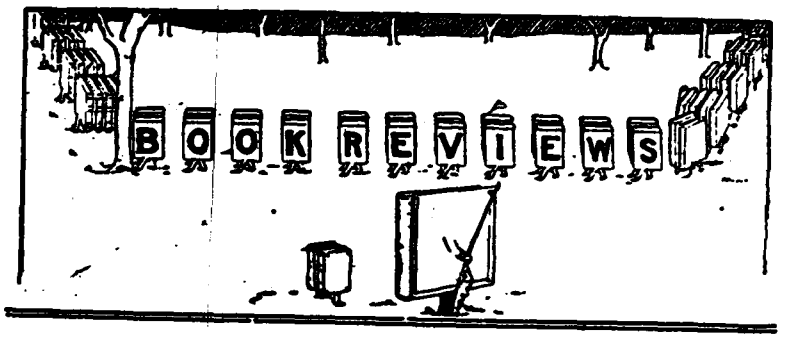
The writer in experiments to render covers of various sorts impervious to water has had more than a fair degree of success, especially with canvas alfalfa cock covers by following this procedure: "Make a saturated solution of aluminum hydrate and soak the material over night (time varying according to size and quality of material). Remove from solution and dry in the air. Use when thoroughly dry."

This procedure may be worthless in rendering web pockets waterproof but may be taken for what it is worth, *i. e.*, as a basis for experimentation in the use of aluminum salts as waterproofing material.

Respectfully,

T. W. CHURCHILL,

Second Lieutenant Veterinary Reserve Corps.



Cortina Manual.*

This book, as its title suggests, is quite extensive in scope. Presupposing a knowledge of French, on its readers part, it presents in successive chapters word lists and conversations on all sorts of military subjects. In addition, full information is given concerning French insignia, maps, flags, and decorations, and the arms and tools of the army, all of which are illustrated with indexed diagrams. Finally, the book contains French, English and English-French vocabularies, each of some 2,000 words.

For those with a fair knowledge of French, the Cortina Manual should prove a useful supplement in extending their knowledge on the military side. It will hardly be of such general interest as Colonel Willcox's "War French," as it lacks any treatment of grammar, and is written with less appreciation of the American's difficulties in studying French.

Major General Leonard Wood, in a brief Foreword, has given his cordial endorsement to the book.

*"CORTINA FRENCH-ENGLISH MILITARY MANUAL." By Jean A. Picard, of the French Army. The Cortina Academy of Languages. New York City. Price, $2.00.

War French.*

Colonel Willcox, Professor of Modern Languages at West Point, and well known as the author of our standard technical French dictionary, has contributed a most attractive addition to the list of books on military French. To a *coup d'oeil* of grammar it adds some well-chosen word-lists and conversations; France and its army are briefly described (in English); some distinctive French passages are presented for translation; and the book closes with French-English and English-French vocabularies of over 2,000 words.

This handy-sized little volume should be particularly useful to the many who have "studied some French" but who are decidedly "out of practice." For such readers, it will recall the essentials of grammar, and lead in an interesting way into the military phraseology. The treatment of French verbs is quite full, though no pretense is made of presenting a textbook of grammar. The word-lists and conversations cover all the branches of the Service, and include the slang of the trenches.

Soldier's Catechism.†

This book is made up of 1,098 questions and answers, many of which, however, require a page or more for the answer, as, for instance, in answering the question as to what are the signals used by artillery, over a page is taken for the answer.

The following are the headings of the several chapters: Rifle and equipment; infantry drill regulations; signalling; rules of land warfare; army regulations and discipline; bayonet combat; history of the United States; firing regulations; first

*"WAR FRENCH," By Colonel Cornelis DeW. Willcox, U. S. Army. The Macmillan Company. New York City. Price, $0.75.

†"WHAT A SOLDIER SHOULD KNOW. The Soldier's Catechism." By Major F. C. Bolles, Third Infantry, Captain E. C. Jones, Medical Department, and Captain J. S. Upham, Third Infantry. With an Introduction by Major General Hugh L. Scott, U. S. A. Fully illustrated. Doubleday, Page & Company. Garden City, New York. Price, $1.00, net.

aid; camp sanitation and personal hygiene; venereal disease; and guard manual.

It has an introduction by Major General Hugh L. Scott, U. S. Army.

Spoken French.*

This little book should make a particular appeal to those men in the service, with limited time at their disposal, who have little or no initial knowledge of French, and who are yet desirous of learning the language. It comprises thirty-six short lessons, in which are presented the bare essentials of grammar, shorn of all confusing exceptions and nice differentations. Each lesson in addition includes a word-list, selected for the particular needs of the military, and some suggestive exercises for practice.

Throughout the book emphasis is placed upon the *spoken* language. With this purpose in view, a set of phonetic symbols is employed in learning the words, and the French spelling is not directly studied until the latter part of the course. These symbols are probably as satisfactory as any such device can be, but the method gains in value if supplemented by the help of a competent instructor.

The book has been adopted for use at several officers' training camps. The proceeds are to be devoted to the army work of the Y. M. C. A.

Problems for Cavalry.†

This is a book along the lines of "Small Problems for Infantry" which has been gotten out at the Army Service Schools. It is a book of 107 pages—6 in. by 9 in.—and contains fourteen problems illustrating the handling of small groups of cavalry.

*"FIRST LESSONS IN SPOKEN FRENCH FOR MEN OF MILITARY SERVICE." By E. H. Wilkins, A. Coleman, and M. R. Muse. University of Chicago, Ill. Price, $0.50.

†"SMALL PROBLEMS FOR CAVALRY." Under the direction of Department of Military Art at the Army Service Schools. 1917. Price, $0.50.

The problems in this book have been tried out at the Service Schools and it is only after they have been discussed by all the instructors and the consensus of opinions obtained by all of them that the problem is published.

No Troop Commander, or any Cavalry Officer for that matter, should be without this book even at any price, but the price at which it is sold makes it the cheapest and the best book a cavalryman can purchase.

The Foes of our Household.*

The name of the author is a sufficient guarantee of the worth of this book. A brief extract from the Foreword will give an idea what the book is about. "The man who still asks 'why we are at war' or apologizes in any way for Germany, should look to his own soul; he is neither a patriot nor a true American, nor a lover of mankind; and the foes of *his* own household are the folly and the cowardice and the cold selfishness of his own heart.

"We should hold Germany in horror for what she has done! But we should regard with contempt and loathing the Americans who directly or indirectly give her aid and comfort; whether they do so by downright attack on our own country, by upholding Germany, by assailing any of our Allies; by trying to discourage our people from vigorous, resolute, unyielding prosecution of the war, or by crying on behalf of peace, peace, when there ought not to be peace."

The book has 347 pages and is well printed with clear and large type and on good paper.

*"THE FOES OF OUR OWN HOUSEHOLD." By Theodore Roosevelt. 1917. George H. Doran Company. Price, $1.50, net.

Field Artillery Details *

Notes on Training Field Artillery Details is a book that fills a long felt want in the service. Its authors are both practical Field Artillerymen of much experience both at the School of Fire for Field Artillery and in the service at large.

Cavalry officers serving in Provisional Field Artillery Regiments and the multitude of new officers coming into the Filed Artillery service will find this book together with their Ordnace Handbook of Material and Drill Regulations a fairly complete library to take into the field.

It covers the teachings of our School of Fire for Field Artillery along the lines of Training Special Details quite thoroughly.

The matter of laying by compass and the use of maps and protractors which is in such general use in the Field Artillery abroad is extensively treated.

The "Battery Commanders place sketch," when used with the circular protractor and range arms becomes a plotting board which should be of value in the close work required in trench warfare.

The Book Department of the Army Service Schools is turning out card board protractors, range arms and plotting sheets with graduated edges for use with this text by officers of the Provisional Officers Battalion. Army Service Schools, Fort Leavenworth, Kansas.

A hearty reception by the members of the service, is predicted for this excellent volume.

W. F. S.

*"NOTES ON TRAINING FIELD ARTILLERY DETAILS." By Captain Robert M. Danforth, F. A., U. S. A., and Captain Onorio Moretti, F. A., U. S. R. Yale University Press. Price, $2.00.

BOOK NOTICES.

"COMPLETE UNITED STATES INFANTRY GUIDE FOR OFFICERS AND NON-COMMISSIONED OFFICERS." Reprinted from Government Publications. Arranged by Major James K. Parsons, U. S. Infantry. Buckran binding. Price $6.00 net. J. P. Lippincott Company, Philadelphia and London.

This is a volume of 2,176 pages which contains reprints of twenty-five government books or pamphlets, which pertain to the infantry.

"ELEMENTS OF TRENCH WARFARE. Bayonet Training." By Captain William H. Waldron, 29th U. S. Infantry. "There is a wealth of material in this little book that will interest the soldier. * * * It is essentially a soldier's book, written in language that he can understand. The price has been kept within the limits of his pocketbook." Edwin N. Appleton, 1 Broadway, New York. 1917. Price 75 cents, postage prepaid.

"HOW TO LIVE AT THE FRONT. Tips for American Soldier." By Hector MacQuarrie, B. A. Cantab. Second Lieutenant Royal Field Artillery. Twelve full page illustrations. J. B. Lippincott Company. 1917. Philadelphia and London. Price $1.25, net. "It is an informal book but one with a tremendous drive in the right direction."

"LE SOLDAT AMERICAN EN FRANCE." By Algernon Colemand and A. Marin La Meslee. University of Chicago Press, Chicago, Ill. Price 50 cents, net, 52 cents prepaid.

This is one of the numerous little handbooks that have come out during the war which gives a knowledge of the French language, or a smattering of it, in the shortest time. It is a small book, 4 in. by 6 in., of 118 pages and is confined to what a soldier should know in making known his wants when in France.

"SELECTIVE SERVICE MANUAL. A Manual of Elementary Drill and Physical Training." Prepared especially for men registered under the "Selective Service Act." By A. L. James, Jr., Captain 15th Cavalry, U. S. A. The Times-Mirror Printing and Binding House, Los Angeles, Cal. Its table of contents covers the following subjects: Suggestions to men under the "Selective Service Act;" Physical Training; Elementary Infantry Drill; Elementary Cavalry Drill; Useful Information. It is a small book of 262 pages—4 in. by 5½ in.

"MOBILIZING AMERICA." By Arthur Bullard, author of "The Diplomacy of the Great War." 1917. The Macmillan Company, New York. Price 50 cents. The following are its Chapters: America goes to war; Democracies as fighting machines; The mobilizing of public opinion; The mobilization of industry; The mobilization of men; A programme.

"THE SOLDIER'S DIARY AND NOTE BOOK." This is a small diary issued by the Crowell Company—3 in. by 5 in.—the first forty-two pages of which is devoted to useful information. It has about a dozen pages for a cash account and three or four memoranda.

Thomas Y. Crowell Company, New York.

"FIELD SANITATION. A Manual for Non-commissioned Officers." By Lieutenant Colonel James Sprigg Wilson, U. S. Army. Fourth edition. Illustrated. 1917. George

Banta Publishing Company, Menasha, Wisconsin. This little book—4¾ by 5½—of 125 pages. The following are the headings of its chapters: Introduction; camp diseases; personal hygiene and clothing; water and its purification; subsistence; wastes and their disposal; first aid; sanitary service in campaign and bibliography.

"VADE-MECUM. For the use of Officers and Interpreters in the Present Campaign. French and English Technical and Military Terms." By Eugene Plumon, Officer Interprete Stagaire pres le Corps Expeditionnaire Britannique." New and revised edition. Hachete & Co., Paris and London. Brentamo's, New York and Washington. This is a small pocket book—4 in. by 6 in.—of 164 pages.

Editor's Table

SUSPENSION OF PUBLICATION OF THE MILITARY SERVICE INSTITUTION JOURNALS.

It is with sincere regret that the service will learn from the *Editor's Bulletin* that the *Journal of the Military Service Institution* will suspend publication beginning with the new year. It has been apparent to the friends of that Journal for several years that it was suffering from a lack of generous supply of material from which to select articles for publication. For several years the editor has had to depend mainly upon the results of the essay competitions, and even there much disappointment has existed in the limited number of those who have entered these competitions.

The reason for suspension at this time is a financial one. While the year 1917 to date shows through resignation and death of members a net loss of membership of only seventeen, so large a number have failed to pay their annual dues that it has materially embarrased the treasurer. With a wide scattering of officers incident to the present war and the difficulties of transmitting small subscriptions, it seemed a hopeless task to follow them up with a request for payment of dues.

The Military Service Institute was started many years ago by a most forceful and intellectual group of officers of high rank, survivors of the Civil War. These gentlemen recognized to the full that with the passing of the veterans of that great conflict and the growth of ease and fireside comfort which results from long periods of well fed peace, our nation would lose

interest in preparedness and that our small army would maintain with great difficulty a knowledge of the problems of war in all its manifold branches, unless we had some medium for maintaining that knowledge through the publication of the latest developments of the art of war and in the sciences as applied to war, among the great military nations of Europe. The all but hopeless campaign which has been carried on under so many difficulties during the past twenty-five years by a group of army officers to instruct the American people in their woeful deficiencies in modern military equipment, and in the modern practice of war, has been materially aided by the Military Service Institution and its Journal.

The breaking away from the parent society incident to the establishment of special service associations, each publishing a journal, seriously reduced the interest in the more general society in a way that has not been altogether for the best interests of the service itself. A few years ago when interest in the military service had fallen so low that it was almost impossible to see any light ahead, it appeared desirable and proper to establish special journals with a view to developing as much as possible the several arms through free and full discussion of everything concerning those arms, especially their history, for the benefit of the officers of the particular branches.

The readjustment which will follow this great war will bring about conditions which no man can now forsee. It will then be a matter of duty for those who remain in the permanent establishment to restore the Military Service Institution to the functions which our worthy forebears had contemplated for it, and of holding special service journals as far as possible to the narrow limits which were contemplated for them in their establishment. If this cannot be done, it would be better for the whole service, which, for success, must depend upon team play, to seriously consider whether it would not be worth while to throw all support to the general society with its heaquarters on Governors' Island, and utilize certain parts of the journal as special allotments of space to each arm. This would enable those who do not care to keep up on all service, to read only the part pertaining to their own arm.

Every effort has been made by the most experienced and serious minded officers to prevent anything appearing in the various journals of their arms which would militate against good feeling and team play, upon which success in war must always depend. In the interest of the service and with the highest appreciation of and gratitude toward the veteran generals of the Civil War who started the movement for professional improvement upon its slow and upward climb, to the present state of military efficiency, as indicatedly by the work of the General Staff at this time, let us hope for the early restoration of the *Journal of the Military Service Institution*, and that the hopes and ambitions of those who inaugurated that institution shall be realized in the new army which shall come with the reorganization from the War of 1917.

W. H. C.

THE AMERICAN RED STAR ANIMALS RELIEF.

In our July, 1917, number of the CAVALRY JOURNAL, we stated that we were not cognizant of a Society in the United States that was similar to the Blue Cross Society, the Red Cross for horses, I find that we were mistaken in this.

We have received from Mr. James Martin, of Dover, Delaware, a note in which he calls my attention to a leaflet which he enclosed. It is as follows:

YOUR COUNTRY CALLS.

THE AMERICAN RED STAR ANIMAL RELIEF

NEEDS YOUR HELP!

Organized on the suggestion of the United States Secretary of War for the relief of sick and injured army animals.

Branches wanted everywhere.

Write for full information, Dr. WILLIAM O. STILLMAN, Director General, Albany, New York.

As is generally known, the American Red Star Animal Relief was organized last May by the American Humane Association on the suggestion of the United States War Department. It is designed to supply a somewhat similar relief for the United States army animals to that provided by the Red Cross for the sick and injured soldiers.

Those who have the best interest of the Army at heart and are anxious to have the animals humanely cared for will do all in their power to assist in developing the work of the American Red Star Animal Relief. It was necessary for the Red Cross, a volunteer organization, to provide care for sick and injured soldiers. It is likewise necessary for the public to provide adequate funds to meet the pressing needs of the American Red Star Animal Relief.