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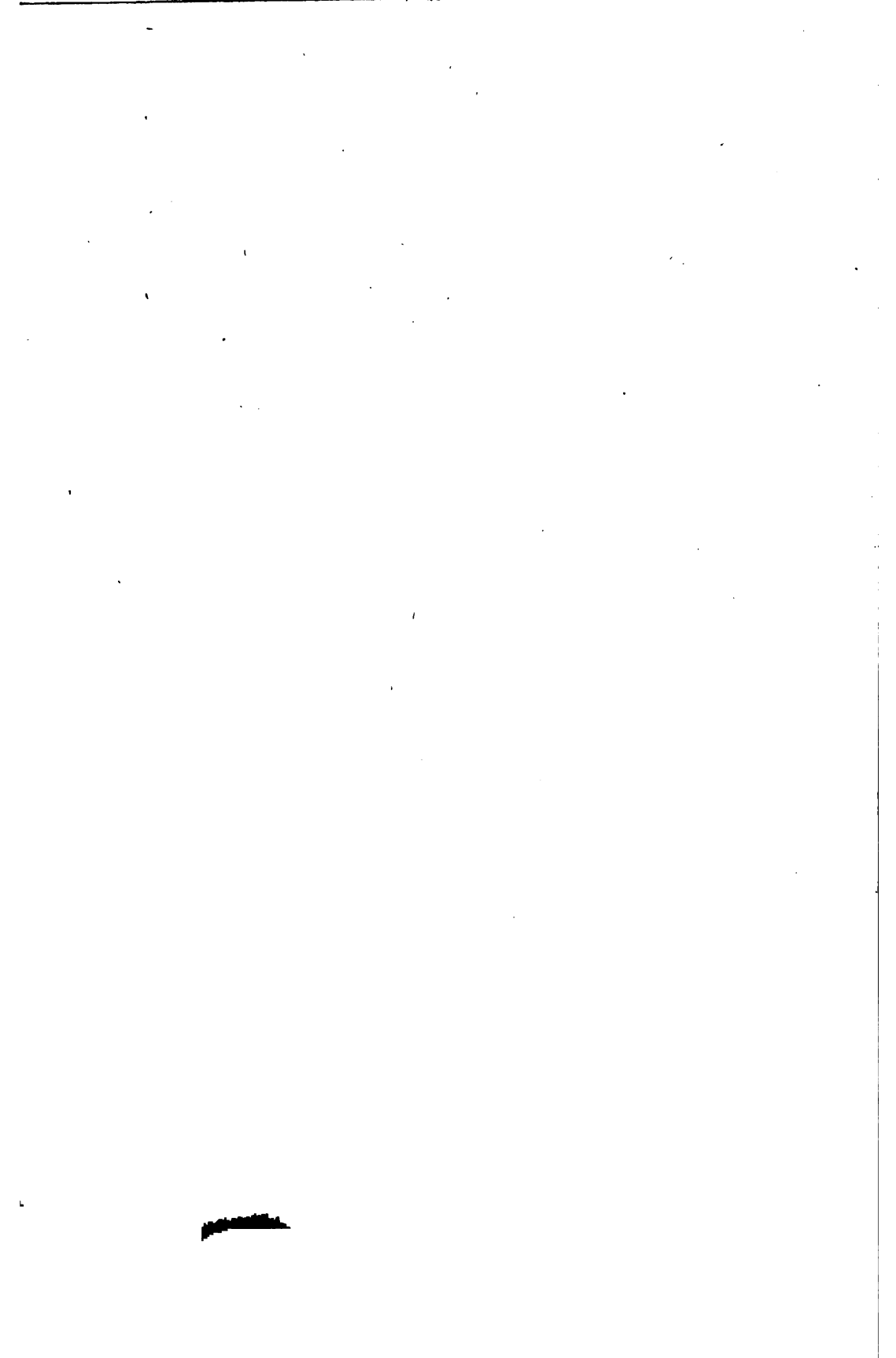
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THE MOUNTED RIFLEMAN

A METHOD OF GARRISON TRAINING AND FIELD INSTRUCTION OF CAVALRY

INCLUDING TESTS AND COMBAT EXERCISES, AS USED IN THE
FIRST CAVALRY BRIGADE, U. S. ARMY

BY

BRIGADIER GENERAL JAMES PARKER, M. H.
FORMER COLONEL 11th U. S. CAVALRY



"What could be done with a great superiority of Cavalry, well armed with muskets, and accompanied by Light Artillery, strong and well horsed, is incalculable."—*Napoleon.*

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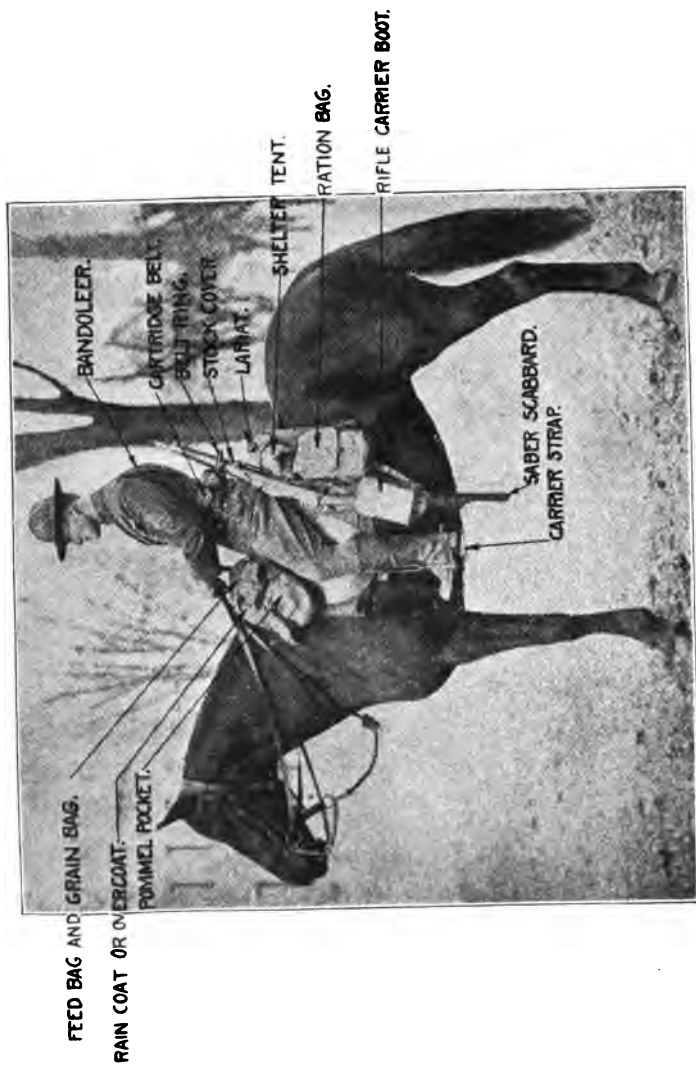
by

BRIGADIER GENERAL JAMES PARKER

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PACKED SADDLE, FULL EQUIPMENT (NEAR SIDE.)

U. S. CAVALRYMAN, MOUNTED

I

INTRODUCTION

THE POWER OF CAVALRY

The decisive power of cavalry lies in its mobility and its rifle.

The main value of cavalry now, as in the past, lies in opposing Infantry.

The term "Mounted Infantry" should be no longer one of reproach. On foot, the cavalry of today, man for man equal to infantry, can attack positions, with the same determination, the same resolution, as infantry.

Cavalry that cannot fight on foot is worthless cavalry.

But conversely, mounted infantry that cannot fight on horseback is worthless mounted infantry.

Mounted infantrymen who are not horsemen and who cannot use the saber can be swept off the earth by good cavalry. They must be able to fight on horseback as well as cavalry.

There is, then, no appreciable distinction between good mounted infantry and good cavalry. As a matter of fact, as regards their principal function, cavalry should be regarded as the mobile branch of the infantry. They use the same weapon, the rifle, which, often, their mobility enables them to use with great results. With this weapon in the American war of 1861-65, they were constantly and consistently employed to carry positions by assault, to stop divisions and armies of infantry.

The rifle is the principal weapon of the cavalryman of today. He is the rifleman on horseback, who in a few seconds can convert himself into a rifleman on foot, equal man for man to the best infantry, ready, like infantry, without quailing, to receive the mounted charge of cavalry and repel it.

It is seldom possible now for horsemen to charge unshaken infantry. For when at the end of his charge, the modern horseman reaches his dismounted enemy, he finds a foe who is ever proof against the saber, who with his magazine always filled

can return shot for saber cut, blow for blow. But in the place of the mounted attack on infantry, formerly the principal function of cavalry, there opens a vista of enormous possibilities for the rifle armed horseman of the future.

We foresee masses of cavalry armed with rifle and saber, able to drive from their path riflemen and horsemen, equal mounted to the best cavalry, formidable on foot as the best of infantry—infantry with seven league boots, who can march thirty miles in five hours, attack and carry positions at the point of the bayonet; act, without assistance of infantry, as an independent force.

We foresee the great extension of modern battle lines modified by the development of a mounted infantry (able to fight as cavalry), ready to throw itself on the flanks or rear of the enemy, however distant they may be.

We must study the cavalry of the Civil War and of the Boer War, rather than the cavalry of Wagram and Waterloo, to obtain the proper conception of future cavalry action.

The cavalry of the American Civil War was a development, an evolution, wrung from four years of hard knocks, of bloody blunders, of humiliating failures. Cavalry at the beginning of that war was pronounced useless, out of date. Assuming that the only proper rôle of cavalry in action was mounted fighting, and infantry being no longer afraid of mounted charges, it was easy to deduce the conclusion that cavalry could only fight cavalry, and thus had lost its usefulness.

As the war progressed, however, more and more uses were found for cavalry. It began to fight infantry, tentatively. In 1863 by opposing and delaying the march, with the rifle, of the leading divisions of the enemy's infantry, it made possible, at Gettysburg, a victory; at Chickamauga, a concentration. As the war progressed it became more common to employ cavalry, using the rifle, to delay, harass and halt the enemy's approaching infantry divisions; to seize and hold against infantry, until the arrival of foot troops, important positions: Finally, at the end, when at last the full powers of the mounted infantry-

cavalry had been discovered, its detachments were increased and consolidated until they numbered, in some armies, almost one-third of the total force, and under Sheridan and other leaders, in great masses, opposing on foot the enemy's infantry, our cavalry took a leading part in bringing to an end the war. But for the wonderful work our cavalry did at Sailors Creek, Five Forks, and the pursuit of the enemy at Appomattox, it is likely the war would have lasted many months longer.

All considerations concerning cavalry action are profoundly modified by *cover*.

In the old days cavalry country was open country.

Now, the more cover, the better for cavalry.

No cavalry force today can, in a country without cover, maneuver or dismount within a mile of hostile riflemen without serious loss. But if the country is rolling, or better, wooded, it can move to or dismount within short distance of the enemy's lines.

Dismounted it has its horses at hand, where they can be protected; hidden, where they are safe from rifle or artillery fire.

Thus it is that that part of the United States east of the western plains is particularly adapted to the use of mounted infantry.

In all this country, wherever well settled, cover is increasing rather than diminishing; trees and hedges are being planted, few trees are being cut down. Woods more or less cover the country of Maine, New Hampshire, Vermont, New York, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Louisiana, Mississippi, Kentucky and Tennessee. Wooded country surrounds the great cities of Boston, New York, Philadelphia, Baltimore, Washington and many others.

Cover, in a forest, of an army in a defensive position, acts as a screen, favoring the use of mobile troops by its opponent for quick turning movements, for sudden concentration attacks on weak points of the enemy's line, or for approach.

Cover favors the use of mounted infantry in delaying actions, flank and rear attacks, raids, and independent expeditions.

Hence the great use made of mounted riflemen, north and south, during the American Civil War.

The battlefield usually had in mind by writers, is where the attacking infantry must come within range of the enemy's artillery at 3,000 yards, advance under its fire until at, say, 1,200 yards, they come under the fire of small arms, from which point they must proceed by the advance of successive lines of skirmishers until the assaulting position is reached.

Compare these dispositions with those which would necessarily take place in wooded country like that around Washington, for instance. The attacking infantry, when it first comes under fire, is almost in the assaulting position; it must at once enter upon the final phase of the combat; the rush on the enemy's trenches cannot be long delayed. The firing line must be numerous enough to discharge a heavy volume of fire on the enemy's trenches; the supports and reserves, being screened, must be well up and powerful so as to take a decisive part in the quickly ended combat. If on the defensive, not only one, but several lines of trenches must be prepared, for otherwise the enemy, behind the screen of the woods, may, Like Longstreet at Chickamauga, organize a powerful column which, suddenly overwhelming the firing line, will pierce the center.

Wooded country offers innumerable opportunities for surprise, before, during, and after battles; it makes artillery of small account in deciding combats; it facilitates turning movements and attacks in flank like those at Chancellorsville and the Wilderness; it diminishes the effect of the long range of modern firearms; it facilitates surprise, shock, the use of cold steel; it affords concealment for the horses of cavalry and thus makes the dismounted action of cavalry more practicable; it enormously increases the difficulties of superior command.

Woods profoundly affect artillery. This arm to be effective must be posted out of long range of the infantry rifles. Otherwise the infantryman, who has difficulty in finding a target on the modern battlefield, will concentrate his fire on the battery.

Such a contest is unequal, and usually results in the discomfiture of the artillery. It is difficult, in a wooded terrain, to use a battery, to its full advantage. If infantry or cavalry is seen or fired upon it finds a hiding place the next instant; the sharpshooters of the enemy approaching under cover constantly annoy the cannoneers—the battery runs a chance of being unable to bring up its horses or to limber up and change its position.

Cover, properly utilized, will enable cavalry or mounted infantry, to successfully attack infantry, in or out of trenches, by charging mounted and at the end of the charge jumping to the ground and fighting like infantry, as was done several times during the Boer War. In this way a space of four hundred yards can be covered in sixty seconds, a distance which would require for the advance of infantry from ten minutes to an hour. The mounted infantryman, head on, presents not much more than twice the target of the dismounted man and fire can be opened by well trained troops in five seconds after the command to halt and dismount.

Formerly, when cavalry fought exclusively by shock action and with the saber, bare, open terrain was called "cavalry country." Now that the long range rifle has become the principal weapon of cavalry, the more cover, the better for cavalry work.

It is cover that enables cavalry to conceal their horses and protect them from hostile fire or from capture, that makes turning movements possible, that facilitates surprise, that enables the cavalry to get up on the line of battle, and yet have their horses within reasonable distance.

And it can be shown that the development of the American cavalry as it was used in the Civil War was largely due to our peculiar terrain.

The independent action of large bodies of cavalry will be greatly facilitated by the wireless telegram and by the navigation of the air. The great raids which were made use of during the American War of 1861-65, had then the disadvantage that

once started on its career the raiding force was entirely cut off from communication with its own base and from coöperation with its own army, in case conditions changed. This sometimes led to unfortunate results, as in the case of Stuart's raid in the Gettysburg campaign of 1863, and Sheridan's raid in the Wilderness campaign of '64, results so unfortunate as to create a doubt as to whether such movements of cavalry were profitable. The use of the wireless and of aerial messengers will in the future enable the commanding general to keep in touch with such expeditions and direct their movements.

The same is the case with the cavalry screen, whose columns will now be able to receive information from and transmit intelligence to the commanding general and to each other without loss of time, an element so precious in war.

In the same way the cavalry employed in great turning movements, attacking with the rifle the enemy's flank or rear, will be kept in touch at all times with the Chief of the Army.

It is safe to say that these new inventions will add immensely to the value of cavalry in future wars.

The task of the cavalry in reconnoitering will also be greatly simplified in future by the use of the aeroplane and dirigible balloon. By these means it will be possible to determine quickly the extent and position of the enemy's lines, the location of his flanks and of his depots and lines of communication. A function of the cavalry more important than reconnoitering will be that of a great reserve of riflemen, of mounted infantry. "The air men have located the enemy's flank twenty miles from here" will be the order.

"The Chief of cavalry will take 20,000 men of his reserve and strike the enemy at that point, promptly, four hours from now, driving it in. At that hour a frontal attack will be made."

What has been considered one of the principal functions of cavalry, namely scouting and reconnaissance, will be supremely affected by aviation. One of the most important of the military duties of the aeroplane will be the determination of the enemy's position and numbers by exploring his territory. The army which has preponderance of force in aeroplanes will be able at

leisure to examine its enemy's lines, to discover their weak points and make preparations for an attack accordingly. All the more important movements of the enemy will be at once discovered; the approach of his reinforcements and the march and position of allied armies will be information which will be always in the possession of the army having control of the air. The necessity of reconnoitering and of thus moving far in advance of the army, where often cavalry is not in touch with the commander-in-chief, has hitherto made it difficult to employ cavalry in the ensuing battle, for what should be its most important rôle, the attack, dismounted and mounted. This necessity no longer exists to such a degree, and cavalry will thus more often be set free to pursue its true rôle.

While, as a general rule, it may be said that unbroken infantry cannot be charged by cavalry, extraordinary, almost unbelievable, results have been accomplished in the past by the mounted charge and will occasionally be accomplished in the future. It is foolish to discount moral effect, panic, in war, even among the best troops. To comprehend a charge, which is a rush of horses at full speed, moving with a kind of blind fury, carrying their riders with them whether they want to lead or not, one should imagine a stampede of a great herd of horses. The man that finds himself in the way of a stampede is lost. In avoiding the first horse he is liable to be knocked down and trodden upon by the second or third. The horses will avoid a mass of men, but scattered individuals they are not able to avoid. Hence the rally, or forming square of infantry to repel a charge. It is not often that this mass of horses in the charge presents an unbroken front. This at full speed is practically impossible. Hence the necessity for a second and third rank, whether this rank is the rear rank of the European double rank formation, or the second, third or fourth platoon of the line of platoon columns of the single rank American formation for charging.

In order to demonstrate that mounted attack on infantry is never possible, it would be necessary to prove that infantry is

never of poor quality, never demoralized by disaster, never out of ammunition, never in a position where a sudden attack without warning at short range is possible, due to abundant cover, darkness, fog, rain, etc. It would also be necessary to demonstrate that panic even among good troops, is no longer an element to be reckoned with and it is also necessary to ignore the fact that modern cavalry or mounted infantry at the end of a charge, having reached a desirable position, can jump off their horses and fight on foot.

Cavalry that dismounts in the presence of cavalry is liable to be ridden down. A decision whether to use the rifle or saber is one of the most difficult questions which will confront the cavalry commander; its correct solution is a test of fitness. The cavalryman who dismounts when he can charge will often surrender a glorious opportunity of complete success. In a combat with cavalry the cavalry that dismounts is on the defensive. If it is attacked suddenly and has not a clear field of fire its lines can be ridden through and its horses captured. Even if it has a good position and a clear field of fire its opponent can render it immobile by leaving a force to observe and can ride around it.

There will be many situations in which seconds of time will be priceless. When we consider this fact we see the necessity of so altering our drill regulations that in emergencies our cavalry can dismount from any formation and open fire the moment they touch the ground. From column of route cavalry should be able instantly to assume the attack formation, whether it is about to fight mounted, or dismounted.

Whether called cavalry or mounted infantry, our mounted force, in order to be able to make long marches and to fight either on horseback or on foot, must be composed of good horsemen, and trained horses. In a country like this, where volunteers must necessarily form a large portion of our army in war, the art of training troops expeditiously and in the shortest possible space of time, getting them ready for the field, is of supreme importance. Every day gained means a saving of millions of money and thousands of lives. The recruit who volunteers for war in this country is the finest military material possible.

He enlists to hear the bullets sing, and no prodding is necessary in action to keep him up on the line of battle. He should be, with proper training, as much superior to the conscript of Europe as a willing laborer is superior to a laborer who is forced to perform his task. This volunteer soldier of ours is, when he first enlists, crazy to learn his business, he is willing to work eight, twelve hours a day in order to become, as quickly as possible, a trained soldier. With such material extraordinary results may be accomplished, provided the necessary facilities are furnished and provided the training is conducted according to a well-ordered scheme. With such conditions favorable, a degree of training can be accomplished in four months that would otherwise require a year.

Briefly, what is needed are:

First, officers of experience to command the companies, who are skilled drill masters.

Next, a number of skilled noncommissioned officers and drill instructors.

Next, a good mount, composed of matured, gentled, broken horses. These should be purchased of all ages above five and the majority of them will be necessarily roadsters, not regular saddle horses. If the limit of age be removed, the twenty millions of horses in this country will furnish sufficient mounts, gentled and easily adapted to the saddle, for a very large force of cavalry.

Next, a system of training, mainly individual, on the track, at the trot, utilizing from three to five hours in riding, which will convert these recruits into horsemen in the shortest possible space of time, remembering that a cavalry troop cannot maneuver properly unless the men are individually good riders. This training should include the use of the saber and especially the rifle. In teaching marksmanship, by making use of "Special Course B," results can be accomplished in the camp itself in one week that would otherwise require, on the range, a month. By utilizing a regiment of regular cavalry to obtain the necessary instructors, etc., eight regiments of volunteer cavalry complet-

ing a division could be brought into shape in a remarkably short space of time.

To produce the best results, to make a force able to fight, under all circumstances and take advantage of all opportunities, the training of mounted infantry must be identical with that of cavalry and the training of cavalry must include all of the training of infantry. Our cavalry should be trained even to march on foot, and a recent example of the necessity of this is presented by the Spanish-American War and the Philippine Insurrection, where our cavalry, unable to take along their horses, were landed on a foreign soil without them and cheerfully and efficiently performed all the duties of infantry in camp, on the march and in battle.

Generally speaking, the contingencies which might call for the use of the United States Army are as follows:

1. In case of attack or invasion by a European Power.
2. In case of war with contiguous nations.
3. To put down domestic disorders.

1. The case of invasion by a foreign country is hardly conceivable; but if such a thing were had in view of a foreign nation the possession by the United States of a considerable force of cavalry ready to attack or destroy communications, harass the advance of the invading force and cut it off from its ships would go far towards making the problem an impossible one for the enemy. But, concerning an attack on this country, it must be remembered that the immense sums expended for the fortification of our coasts were spent with this possibility in view. It is a remarkable fact that notwithstanding all the money we have expended almost all of these fortifications are open from the rear and subject to capture by small landing parties. Their defense, therefore, presupposes the use of infantry and cavalry to oppose the landing of such parties; of cavalry as well as infantry, for the reason that when the landing takes place at a distance from the fortifications, as it did in the Santiago campaign, it must be opposed by a quickly moving force prepared to seize upon positions in the enemy's front, to

be occupied later by the supporting infantry, and, in case of the enemy's advance, harass its march, cut it off from its ships, etc.

It is easily to be imagined that any serious attack upon our shores by a great foreign power might be limited to what might be called a raid upon some great city. A sudden attack by a landing force is exemplified by the capture of Washington in 1814. The possession by the United States of sufficient forces of cavalry as well as infantry to oppose such descents upon our coast is a protection against them.

2. The possession of a large force of cavalry is an insurance against war with contiguous nations. For, the energetic employment of such a force would assuredly aid in their immediate defeat. Our policy in such an event would be, at the first outbreak of war, to rush ten or fifteen thousand mounted troops across their border, cut their railroads, destroy their communications, then interfere with and interrupt the mobilization of the Militia, dispersing such forces as are gathered together, seize upon important points until the infantry could arrive and until the main body of the army could take possession of them. A well-disciplined force of cavalry could thus make easy the work of the infantry (largely made up from our Militia) which would follow. Further, cavalry would have a great advantage in these countries on account of the great distances. Mounted troops would have to be largely employed to reach distant and isolated points not approachable by railroad. If it were only for these contingencies, this country should maintain a very large mounted force.

Our experience in the Philippines showed that the use of cavalry against a poorly armed and poorly disciplined enemy is attended with special advantages. Poorly armed and undisciplined troops have an especial dread of cavalry, on account of its ability to attack before they are ready, to ride them down before they have gotten into proper formation and in action to attack the flank or rear—points about which they are especially nervous. The cavalry is also able to make long marches in the torrid heat of the tropics—a thing which our northern infantry

cannot accomplish. These considerations should favor the use of a considerable contingent of cavalry, in case we should become involved in a war with a South American or Central American country. Such use would seem to be called for by the long distances, poor roads and sparsely settled tracts which are a characteristic of the territory to the south.

3. The advantages of using cavalry in suppressing domestic disturbances are not as highly appreciated in this country as in Europe, where cavalry is largely used for this purpose. In clearing streets of rioters the horseman armed with the saber can do much more efficient work than can the footman. The dread which rioters have of being knocked down by the horses, or being struck by the saber, enables the horseman to break up crowds without resort to firearms. On the other hand, infantry in the midst of a mob are in a difficult position, pressed upon on all sides, in danger of having their arms wrested from them. Their one remedy in case of serious disorder is to fire on the mob. But such fusillades usually result in the wounding of the innocent as well as of the guilty and often inflame the passions of the rioters to such an extent that they lead to organized resistance. It is conceivable that in the near future emergencies may arise in some of our crowded communities calling for the suppression of considerable disturbances, and it would be well if the advantages of cavalry for this purpose were held in view.

In considering our future policy as to the relative strength of the different arms—infantry, cavalry and artillery—it would be well to remember that cavalry cannot be improvised. Horsemen in this country are difficult to obtain. The training of a cavalryman requires plenty of time and much labor.

In time of war our fifteen regiments of cavalry would scarcely form the proper proportion to the five hundred thousand or the million soldiers which we would require. Our experience during the Spanish-American War was that none of the regiments of volunteer cavalry were in even a fairly efficient condition after four months' training. The great difficulty in volunteer cavalry is the lack of efficient instructors. The volunteer officer very rarely is proficient as a riding master or as an

instructor in the use of the saber. Further, his difficulties are increased by the fact that the horses are unbroken to the ranks. Cavalry is like material of war; it should be kept all ready for the event of war and prepared in advance. Properly employed cavalry is no longer an auxiliary (like the artillery) of the fighting branch of the service; it must be depended upon to do the hardest kind of fighting. It has been often said that the more cavalry an army can have the better, provided the country is able to pay for it. Including the officers, cavalry in this country costs only one-third more than infantry.

In conclusion, our cavalry is the indispensable adjunct of our infantry—it is of all arms, to the infantry, the allied arm; when in action, dismounted, it fights in the same manner, on the same terms. There should be no jealousy between the infantry and the cavalry; they both have the same rifle, the same method of attack on a position.

There are many good cavalymen in the infantry; there are many good infantrymen in the cavalry. With training, and selection, the arms are mutually convertible. The glory of the infantry is in their steadiness, their resolution, their determination. In this glory the cavalry will share.

II

CAVALRY IN THE ATTACK

THE CHARGE

The charge is the most characteristic movement of Cavalry. Under certain conditions it is also the most decisive.

What are the conditions which make the charge successful? In order to determine this we must study closely this important function of Cavalry.

There is a great lack of agreement among military men as to the charge; as to the proper formation, the proper speed; the proper arm.

We are told that the horse is the principal weapon of cavalry, and that the arm carried matters little. On the other hand, we are also led to understand that battles and skirmishes, especially when cavalry is fighting against cavalry, have been won as a result of the effect solely of the cavalryman's sword, his pistol, his lance. We read in history of battles where enormous slaughter has been inflicted by the use of these weapons.

We read of all kinds of formations in the charge. In the ancient days cavalry was often marshalled in solid phalanxes. Later they charged ten ranks deep. We hear of attacks made in four ranks, in three ranks, in two ranks, in one rank. During the American Civil War attacks were made with regiments in double rank; in line of columns of fours; or in line of platoon columns having two, or three, or four platoons; and in some occasions were even in columns of fours. They were sometimes made in lines of foragers. The Cossacks charge in "Lava" formation.

By reading history we learn of instances where successful charges have been made with horses moving at full speed. We also hear of successful charges where the horses have arrived at a slow gallop, a trot and even a walk.

In essays on the use of cavalry in war we are apparently expected to assume that no cavalry is of any account in which

all the horses are not thoroughly trained and which cannot move on the battlefield with the utmost precision and charge boot to boot. We know, on the other hand, that in no great war in which the cavalry is energetically used, has it been possible to avoid having the vacancies caused by the inevitable casualties filled with horses more or less untrained.

What is the charge? Do we overcome the enemy with the shock, or with the saber or pistol? Is it necessary to throw back the enemy's line, or is it sufficient to pierce it with our force? Is it desirable to combine these methods of meeting it?

I think we can obtain a vivid idea of what a charge at full speed is like if we imagine a stampede of horses. A few horses lead; then follows the mass of horses, greater in depth than in width, each horse struggling to keep his distance from his neighbor. A man in front of such a stampede is in imminent danger, whether mounted or dismounted. He can probably dodge the leading bunch of horses, but if he escape the first line he is almost certain to be run into by one of the succeeding lines, and will probably be knocked down and trampled under foot. If a fence is met in the wild rush it will be carried away.

When the herd is moving at full speed each horse must have room not only to the right and left but to the front and rear; for the run is a succession of violent leaps. The horse cannot run if crowded. Those in rear will fall back to get room. If, however, the runaway bunch of horses is moving only at half speed (16 miles per hour) they will gallop more closely. They do not require so much room. If they meet an obstacle, they seek to avoid collision by pulling up or turning aside. If the runaway herds meet each other going at half speed it is not likely that they will plunge into each other's closed ranks. The leaders will recoil. The horses in rear will attempt to pass to the right and left, circling their opponents.

In the actual charge of cavalry at full speed (30 miles per hour) the horses are similarly maddened with excitement. They

stop for no obstacle. They avoid nothing. The riders also are carried away with the excitement of the rush and the passion of combat. Under such circumstances a boot to boot, serried line cannot always be kept. Not only may some horses outrun others, but many horses may bolt; others may be reined in. The accidents of the ground may retard others. There will often be openings, gaps, intervals. When this mass of horses reaches the enemy the question as to whether he will be pierced or overthrown must, as in the stampede, to a large extent depend upon relative velocity and depth.

If, however, both opponents are at half speed, it will be very difficult to force horses into the enemy's ranks. On both sides the ranks will in all probability be closed, "boot to boot." The tendency will be to recoil, to turn aside, to circle. In the same way that a horse will back and stop suddenly at a high hurdle, he will refuse to collide with a serried line.

On the other hand, if the charge at full speed is made against an enemy moving at half speed the tendency will be for the enemy's ranks to open up to avoid collision as well as to give way. This should result in his lines being pierced and thrown into confusion, leading to panic and rout. It is only when this has been accomplished that the sword can be used with effect.

It is evident that on nearing the collision the trooper must use every means to excite and urge the horse and prevent him from slowing up. For this purpose a vigorous use of the spur is necessary as well as of the voice. The men must cheer and yell, and the trumpets sound.

With the enemy in confusion and panic, his line pierced in many places, his troopers attacked in rear and flank as well as in front, the sword should reap its harvest.

In the charge the attacking line should be followed closely by a strong support, which by furnishing reinforcements when necessary, and by a nearly simultaneous charge on the enemy's flank, aids in completing his overthrow.

Thus, the effect desired by the charge, while preserving the impenetrability of the line, is to pierce the enemy's formation,

to force him back in disorder, in order that the sword may be used to advantage on his fleeing masses.

It is said that in the charge one trooper hitting the enemy on the flank or rear is worth ten troopers in front. This might seem an overstatement, ordinarily speaking, but if the enemy is assaulted in front and at the same time in flank and rear, it is difficult for him to defend himself from both attacks. If the enemy's line is pierced, the troopers who have gotten through the enemy's line can assault the troopers of the enemy in flank or rear. That is, they can do so with effect, provided these troopers are also being assaulted from the front. A trooper who is being threatened in front falls an easy prey to a swordsman who falls upon him from the rear. This is where the great advantage of successive ranks would come in.

What formation of the attacking line of a regiment is most suitable for the charge? The double rank, the line of platoon columns or the line of fours?

In considering the double rank formation some people have in mind a case somewhat like that of the wedge formation of a football team. But, we must remember that the rear rank does not, like the rear men in the wedge formation, impart more weight—more solidity to the shock. The rear horses are not pressing against the front horses. They must, as we have shown, at fast gaits leave a space in front. The shock, then, of a double rank that is closed boot to boot is, first, the shock of the front against the enemy, and the shock of the rear rank against the front rank.

"Line of platoon columns" is a line of troops, each troop being formed in a column of platoons. When each troop has but two platoons it differs from double rank only in the fact that in the former formation the rear rank follows at platoon distance and is led by the platoon commander. But the troop of ordinary strength is sometimes formed in three or four platoons. The effect of this disposition is that of a regimental line of three or four ranks, each rank following at a distance

equal to a front of a platoon. Note that these distances may be increased or decreased as desired.

It is evident that for many purposes the double rank formation offers many advantages and that it should be incorporated in our drill regulations, to be used when desirable. But, for the charge, the line of platoon columns has many merits.

At full speed, as has been said, all formations tend to break up and merge. But, at half speed, the gait used in the advance to the charge, formations can and should be maintained. Moving at half speed, the extended gallop, of sixteen miles per hour or a mile in four minutes, the line of platoon columns is found to have the advantage that the horses of the rear ranks are not likely to run up on and injure each other; that they are able to see and clear obstacles, and that they are, therefore, able to gallop more freely.

The platoons in rear can attack the troopers of the enemy who have managed to get through the line. The rear platoons on the flank, moving more or less independently, can envelope the enemy's flank.

In general, it is believed, the line of platoon columns is more mobile than the double rank.

* * * *

Taking into consideration the "line of troops in column of fours" so often used during the Civil War, it is evident that this formation has great piercing power, since the heads of the columns are narrow and the ranks of the enemy naturally open up so as to give passage for such a formation. But, it has this disadvantage—that moving at high speeds the horses of each four must fall back to obtain room to move and the column of fours is then immensely strung out. Further, the enemy may be able to force his way between these columns and thus pierce our line. It is probable that in practice this became more or less solid and more freely moving formation by the troopers of each platoon moving out to the right and left and closing up toward the front during the charge, making a deep formation. It would thus resemble a line of platoon columns each platoon having a convex front.

Summing up, it will be evident, if we study the conditions of modern cavalry action, that no one particular formation can be rigidly insisted upon for the mounted charge against cavalry. The development of the long range of firearms, their rapidity of fire, their accuracy, has made it possible for cavalry, threatened by a charge, having time to dismount and form up, and having a good field of fire, to repel the attack of horsemen as effectively as can "unshaken infantry."

This makes "surprise," for the attacking force, indispensable. Surprise presupposes, ordinarily, cover. In fact the extended, open, treeless plain is no longer "cavalry country." On such a plain, approaching cavalry will be seen at a distance. By dismounting and using the rifle on foot the enemy will be able to decimate the attacking force and throw it into irretrievable confusion long before it reaches its objective.

A well-trained regiment ought to be able to place a majority of its men dismounted, in a position to repel the charge of cavalry and to open fire within two minutes or less after the alarm is given. It follows, then, to ensure success in the charge, that the attacking force should be able to start under cover, in the advance to the attack, at a point less than two minutes distant from the enemy, or say less than 600 yards, the nearer the better. If the intervening ground is difficult, a much less distance becomes necessary.

For the approach to the point from which the attack is made, abundant cover, then, is ordinarily necessary. Such cover will be usually afforded by woods, ravines, creek bottoms, villages, sunken roads, broken ground. In fact, the secret approach requires a terrain, more or less, of obstacles to free movement, necessitating the passage through them in lines of columns of fours, or even in a single column of fours.

When two hostile bodies of cavalry meet, under such conditions, it will often happen that the element of time is of more importance than perfection of formations.

Individual troops and squadrons should be assiduously drilled in preparation for such eventualities. They should be able from line of columns of fours or from column of route to pass

into a suitable charging formation in an instant, the leading organizations seeking to extend and consolidate the front of the regiment, the rear organizations to support and reinforce those in front.

Formations for the charge, then, should be such as can be taken quickly from column of fours.

With this preface let us formulate instructions for the charge.

THE CHARGE

In the combat, Cavalry versus Cavalry, the charge is the most decisive form of attack.

Opportunities for the charge are infrequent and fleeting; to seize them requires quickness and daring.

The object of the charge is:

By the collision: To throw the enemy's squadrons in disorder and flight;

By the individual combat: To defeat and destroy the enemy's troopers.

Unless the collision is successful, the individual assault is likely to fail to produce adequate results.

THE COLLISION. CONDITIONS FOR SUCCESS

(a) *Unobserved Approach; Favoring Terrain; Surprise; Rapid Advance; Skilful Use of Scouts; Prompt and Energetic Action of Commander.*

Surprise demands an unobserved approach before moving to the attack. The approach ordinarily will be favored by abundant cover.

The rapid advance to the attack should be entered upon, ordinarily, at a point sufficiently close to the enemy to prevent him from obtaining time to dismount and open an effective fire. Since trained troops can dismount and develop an effective fire in two minutes, and, as the gait of an attacking force is at first slow, the distance to be covered in the rapid advance to the attack after discovery by the enemy should not, ordinarily, exceed 600 yards.

The rapid advance preliminary to the charge must be made without confusion and with unbroken ranks. The rate of speed of the advance should be suited to the nature of the intervening ground and the training and steadiness of the troops. Cohesion is as necessary as rapidity. Intermediate obstacles will greatly affect steadiness.

Previous to the attack the enemy's position should be reconnoitered, and the line of approach under cover selected by trained and skilful scouts, directed by an officer of experience.

In the rapid advance to the attack small detachments of scouts should closely precede the line, and whenever the ground is impassable, give the alarm. Scouts should also be employed on the flanks of the attacking force for security before and after the collision.

(b) *Suitable Formation of Attacking Line; Proper Direction of Attack; Cohesion; Success in Piercing Enemy's Line; Quick Rally.*

To retain cohesion the charging gait (racing speed) should be taken only at the last moment before the collision. It should be the object in the shock to force the enemy back and to pierce his line in numerous places, without allowing any considerable portion of his force to penetrate our own. This accomplished, the enemy's troopers in the *mêlée* can individually be assaulted in front and rear, to their great disadvantage. To effect this necessitates *depth* in the attacking line. This can be obtained by adopting a charging formation of two or more ranks, as in the double rank line, or line of platoon columns. In order that the horses of the rear ranks shall move freely at the charge, and not be harassed by irregularities of the ground, each rank should maintain a sufficient distance (at least two horses' lengths) from the rank in front. As soon as the enemy is reached and his forward movement stopped, the troopers of the platoons or ranks in rear should force their way to the front and, if possible, pass through openings in the enemy's line or around his flanks, in order to fall upon the rear of his troopers.

During the charge the leading officers should be supported and protected by the nearest troopers, who will close to a

position alongside them. The gait at the last moment before the shock should be the fastest run of which the horse is capable, the excitement of the horse being augmented by the voice and a vigorous use of the spur. The horses of the enemy opposite the more advanced portions of the attacking line will involuntarily move aside to escape the impending impact. Through these openings the troopers of the attacking force should plunge, assaulting with the sword, in flank and rear, the enemy's horsemen.

The necessity for the racing pace just before reaching the enemy's line is urgent. Otherwise the horses, having themselves under control, will shrink from the impact, and will halt on reaching the enemy, making the charge a failure.

If the attacking line overlaps the enemy, the troopers in the overlapping flank, following their chiefs, should swarm around the enemy, assaulting his troopers in flank and rear.

Since at racing pace, "boot to boot" riding is often impracticable, impenetrability of our lines must be secured by a succession of ranks, and by requiring the troopers in the rear ranks to make for openings and fill up the spaces in the front ranks wherever they occur.

As the opportunity for a charge is always of short duration, and must be seized at once, time may be lacking to perfect formations.

Thus, in some cases, especially where the ground is difficult, it may be necessary to charge in line of fours with closed intervals, as in mass, the trooper of each platoon, just before the charge, opening out to the right and left taking a convex or wedge-shaped platoon formation, thus filling the intervals and obtaining freedom of movement in the charge for the horses. Solidity and piercing action are thus secured. This formation was at times employed in the American Civil War.

In order to give both piercing and holding action a combination of the line of fours and of the line has been suggested.

When a marching column of cavalry is surprised by a sudden mounted attack of the enemy, he must at once be met by a counter charge at full speed. Under such circumstances the

most important consideration is time. With this in mind, take the most practicable formation—the enemy's attack may fail if he is attacked quickly and badly confronted.

When the enemy is inferior in training and morale, a single rank formation may be employed, thus obtaining wide extension and enveloping effect.

In general, when practicable, the attack should be directed against the flank of the enemy; otherwise, against the weakest part of his line.

It is indispensable for the success of a cavalry combat that after the charge is completed it shall be possible at any moment to reform the scattered lines instantly, in order that they may be led against intact bodies of the enemy. Therefore, at the trumpet signal "Rally," troopers, no matter how employed, must rejoin their troops. This requires thorough preliminary training.

(c) *Employment of a Support and a Reserve.*

The regiment in mounted combat should be divided into a First Line, a Support and a Reserve.

The object of the Support is:

By moving in echelon to act as an extension of the first line, thus confronting that portion of the enemy's first line not otherwise engaged, and aiding in enveloping his flanks.

Or, to act as a second line, closely following the first line, part of the strength being detached to fill up gaps in the first line, or to extend it, when necessary.

Or, to attack the enemy in flank, while the first line attacks him in front.

Or, to attack the enemy's support, to prevent it from joining in the resistance to our first line.

In certain cases the support may be divided into several parts, so as to perform two or more of the above functions.

* * * * *

The object of the reserve is:

To withhold a part of the attacking force as a precaution against an unforeseen emergency.

In case the enemy is defeated, to provide a force of fresh troops to engage in the pursuit.

In case of a repulse, to act as a rallying point for retreating detachments.

In case of prolonged mêlée, to provide part of its force to aid in the attack as a second support.

The Reserve should never be omitted.

The Reserve will ordinarily conform to the movements of the First Line, following it at a distance, prescribed by the Colonel.

The commander of the Reserve should always be on the watch to prevent hostile detachments from dismounting and opening fire.

When such an intention is indicated the hostile detachment should be charged at once without waiting for orders from the Colonel.

On the other hand, opportunities to use the rifle aiding the attack on the enemy or protecting the movements of the reserve should be seized if security can be found for the dismounted riflemen.

The proportional strength of the First Line, Support and Reserve must be determined by the conditions in each case. As a rule, the reserve should contain at least one-third of the entire force. Normally in a regiment, the First Line, the Support and the Reserve should be composed of one squadron each.

In an unexpected encounter with the enemy, the rear squadron should normally be the reserve. As a rule the support is involved in the attack made by the First Line. It should follow the First Line closely in order that the effect of the impact of the First Line and Support on the enemy should be felt nearly simultaneously.

There should be deployed in the First Line and Support only a force sufficient for the immediate task on hand. The remainder should be withheld in the reserve. Undue haste in committing the troops of the reserve to the action should be avoided.

When the regiment is acting alone the position of the Colonel is near the troops of the First Line and Support.

(d) *The Charging Weapon.*

In the normal mounted attack of cavalry against cavalry, the weapon to be used must be the sword. The point must be used.

Only in cases where fire action will not endanger friendly troops can the rifle or pistol be used.

(e) *Good Leadership, Mobility, Superiority to Enemy in Training and Morale.*

Upon the leader's skilful estimate of the situation, prompt and correct decision, and resolute action largely depends success.

Vaccilation and delay in entering upon the attack is fatal.

Even indifferently trained cavalry, having a confident, resolute, skilful leader is often superior in battle to well-trained cavalry poorly led.

If the enemy's force is composed of troops of inferior morale and training such as is found in States of a low degree of civilization, it should be easy for determined cavalry to ride them down, whether mounted or dismounted.

Generally speaking, in war, attacks that do not promise real advantage to the general issue should not be made; in case of failure such combats depress the morale of the troops, who complain justly that they have been unnecessarily sacrificed. Complicated maneuvers do not usually succeed, and should be avoided. Methods and plans should be simple and direct.

Troops should be able to pass from a halt to the highest speed of the charge within a distance of 50 yards, moving with precision, in serried lines. The success of the charge, depending upon surprise, is often incompatible with a long advance.

In the same way troops in full career in the charge should be able to come to a halt within a few yards.

Upon the condition of the horses largely depends success in the attack.

Horses greatly fatigued, carrying heavy loads, are unfit for the supreme effort. To obtain mobility it is often desirable,

before entering into action, to strip the saddles (of pack and saddle-bags). If possible, the horses should be cared for and rested before the battle.

THE MOUNTED CHARGE OF CAVALRY AGAINST INFANTRY OR AGAINST DISMOUNTED CAVALRY

Well-trained infantry are able to stop a charge by rifle fire, when the advance is under fire for a distance of 600 or more yards. The ability of dismounted troops to stop a mounted charge varies according to the number of rifles in action per yard front, and is increased by the employment of supports, reserves, and successive lines.

As a rule, mounted attacks on well-trained, unbroken infantry should not be made.

In the problem of the mounted attack on dismounted troops of indifferent training and poor morale, the following should be taken into consideration:

Assuming an advance of 500 yards over open ground, and comparing the attack mounted with the advance by rushes followed by the charge dismounted, we find:

That the mounted man at the extended gallop will present a full target for about one minute. A dismounted man advancing to the attack presents a full target for about three minutes, and a lying-down target for ten minutes or more.

To the defense the target presented by the horse and rider, is apparently, in size, about two and a half times that of the foot soldier.

In the mounted charge the rush of the horse makes it improbable that the attack will be halted before it reaches its objective.

During the mounted advance, on the other hand, the defender receives no casualties.

On reaching the enemy's line the mounted attack finds itself at a great disadvantage, as compared with the dismounted attack, in the use of weapons.

Nevertheless, against inferior, poorly shooting troops, deficient in self-confidence, liable to panic, an opportunity often

offers itself in war to make a successful and decisive mounted attack against infantry, especially when the mounted troops are closely supported by a dismounted force.

The following conditions favor the mounted attack on dismounted troops:

Unobserved approach; favoring terrain; opportunity to form for the charge under cover a short distance in front of the enemy's line; surprise; limited distance to be crossed; absence of obstacles to the advance; lack of depth to enemy's formations; limited field of fire of the enemy; use of dismounted detachments on flanks to keep down enemy's fire; enemy out of ammunition or in disordered retreat; preparation by artillery fire.

The attacking force should be divided into numerous successive lines of mounted skirmishes following each other at short intervals at full speed, the leading lines charging through the enemy's first line and attacking his supports; the rear lines taking possession, dismounted, of the enemy's position, a reserve being held in hand for emergencies.

In the attack, mounted, on dismounted cavalry, a strong detachment should be detailed for the purpose of seeking and capturing the led horses of the enemy.

Cavalry charging foot troops must be prepared after the collision to complete the discomfiture of the enemy by dismounting and using the rifle.

Opportunities for successful mounted attacks on infantry are rare. Such attacks are liable to fail except where the infantry of the enemy is infirm or has lost its morale.

Such opportunities may occur when the enemy, in column of route and in a defile, allows himself to be surprised. In such an eventuality a column of cavalry, charging through the defile, has the advantage that it is likely to encounter the fire of only the foot troops in its immediate front.

Or, when an isolated infantry camp is not protected by obstacles, and the commander has failed to throw out his outposts to a sufficient distance, and in consequence the camp can be rushed before the alarm can be acted upon.

Or, when the cavalry finds itself surrounded and in danger of capture by the enemy's infantry. In such a case it should charge the enemy's lines and fight its way through.

When time is lacking and the emergency is such that the enemy's resistance must be overcome at all hazards without regard to loss, the mounted charge becomes inevitable.

RELATIVE FREQUENCY OF MOUNTED, AS COMPARED WITH DISMOUNTED COMBAT

It is evident, if modern history be studied, that opportunities for the mounted attacks come but seldom, in comparison with those for dismounted action. Dismounted action in future wars will be the rule, mounted attack the exception. If cavalry is energetically used, its rôle, in preceding the cavalry, reconnoitering, screening, guarding its flanks and rear, attacking the enemy's communications, etc., will bring it in constant contact with the enemy, and furnish it with innumerable occasions for the use of the rifle. Such occasions will be found in the work of driving back the cavalry of the enemy; in delaying the advance of his bodies of infantry; in obstructing the march of his reinforcements; in occupying and holding bridges, defiles, etc., required for the passage of the army; in assaulting the detachments of the enemy guarding his depots, lines of communications, trains, etc.; by seizing and holding important positions in advance of the army; in attacking, during decisive battles of all arms, the flanks and rear of the enemy's line of battle; in reinforcing our infantry lines where weakest; in guarding our flanks and rear from the attack of the enemy's cavalry; during the pursuit in harassing, attacking, delaying and cutting off the retreating forces of the enemy; in case of repulse, in protecting the retreat of the enemy.

All these occasions call for the use of the horseman and the rifle. The extension of modern lines of battle, and the development of aerial scouting, by presenting to army commanders at all times a nearly complete picture of the enemy's dispositions

and movements, will greatly increase the utility of troops which can move with the rapidity of the horse, and fight with the formidable efficiency of the rifle.

In conclusion, it may be said that cavalry is an arm of opportunity; that no troops are qualified Cavalry which have not extreme mobility and which cannot use, with effect, the rifle, pistol and saber.

III

TRAINING

In our Army, even more than foreign armies, the art of training troops quickly, effectively, is of supreme importance.

This is, for the reason, that the bulk of our armies in war must be composed of volunteers. Modern wars end quickly, therefore methods must be adopted by us whereby the training of raw troops shall be expedited. Every day gained in the completion of such training, in time of war, means millions of money and hundreds of lives.

It, therefore, behooves us to perfect, in time of peace, the art and habit of thorough training, in order that we may have in war the experience, and the instruction necessary to train our raw levies.

The lack of such experience in 1898 greatly delayed the preparation of our troops. This was equally evident in 1861.

In order that training in our army may be perfected, a system of annual instruction of cavalry, infantry and artillery must be prepared and rigidly adhered to. The training should be progressive, and verified by frequent tests made by superior officers. Such a system we find adopted in the armies of any first-class power, save our own. They consider it the only practicable method of securing the uniform instruction of regiments. In this they seem to be right. It is believed the time for adopting a similar system in our army has arrived.

Since the regular army is the model on which our volunteers are raised and trained, it is thought that the development of such a system will lead to the formation and adoption of regulations for the training of volunteers which, while omitting no essential parts, will result in quick, prompt and thorough preparation for war.

Several obstacles have hitherto stood in the way of the adoption of such a system in our cavalry: one—which has nearly disappeared, was Indian campaigns and active service in the field; another, now disappearing, has been the subdivision of

our army among many small posts; another, now disappearing, has been the arrival of recruits in driblets and at inopportune periods; another, which still exists, we believe, is the priority in time given to small arms firing, whereby the early months of the year, utilized elsewhere for drills, are in this country almost monopolized for target practice, thus postponing drills until a later and more uncertain period. It is believed this can be corrected by postponing all but the most preliminary firing until after the spring drills have been completed.

Comparing our cavalry with other cavalries, it is evident that one of our principal deficiencies is in the training of our horses.

No cavalry can be good cavalry unless the horses are systematically and thoroughly trained. Cavalry, in order to carry out its mounted rôle properly, must be able to maneuver with precision and order at high gaits; it must be able to charge at full speed boot to boot. The simplest movements of our cavalry, such as wheeling by fours, require for precision that the horse shall be obedient to the hand and the leg; that the rider without undue effort shall be able to halt him promptly, turn him on the fore-hand, move him readily on the passage. If there are horses in the ranks which are bolters, and are not obedient to hand and leg, the lines, when moving at high speed, are broken up, and precision becomes impossible. Much time is wasted in our cavalry in attempting to perfect drill maneuvers when precision is impracticable owing to the lack of training of the horses. A large proportion of our horses now in the service do not respond to the leg and respond poorly to the hand. Bolters are many.

To remedy this state of affairs, it is desirable to institute in each command an annual period of training of three months per year in equitation and horse training. The principal object of this training, which should take place during the winter, should be definitely understood to be the rendering of horses thoroughly amenable to the hand and the leg. Being incidentally also a training for the man in equitation,

the use of arms, mounted, etc., it is doubly desirable. The horse and rider, on completion of this training, are ready to take their places in ranks, and movements which formerly were found difficult are executed with ease and precision. Bolters being eradicated, the lines at full speed are under control, and in field exercises, organizations can charge each other and pull up before contact without danger. Only by the use of the charge at nearly full speed in field exercises is it possible to work out properly many details involved in the problem of the use of cavalry, mounted or dismounted, in war.

It is desirable that all horses, old and new, be trained each year, as here proposed. It is easy for a horse to *unlearn* training.

It is essential to proper training and control of the horse, that the double bit be used, the horse to be ridden habitually on the snaffle, reserving the curb for emergencies. In Europe the Cavalry Board in 1912 witnessed the drill at high speed of a Cossack regiment, carrying lances and sabers, riding on the snaffle. There were no bolters, and the drill was executed with precision. We should be able to equal this in all our regiments.

The three months' annual training of horses spoken of above, should be conducted on the riding track, and, if possible, in the riding halls, with which all cavalry posts should be provided.

In the European armies no cavalry horse is placed in ranks for maneuvers, drills, field exercises, until he is mature in age. It is thought that this requirement should be rigidly enforced in our army; otherwise, the healthy growth of the young horse will receive a serious check. Further, in order to carry out this provision, it is recommended that full strength of the troops in horses necessary for active service, be fixed and maintained, and that this shall not include immature horses.

As for the period of training, it is desirable that our horse training be expedited, not only on account of the vicissitudes to which our regular cavalry is occasionally subject (nearly half of our cavalry is now [1916] in the field or in the Philippines),

but because methods of quick training should be the rule, since the emergency of mounting volunteers in war requires the development of such methods.

In this connection it is well to remember that in war our remount depots will not suffice for our armies. It would probably be a mistake to supply volunteers with any but mature horses, gentled by considerable experience under the saddle or in harness. It is believed that sufficient mounts of good type, easily converted into suitable chargers, could be obtained from our 22,000,000 horses, if a sufficient price were offered.

The method we adopt for training the recruit is of great importance, as it has a direct relation to the training of the volunteer. If conducted properly, the amount of training of the new soldier should be measured not by the number of days, but of hours consumed, and the instruction pushed with all expedition. For the new soldier, whether recruit or volunteer, is anxious to learn his duties, and he is usually accustomed to an eight or ten hour day of labor. Advantage can be taken of his enthusiasm without destroying his zeal. The recruit course should last three months. It is possible, by taking certain precautions, to drill the recruit mounted five hours a day. A cadet at West Point rides in all about 200 hours. Under that as a standard of comparison, the recruit, riding 6 days per week, three or four hours a day, should ride nearly as well as a graduate cadet, at the end of 13 weeks' uninterrupted riding.

Another three hours per day should be divided between setting up exercises, stable duty, manual of arms, exercises preliminary to rifle practice, the use of the pistol and saber and dismounted drills. Specially qualified instructors should be selected for the purpose. The talent for imparting instruction of this kind is often inherent, not developed; and men who have it should receive special certificates as qualified drill instructors.

With intelligent men, such as we enlist, as recruits and volunteers, instruction can be greatly advanced by supplying them individually with specially prepared recruit manuals, contain-

ing customs of the service, the more important regulations, and extracts from the drill books, together with remarks on the care of the horse, arms, equipments, clothing, etc. The recruit should always ride the oldest and quietest horses, and he should, during most of his instruction, ride in the saddle and not bare-back. On no account should he be allowed to fall from his horse or lose confidence. Every way should be taken to preserve his enthusiasm and zeal.

The mounted instruction of the recruit should, during the first month, be on the riding track. After the first month, individual equitation should be continued, but combined with drill in the school of the platoon and troop the recruit riding with the troop at the principal drill.

Training Officers in Equitation:

But preliminary to the training of our men and horses, it is essential that our drill masters, the younger officers, should have the most modern ideas as to equitation and training. To accomplish this, it is found desirable in foreign armies that all younger cavalry officers shall pass through the school of equitation. This principle should be adopted by us. Schools of equitation for officers improvised within a regiment are often found insufficient. The School of Equitation at Fort Riley should be enlarged so as to double or triple its output.

It is believed that the most important feature of the school at Fort Riley is the education it gives in the *training of horses*. This knowledge is of prime importance to our regiments at the present time.

The habit of constant equestrian exercise should be demanded of all cavalry officers, and they should be required to ride for a certain period and over a certain distance each day. They should also be required to take part in a certain number of obstacle rides, in order to promote boldness in riding. It is essential, in order that the training of troops shall not be halted by inclement weather, that posts include riding halls, and that there should always be access to extensive training grounds. Without the latter, field exercises, one of the most valuable forms of preparation for war, are often made impossible.

From a general survey of the situation, and from observations in Europe, some of the aspects in which our cavalry is regarded as more or less deficient are:

Horse training,

Horsemanship,

Grooming, stabling, care of the horse's coat, mane, tail.

Care of equipments,

Set-up and general smartness of soldier,

Use of sword,

Practice in field exercises,

Theoretical instruction of men,

Uniform instruction in regiments.

In some of these things certain regiments are more deficient than are others. In all of these details there is room for improvement throughout our cavalry. It is believed the remedy lies in adapting to our service, as far as practicable, the European plan of a progressive course of training for the cavalry, this training to be verified by tests made from time to time by superior officers.

By War Department orders the year is now divided into the season for garrison training, extending from the first of November to the first of April; and the season for field training, extending from the first of April to the first of November. The season of field training includes the season for musketry instruction. Since in the cavalry we have to conduct target practice with the pistol as well as the rifle, and have to learn to use these arms shooting from the horse as well as on foot, musketry instruction will take up the greater part of two months. It is very desirable that rifle and pistol range practice should take place in the summer. Gallery practice and the preliminary drills and exercises for rifle and pistol practice can be conducted at a prior period since they do not interfere with other drills and field instruction. But range practice, both for pistol and rifle, puts a stop to nearly all other instruction, and very often must be conducted at a range situated at a distance from the post and where facilities for other drills are wanting. Especially in northern posts, where outdoor drills are imprac-

ticable in winter, range firing should be postponed until the summer. Otherwise the command will not have an opportunity for out-of-door drills at the season when it most needs them.

While adhering, generally, to the War Department program, it is evident that field instruction should not be totally neglected during the period of garrison training, nor should the troops go without a certain amount of garrison training during the field instruction period. It is also desirable that during the period of range firing a mounted drill be had daily in order to keep horses in good condition as to physique and training.

The principal part of garrison training in the cavalry is horse training and equitation. This in northern posts can be taught in riding halls. It requires in all about three months. The best time for this training are the months of January, February and March, which months precede the outdoor season for drill. The months of April, May and June, part of the field instruction period, should be devoted largely to perfecting drill and the evolutions of the platoon, troop, squadron and regiment, with special reference to their use in war. Also to exercises in marching, camping, etc. These drills should be followed by the season of range practice, and this in the late summer and autumn, should be followed by field instruction proper, the practice of field exercises, combat exercises, long practice marches, etc. This latter work should extend through the fall and early winter months. At this season it is dry and cool; violent exercise is possible without discomfort; long hard drills are possible with vigorous work on foot or on horseback, a thing which is not practicable in the hot days of summer.

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The system of training pursued in the brigade is based on G. O. No. 17, W. D., 1913, which divides training into theoretical instruction and practical instruction. General Orders, No.

15, W. D., 1918, lays down specifically the course of theoretical instruction to be followed in the more elementary schools for officers and enlisted men, and requires brigade commanders also to devote special attention to the postgraduate course. Theoretical instruction is conducted during the period of garrison training. It will not be dealt with in this treatise, which takes into consideration merely the practical instruction of a brigade. General Orders No. 17, in treating of practical instruction, says:

(b) Drill and practical instruction preparatory to field training embraces specially: Drill of the company, battery, and troop and all of the units thereof, mounted and dismounted; the preliminary training for fire action and firing exercises on a represented or actual terrain with targets represented to scale or actually designated, thus giving opportunity to train the personnel both in the mechanisms of fire and in appropriate methods of directing, controlling, and adjusting fire; the rudiments of the service of security and information, including the preparation and transmission of orders and messages; map making and map reading for officers, noncommissioned officers, and selected privates; exercises in leaving the post with a part or all of the command equipped for prolonged service in the field; bayonet combat; swordsmanship, mounted and dismounted; visual signaling; gymnastics, athletics, and swimming, including swimming with arms and equipment under proper precautions as to safety; equitation, horse training, and packing; tent pitching; guard duty and ceremonies; first aid and the hygienic care of the person; care of equipment of all descriptions.

5. *Field training* embraces especially: Range practice; field firing exercises with service ammunition; field fortifications, including the reconnaissance and selection of positions, and the actual construction of appropriate intrenchments; the service of security and information (Field Service Regulations); marches and convoys; maintenance of communication between the elements of a command by signals and by messenger; the care of men and animals, including the prepara-

tion and service of food, shelter, and the service of sanitation and supply; the passage of obstacles; night operations; map making in accordance with the needs of the arm of service concerned; swimming of horses and men, to include swimming with arms and equipment under proper precautions as to safety; packing and exercises in the solution of transportation problems; the drafting of orders and messages as incidents of the above exercises; combat and field exercises, first of a simple nature but gradually becoming more and more comprehensive, passing to the larger units and involving combined operations and operations with the Organized Militia.

In accordance with the above order the system of practical training enforced in the brigade, in general, is as follows:

1st. Progressive Schemes of Instruction, for the period of Garrison Training and for the period of Field Instruction are laid down in general orders from brigade headquarters, in advance of each period.

2nd. It is required that each troop commander shall furnish the brigade commander at the end of each week a schedule of the drills and exercises to be had during the succeeding week, with a statement of the average number of men present at the principal drills during the week that has elapsed. In this way a complete check is kept on the work of the troops.

3d. The inspection and test of Proficiency is made by the brigade commander at the end of the period of Garrison Training. The test is competitive. The results are published to the command.

4th. An inspection to determine proficiency in Field Instruction is made by the brigade commander at the end of that period, using tests as far as practicable. These tests are not usually competitive, nor are the results always published. To secure uniformity in training, as well as provide a further test certain "Combat Exercises" are practiced at this inspection.

5th. All recruits are drilled for 8 months before being turned in for duty. The course of training for recruits is laid down by orders from brigade headquarters.

6th. Musketry Instruction is conducted as required by War Department orders and manuals. Relative proficiency of regiments and troops in the brigade with rifle and pistol is determined by the device of a figure of merit, in order to make this instruction competitive. The results are published to the command.

A certain amount of instruction in firing the rifle *mounted* is required in the brigade.

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The principal object of the two annual inspections of the Brigade Commander is to enforce the system of training which he prescribes. This is done not only by tests, but by demonstrations, the Brigade Commander, if necessary, taking command of units for the purpose of showing how the exercise is conducted. These exercises and tests are punctuated by discussions and explanations every few minutes, the officers on each occasion joining the Brigade Commander at full speed in order that no time may be lost. Extreme mobility is aimed at; all movements, where practicable, are executed at increased gaits; dismounting to fight on foot is expected to be accomplished in four seconds from the command to the first shot. In ceremonies, and tests of equitation and drill, *precision* is demanded; in combat exercises *efficiency* is wanted, even at the expense of precision of movement, or commands, if necessary.

One object of frequent discussions is to enable the officers and the Brigade Commander to mutually get and keep in touch with each other; to understand each other's mode of thought and action. To accomplish this more fully the officers are usually assembled in advance for a talk on the "general situation," or on the requirements of the tests, combat exercises, etc. In many cases these explanations are made by the Brigade

Commander to the whole command, it being assembled in square formation for the purpose, in order that the noncommissioned officers and privates shall understand what they are doing. It is enjoined that Troop Commanders shall be careful to inform the men of any new development in the exercise. The explanations made by the Brigade Commander to the officers must be immediately thereafter communicated to the men, time being allowed for that purpose.

The Brigade Commander should be not sparing of praise; officers and troops which excel are immediately informed of the fact; as a rule the organization which makes the best showing has the fact communicated by order or otherwise. This enhances zeal and healthy competition. The extreme dispersion of the brigade, being scattered in small detachments along a front of 925 miles, makes this competitive system more necessary.

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Details of the system of training employed in the brigade, taken from the order files, follow.

As a rule, the wording of orders and circulars has not been changed.

IV

GARRISON TRAINING

ALLOTMENT OF TIME

1. In conformity with the requirements of G. O. No. 17, W. D., 1913, and G. O. No. 21, Hq. So. Dept., 1915, the following allotment of time in this brigade is made for the period of practical garrison training, November 1, 1915, to March 31, 1916.

2—MOUNTED INSTRUCTION: TWO OR MORE HOURS PER DAY

November 1 to December 31

The Troop: Embracing equitation, horse training, use of the sword, pistol and rifle, close and extended order. One day per week.

The Regiment or Squadron: Embracing close and extended order. Four days per week.

January 1 to March 31

The Troop: Four days per week.

The Regiment or Squadron: One day per week.

When the regiment cannot be assembled as prescribed, squadron instruction will be substituted. Troop drill will replace that scheduled for the squadron, when a squadron is not available.

Bearing in mind the duties the brigade may be called upon to perform, troops will be exercised in field training, combat exercises, marches, etc., during the period of garrison training.

3—DISMOUNTED INSTRUCTION: ONE OR MORE HOURS PER DAY

School of the Soldier: Sighting, aiming and position exercises with rifle and pistol; gallery practice; estimating distance; simulated skirmish runs; simulated firing exercises in attack and defense, conforming to requirements of G. O. No. 17, W. D., 1913. Three drills per week.

Miscellaneous: Swordmanship, with special reference to the point and to the defense; when necessary for efficiency, pack-

ing; signalling; gymnastics; tent pitching; first aid; instruction of scouts; map making, etc. Two drills per week.

4—MACHINE-GUN TROOP

The garrison training of the machine-gun troop will be conducted under the immediate supervision of the senior officer of the regiment present at its station.

He will be responsible for its efficiency.

In addition to the technical and practical instruction pertaining to the guns, it will embrace equitation, horse training, and such of the specified dismounted instruction of the soldier as is applicable.

5—RECRUIT INSTRUCTION

This instruction will be conducted as prescribed in General Orders, No. 12, these headquarters, 1915.

During the prescribed period of three months' training, the recruit should ride not less than 200 hours, and should undergo a thorough course of training, including the use of the rifle, saber and pistol, position and aiming drills, gallery practice, estimating distances, and, if practicable, should fire 100 rounds in a supplementary course of known distance firing.

6—TRAINING NEW HORSES

The training of mature horses should be expedited, and should be such as to render them suitable to be placed in ranks in three months.

Very young horses should not be ridden in ranks where it can be avoided, until they are matured. Attention is invited to par. 2, G. O. No. 14, 1914, these headquarters, relative to training new horses.

7—STUDY OF SPANISH

Officers are enjoined to continue the study of Spanish and to encourage their men to do so until they have a practical speaking knowledge of it. This will add materially to their efficiency in the performance of their different duties they are now called upon to perform.

8—INSPECTIONS

Squadron and regimental commanders, at the conclusion of the period of garrison instruction, will test the training of their respective troops and squadrons.

The Brigade Commander, during his inspection, will, as heretofore, personally make the competitive test of the training of Troops as detailed in G. O. No. 7, these headquarters, 1913.

(G. O. 15, 1915.)

Drill evolutions mounted should be had at rapid gaits.

Particular attention should be paid to the practice of the charge against the imaginary, outlined or represented enemy; the use of ground scouts and combat patrols; the employment of supports and enveloping wings.

The rifle and saber should always be carried.

The saber, as a rule, should always be carried drawn, in order to accustom to it the horse and rider.

In order to oppose the solid double rank formation of foreign armies, charging formations of more than one line or in mass should be at times practiced.

In order to quickly return the fire of an ambushed enemy, troops should be able to dismount and open fire in ten seconds or less. The led horses should be trained to lead to the rear in an orderly manner and at a gallop.

The appearance and smartness of the trooper has much to do with his real efficiency.

A ten minutes' setting-up exercise immediately after reveille not only improves the soldier's carriage, but adds materially to his health.

Neatness must be enforced. A soldier who is careless about his dress reflects upon his organization.

In the same manner the appearance and smartness of the horses reflect the efficiency of the organization.

Our cavalry is credited with having inferior horses. The fact is it is only their upkeep that is inferior.

The training of a horse properly conducted is a setting-up exercise.

Our horses are often not properly set up, not properly groomed, nor are their coats, manes and tails properly cared for. In camp they undergo the hardship of standing in the torrid sun without shelter.

All this should be corrected as far as practicable. If in camp, shelters from the sun should be improvised. In rain the horse should be protected.

As a rule each horse should be groomed for a short period before exercise, and for a half hour after exercise. The act of grooming should be strenuous, not carelessly done.

Our men need individual instruction in grooming.

The mane, tail, forelock and fetlocks should be kept trimmed to a uniform length in each troop. In the summer season in this climate the horses' coats, in the interest of appearance, comfort and health, should be clipped.

In order that a troop should be able to maneuver properly at high gaits, and then be fit for combat, the horses should be thoroughly responsive to hand and leg. This can only be accomplished by the annual training of every horse of the command on the riding track.

To properly train and handle a horse the use of the double bit is essential.

Practice in swimming horses, fording and jumping is a necessary preliminary to active service.

No cavalry is fit for war unless it has thorough confidence in the sword.

(G. O. 6, 1913.)

The first duty of commanders is to fit their troops for war. Nothing else has equal importance.

While complying with G. O. No. 17, W. D., 1913, the performance of patrol duty need not interfere with horse training. Nor should smallness of detachments interfere. In small detachments, on days when any horse is not on patrol duty, he will need exercise. Horse exercise should ordinarily be conducted on the track.

Whenever there are more horses than men, the time allotted for equitation and horse training should be divided between the horses. On no account should horses go without daily training.

It should be carried on even during the period of range practice.

Horses should be taught perfect obedience to the aids, so as to turn on the forehand, to passage, to back, to move from increased gaits to the halt, and from the halt to increased gaits, with facility. (G. O. 11, 1918.)

In order to insure that horses and men shall keep in good condition physically, daily exercise is necessary.

In the case of horses it often happens that the exercise is neglected. When, due to rain or other causes, the Saturday inspection of a troop is dismounted, two days, including Saturday and Sunday, are likely to pass without horse exercise. If, in addition, for some reason the horses are not turned out for drill or exercise on Monday the effect is disastrous. The horses will have been three days idle, and on the following day will be found to be more or less soft and unfit for strenuous work. If they receive a fast drill or go on a long march there is danger that one or more horses will be injured.

The exercise that a horse obtains by being turned loose in a corral is usually negligible. Many horses get no exercise at all; it is but a slight alleviation. Without constant supervision by the troop commander, and unless the matter is arranged systematically, horses in each troop are liable to be left in the stables from day to day and thus injured. When it happens that horses do not turn out for drill they should be exercised later in the day on the road. For this the stable sergeant should be made responsible.

In no case should more than one day go without exercise. Rainy weather should not be permitted to interfere.

The best horse exercise is drill. It often happens that troop horses are taken for exercise on the road unnecessarily, when by a little care a well-drained place could have been found, to be used as a riding track. If, however, it is necessary to ride on the road, officers should utilize the occasion, while exercising horses, to give instruction. Thus chiefs of platoons, and chiefs of squads should be on the alert that their men ride correctly and do not lounge in the saddle.

The men should be required to carry sabers or pistols and practice the use of these arms while on the march. While in motion the troop can be practiced in advance guard drill, and in open country in scouting and reconnoitering.

All led horses should be equipped with the curb bridle and linked, as in "dismounting to fight on foot," in order to accustom the horses when fastened in this manner to lead freely. The gaits should be constantly changed while on the road and the men instructed in the proper methods of marching, as if on a practice march.

These remarks as to the necessity for daily exercise apply to all public horses in the command, including those of the band. All men of the band should ride at least one hour per day.

(G. O. 12, 1914.)

Not only horses but men should have regular daily open air exercise in order to keep in good condition. In the cavalry arm this exercise should, as far as practicable, be riding. Men on extra and special duty, or engaged in occupations involving indoor work, such as cooks, bakers, clerks, etc., should ride one hour each day, preferably in the afternoon. Only by giving every horse and man a regular fixed amount of mounted exercise will cavalry commands be kept fit for war.

(G. O. 12, 1914.)

To maintain proper physical condition, all officers should take daily mounted exercise to the extent of a ride of five miles in an hour, or its equivalent.

(G. O. 11, 1913.)

In the training of new horses, whether of mature age or not, they should, as far as possible, be prepared for active service in the field by several drills per week in practice marching, drilling, etc., with full packs, or with the weight of full packs.

When it is not convenient to take the full pack, an equivalent weight can be made up by carrying on the pommel a shelter tent roll, and on the cantle the saddle-bags, filled with a heavy material, making the total weight carried not to exceed 250 pounds.

The new horses should commence carrying these full pack weights at once, the length of the exercise to progressively increase until long distances can be traversed without undue exhaustion.

In the training of Machine-gun Platoons, they should be exercised in crossing obstacles, such as fences and ditches, in order that they may be able to keep up with the cavalry commands to which they are attached. They should also be able to execute the charge at high speed.

The men of the Machine-gun Platoon should be constantly exercised in equitation and the use of their small arms, also the throwing up of entrenchments. Entrenching tools will be carried for this purpose on the pack animals.

Drill in patrol camps. At all camps of small detachments, a riding track will be established, heads, headposts and hurdles prepared, and made use of.

Particular attention should be given to the use of the sword. The thrust rather than the cut should be made use of. Running at heads on straight tracks, at an extended gallop, against a number of heads on headposts should be constantly practiced.

For this purpose it is sufficient in small detachments to improvise heads made of tin receptacles placed on light sticks set in the ground. Thrusting at dummy figures made of grain sacks stuffed with hay lying on the ground is a useful exercise.

Precision in evolutions at the walk, trot and gallop, in the charge, and dismounting to fight on foot should be next taken up.

While preliminary instructions should be perfected, field training should not be neglected.

Reconnaissance, scouting, orientation, map reading, map making, trailing, calculation of distances, writing of messages and reports, etc., should be constantly practiced when on patrol duty.

Patrols should advance always as in an enemy's country. Before emerging from cover they should see without being seen. They should note on the route all positions suitable for attack

or defense. They should reconnoiter to the front, right, left, and rear.

In general the daily duties of patrolling should be made a preparation, a school, for the more important duties required of scouts in war. (G. O. 11, 1913.)

Judging distances. The ability to determine distances and ranges correctly is of preëminent importance to the officer. When in action this accomplishment enables him to make effective the fire of the troops which he commands. Its absence often causes him to dissipate and make worthless their fire.

In an estimating distance test made at Leon Springs, Texas, July 12, 1913, the distance being 750 yards, 12 officers out of 19 made an error of 100 yards or over, and 4 officers made an error of 200 yards or over. The latter error, at this range, would throw the center of a shot group 6 feet above or below the point aimed at.

It is evident that, for officers, instruction in estimating distance, in addition to that given in the regular course of firing, is necessary.

To accomplish this, the Brigade Commander will from time to time assemble all officers for a competitive test of estimating distances. The results of these tests will be published.

To prepare for this test, officers should take advantage of all favorable opportunities, in order that by constant practice expertness may be obtained.

Such opportunities, it is suggested, may be had when troops are proceeding to, or returning from, drill; during rests at drill; during practice marches; and at other times.

It would be well if occasionally noncommissioned officers shared in this instruction.

Regimental, squadron and troop commanders are charged with the details necessary to facilitate this training.

In this connection it is suggested that officers will add to their value for active service by the habit, when travelling through the country, of picking out positions which seem suitable for defense, analyzing their advantages or disadvantages,

in the way of lines of approach, etc., and estimating the ranges to the probable positions of an attacking force.

(G. O. 18, 1913.)

Drills in excessively hot weather. It is suggested that the extreme hot weeks of summer are a season when night exercises might be practiced with advantage. Such exercises are night marches, night attacks, night firing and so forth.

Training in the swimming of horses and men can be practiced with advantage during the hot season. No troop should be without instruction in swimming.

The construction and use of improvised boats is often necessary in scouting operations. For this purpose a basketwork boat has been devised and used in the 1st Squadron, 3rd Cavalry, now at Brownsville, Texas. It is constructed by marking on the ground the outlines of a boat eleven feet long and five feet wide. Cottonwood stakes are fastened to stakes driven in the ground and bent over and lashed together to form the ribs and keel, and others are lashed along the top of the ribs to form the gunwale. Willow is used to weave in between the ribs. The hull is covered with a wagon sheet. This boat holds over a thousand pounds.

It is suggested that during the excessively hot weather troops can be instructed, in the shade, in such things as packing, signaling, first aid, theoretical instruction of scouts, estimating distance, gallery practice, swordsmanship, Spanish.

In excessively hot weather mounted drills can be had early in the morning, and can be abridged to not less than one hour.

Horses should be carefully sheltered from the heat of the sun.

(G. O. 17, 1914.)

Officers are expected to perfect themselves, as well as their men, in the accomplishments and acquirements applicable to their profession.

Commanding officers of organizations are directed, when compiling officers' efficiency reports, as required by Army Regulations, to make special mention of any important deficiencies in training.

The following deficiencies, among others, are regarded by the Brigade Commander as important:

Inability to ride properly,

Inability to ride boldly,

Poor drillmaster,

Lack of proficiency in judging distances and ranges,

Lack of proficiency with the sword, mounted.

Officers should receive credit for especial excellence in these details, in the column of remarks of the efficiency report, as:

"An excellent rider," "a bold rider," "an excellent drillmaster," "expert in estimating distance," "an excellent mounted swordsman," "an expert instructor in musketry training," "an expert shot," etc.

(G. O. 22, 1913.)

To keep the men in condition for active service every man should have practice in the "Trigger Squeeze Exercise," prone position, for ten minutes per week throughout the year. It is essential that a bullseye of a size comparable to the apparent size of a human head at 800 yards distance be used. Thus at 50 feet the bullseye should be four-ninths of an inch in diameter.

(G. O. 9, 1913.)

Since the adoption of the magazine gun the advantages of the rifle for mounted work have greatly increased, so much so that it is doubtful whether ordinarily the pistol has any advantage over the rifle. If at a halt, the horse can be so turned that firing to the left is always practicable. Using the rifle in this manner, it carries farther than the pistol and makes more hits on the target at all ranges.

In movements at a walk, trot or gallop, in firing to the left, the rifle is more accurate than the pistol. In firing to the right, it is nearly as accurate.

Even when the soldier carries the pistol the well-trained trooper should be able to substitute the rifle for the pistol if the latter is lost or disabled, or the trooper is out of pistol ammunition.

It is believed that if the same amount of practice were devoted to the rifle, mounted, as is now to the pistol, mounted, the superior advantages of the rifle, mounted, in most situations would be thoroughly demonstrated.

At present the soldier has little practice in handling the rifle on horseback. This should be corrected.

A suitable time for practicing with the rifle, mounted, is when en route returning from drill or mounted exercise. This will accustom the horses and men to the various positions.

The "Position Exercise," the "Trigger Pull Exercise" and "Rapid Fire Exercise" may thus be practiced at a halt as well as in motion, always selecting an object as a target.

Proficiency in firing the rifle, mounted, is sure to add greatly to the effectiveness of our cavalry. There are many occasions on outposts, on patrol duty, guerilla fighting, and harrassing retreating troops of all arms, attack of convoys, etc., where the use of the rifle, mounted, will be invaluable.

(G. O. 28, 1918.)

In a competitive test, firing mounted, at a gallop, with rifle and pistol, at targets "R," 15 yards from the track and 20 yards apart, the following were the results per hundred shots:

Firing to the left: Rifle, 51 hits; Pistol, 26 hits.

Firing to the right: Rifle, 37 hits; Pistol, 40 hits.

This test (made by order of the War Department) was conducted at Fort Oglethorpe, Ga., October 27 and 28 and November 3, 1913, by Troop M, 11th Cavalry.

In this test the accuracy of the rifle compared with the pistol, was, firing to the right, equal, firing to the left, double.

The rifle, then, is a desirable substitute for the pistol, when pistol ammunition is exhausted. To comply with Par. 407, C. D. R., 1911, its use mounted should be practiced.

In testing garrison training troops of this Brigade will be required to show their proficiency mounted at a gallop using the rifle, with gallery cartridges, on a straight track with targets "R" placed 25 yards apart, 15 yards from the track.

RULES FOR JUMPING

In order that a horse should jump readily and freely his head should be free. The natural position of a horse when he jumps is with extended head and neck. The body of the rider should be inclined forward, in order that the reins may be held

loosely and in order that the center of weight of the rider should be fixed and immovable during the jump.

At the "take off" the horse leaps from the ground with a tremendous impulse. If the body of the rider is not braced against this shock it will sway backward. The weight of the rider's body will be thrown against the bit bruising the sensitive bars of the horse's mouth, causing him acute pain. This punishment often repeated will cause a horse to fear the jump. Such is especially the case with riders who in jumping keep themselves in the saddle by hanging on to the reins.

During the entire jump the reins should be held loosely, or with a very light touch on the mouth. It is not even necessary that the horse be "supported" by the reins on landing. "Supporting" the horse is a myth. It sometimes happens that in travelling along the road the horse is "supported" when he stumbles, by throwing the weight of the rider back, thus bringing about a more favorable position of the center of gravity, and this may incidentally cause a pull on the reins. But the horse is never "supported" by pulling on his mouth.

Thus the horse's head should be free when "taking off," when in the air, and upon landing. When his mouth is unhampered and unconstrained by pulling on the reins the horse will learn to like jumping and will become accustomed to jumping freely and readily, without excitement, and without rushing at the obstacle.

If the body of the rider is allowed to sway while jumping, the center of gravity of the rider becomes variable and uncertain. This naturally makes the jump more difficult for the horse. A fixed position of the rider's body during the jump is desirable in order that the horse may preserve his stability.

In order that the body may be braced against the shock of the "take off," in order that it may be prevented from swaying, in order that a fixed relative position of the rider's center of gravity may be preserved during the jump, and in order that the reins shall not be pulled on during the jump, it is necessary that the rider's body be inclined to the front before the horse "takes off," and remain in that position until the horse has landed.

To insure this it is often necessary that the stirrups in jumping exercises, be made very much shorter than for ordinary riding. With long stirrups a fixed position is difficult to maintain. It is also necessary that the body be inclined forward while the horse is approaching the obstacle, since the horse often "takes off" suddenly and before the leap is expected.

The above principles will be adopted in this brigade.

(G. O. 6, 1915.)

TRAINING OF RECRUITS

1. It is desired that the instruction of recruits in this brigade be as nearly uniform as practicable.

2. The period of instruction of recruits will be three months. It is intended that at the end of this period the recruit shall be a good horseman and well instructed in the use of his arms.

3. To expedite the training of recruits instructors should freely explain the why and wherefore of everything that is done, appealing to their pride. The recruit is anxious to learn the duties of the soldier, to abridge the period of probation, and will work willingly as much as eight hours per day if his interest and zeal are kept up.

4. From three to four hours per day can be devoted from the first to mounted drill, provided saddles are used and the skin surface properly attended to. On no account should recruits be allowed to fall. It is the man who is fearful of falling who is a poor rider.

5. At West Point it requires 125 hours of riding to make a fair rider. This course is about 200 hours.

6. While it is not desired to interfere with the discretion of organization and post commanders, the following rules are published as a guide:

(a) The training of recruits will be conducted under the supervision of an officer detailed for that purpose, to be called the Instructor of Recruits.

In each troop a noncommissioned officer, specially qualified for that work, will be placed on daily duty by the troop com-

mander as Assistant Instructor of Recruits. At drill hours he will be governed by the orders of the Instructor. At other hours of the day he will, under orders of the troop commander, exercise supervision over the recruits of his squad, instructing them in the duties of the soldier, and protecting them from unauthorized interference. At drills the recruits will be united under the most competent Assistant Instructors.

(b) The recruits will on week days drill mounted twice a day, a total of three or four hours. They will drill dismounted twice a day. On Saturday mornings recruits will drill mounted once and once dismounted. On Sunday mornings they will ride on the road under their Instructor. They will attend stables under their Assistant Instructor. As far as practicable they will be quartered with the Assistant Instructor. Recruits will not be detailed for guard or fatigue duty.

(c) In each troop the Assistant Instructor of Recruits will, at such hours as are available, instruct his squad in the care of arms, clothing and equipments, the customs of the service, the Articles of War, the regulations, guard duty, the nomenclature of the horse, saddle, rifle, pistol, etc., as directed by the Recruit Instructor.

(d) For the first four weeks mounted instruction will be with saddles, on the quietest horses, and, as a rule, on the riding track. Particular attention will be paid to individual horsemanship, including the position of the trooper at all gaits, the use of the reins and legs in changing gaits, in turning, and in passaging. Great care will be taken in the earlier lessons to give the recruit confidence and prevent him from becoming timid. There will be frequent rests.

(e) The dismounted drill during this period will be in the school of the soldier, with and without arms, including the setting-up exercises, marchings, manual of the rifle, saber and pistol.

(f) After the first four weeks, and until the end of the recruit instruction, the recruit will ride his own horse, and the instruction will be more advanced, and will include, besides riding on the track, the school of the squad, saber exercise, and

a small amount of riding without saddles, this being limited to not more than half an hour per day. After four weeks, during the morning drill, men who have shown themselves proficient will ride with their troops.

(g) In the dismounted drills during this second period the first four weeks' course will be continued, to include, in addition, at other than drill hours, sighting, aiming and position drill, gallery practice and range practice.

(h) Assistant Instructors of Recruits will, at all times, be provided with a list of the recruits under their charge, showing the date of joining, and dates on which, for any reason, any recruit did not drill.

(i) Special report will be made at the end of the recruit course of any recruit who is deficient. Such men will be continued as recruits, and will not be taken up until proficiency is obtained.

(j) In case troops are in the field, it is sometimes better to give the recruit instruction at the home station of the regiment or squadron. (G. O. 12, 1915.)

The following method of grooming as advocated and published by the Mounted Service School, will be used for recruits:

GROOMING

The horse is divided into sections and each section is groomed by all men at the same time. Sections are changed at command.

At the command "COMMENCE GROOMING" each man brushes, and wipes off the legs of his horse from the knees down (2 minutes). "CURRYCOMB LEFT SIDE," (2½ minutes). Take the currycomb and go gently over the entire left side of the horse. "BRUSH HEAD AND NECK," (2 minutes). Start with the head and work back to include the shoulders and elbow joints. The weight of the man should be put on the brush. "BRUSH BELLY AND BACK," (2 minutes). "BRUSH CROUP AND BETWEEN THE HIND LEGS," (1½ minutes). "BRUSH HIND LEG," (¾ minute). "BRUSH FORE LEG," (¾ minute). Total time for left

side, about $11\frac{1}{2}$ minutes. "WIPE OUT EYES, NOSTRILS AND DOCK," (1 minute). "CLEAN FEET," (1 minute). Total time, $27\frac{1}{2}$ minutes. (G. O. 9, 1914.)

Military Athletic Meets. In connection with the course of instruction, it is suggested that regimental, squadron and troop commanders have frequent athletic meets and field tests—if practicable, one per month—public advertisement being made and spectators being invited. The preparation for these field meets should not interfere with the usual drills. Regular meets of this kind are an amusement for the men, and at the same time encourage expert efficiency in various items pertaining to military training, such as the use of the soldier's saber, rifle and pistol, swimming, packing, horsemanship, fleetness on foot, and so forth. In these meets military events should be made to occupy the first place. (G. O. 16, 1914.)

The following events, suitable for Military Athletic Meets, are suggested:

1. *Best Turned Out Team of Four Troopers from Each Troop:* Troop horses. Equipment: Saddles stripped, saddle cloths. Uniform: Dress. Contest is judged on neatness of men, horses and equipment, and manners and carriage of horse at the halt, walk, trot, gallop and halt from gallop, turning on forehand, reining back, and right and left pass. Value: 16-8-4.

2. *Trumpeters' Contest:* One entry from each troop. Each contestant to sound warning, formation, alarm and service calls, and drill signals in the manner prescribed in Cavalry Drill Regulations. Value: 8-4-2.

3. *Rifle Contest:* One man from each troop. Contestants at scratch equipped with cartridge belt and five rounds of blank ammunition; pieces with bolts taken out and apart, are placed 50 yards to the front. Each contestant runs to his piece, sits down, assembles bolt, inserts it in piece, and retires to scratch, halting every ten yards and firing one shot to the front. To do this he will assume the prone position, and his last shot will be fired at scratch. Value: 4-2-1.

4. *Reaching Contest:* One man from each troop. Troop horses. Equipment: Stripped saddles, with saber scabbard

attached to saddle. Uniform: Service. Russet leather belt, and pistol holster; spurs. A cap to be placed on the ground 25 yards from scratch, revolver at 50 yards, gauntlet at 75 yards, handkerchief at 100 yards, and saber at 125 yards. Each contestant to start at scratch, pick up articles, place cap on head, pistol in holster, and flap buttoned, gauntlet on hand, handkerchief in pocket, saber in scabbard, and return to scratch. Form to count 50 per cent, and time 50 per cent. Value: 4-2-1.

5. *Gallery Target Contest*: Team of four men from each troop. Uniform: service. Equipment: gallery practice rifle, russet leather belt, and McKeever cartridge box with 5 holders loaded. Each contestant to fire five shots standing, at target, at range of 50 feet. Aggregate score to count. Value: 12-6-3.

6. *Saddling and Bridling Contest*: One entry from each troop. Start at scratch. Ride 100 yards to horse held by a comrade. Unsaddle and unbridle. Transfer saddle, bridle, and blanket to other horse, and return to scratch. Comrade may transfer halter and hold horse for competitor, but in no other way assist. Equipment: stripped saddles. No saddle pad. Halter on held horse only. Value: 6-4-2.

7. *Packing Contest Between Sections of the Machine-gun Platoon*: Six men from each section. Each section to have three mules, ready to be packed, at scratch. At signal, go 50 yards, pack miscellaneous cargo provided and return to scratch. Time and manner of performance to count. Value: 10.

8. *Running at Heads*: With saber. Regulation course.

9. *Fencing, Mounted, for Points*: One entry from each squadron. Best attack and best defense to count. Value: 12-6.

10. Two ambulances with necessary complement of Hospital Corps men. Two bearers to each litter to race from scratch to patient lying on ground 100 yards distant; to dress wound of patients as per diagnosis, tag attached; to carry patient to ambulance, which remains still, and place therein. Value: 16-8.

11. *Competition for Best Kept Troop Wagon Team*: One entry from each troop. Harness and team of two horses. Troop

wagoners to present their outfits for inspection. Condition of horses, harness, condition of wagon to count 80 per cent. General appearance, including wagoner, to count 20 per cent. Value: 8-4-2.

12. *Jumping Mounted*: Five men from each troop. Over four fences four feet high. Performance of man and horse, 50; jumps, 50. Performance of man and horse to be judged by two sets of judges—one set being the judges at the jumps and one set being judges of whole performance, each to have equal value in determining performance. Value: 8-4-2.

13. *Wall Scaling Contest*: Entries: One n. c. o. and three men from each troop. Teams to start from scratch 20 feet from wall; first man on top of wall to fire five shots from top of wall; remaining men to fire five shots each on arriving at finish 20 feet beyond wall. Time to be called when last man has fired shots and taken position of "Order arms." Penalty of one second for each shot not fired. Dropping rifle on ground to disqualify. Equipment: rifle, field belt, five rounds blank ammunition per man. Value: 16-8-4.

14. *Running at Heads*: Four officers from each squadron.

15. *Officers' Polo Game of one Goal*: Captains to choose their teams.

16. *Signal Contests*: Four men from each troop. Equipment: flags. Efficiency in sending and receiving messages to count. Value 16-4-2.

17. *Grooming Contest*: One entry from each troop. Each man to groom one horse. At signal each contestant to groom his horse. When groomed to salute the judge and present his horse for inspection. Cleanliness in all details to count 33 1-3 per cent; time to count 33 1-3 per cent; form to count 33 1-3 per cent. Use any kit. Uniform: canvas fatigue. Value: 10-8-4.

18. *Orderly Contest*: One entry from each troop. Appearance of horse and man to count. Uniform: As for guard-mounting. Arms: saber only. Value: 8-4-2.

19. *Pistol Competition—Riding at Heads*: Blank cartridges, one man from each troop. Five targets, right and left

of track. Regulation gait. Heads 25 yards apart. Time flag 25 yards from first head. Horsemanship to count one point; handling pistol, one point; heads, one point each. Value: 12-6-8.

20. Officers Over Jumps.

21. Conical Wall Tent Pitching Contest: Same as prescribed in Par. 84, Cir. 35, War Department, 1908, except there will be but one tent per troop, and teams will consist of one n. c. o. and seven privates each. Axes will be used and not mallets. Forty-eight small pins to be used. Time 65 per cent; form 35 per cent. Value: 12-8-4.

22. Mounted Tug-of-War: Troop teams of eight men each. No saddles, no spurs and no gauntlets. Watering bridles. Horses not to be grasped around neck, and manes not to be touched. No dismounted man to touch rope. Dismounted men may remount. Value: 12-8-4.

23. Estimating Distance Contest: Troop teams of five men each. Five distances.

24. Estimating Distance Contest for Officers.

25. Machine-gun Platoon Contest: Section contest. Going into action. Conditions: Sections shall be in line of section columns moving at a trot. At the command, "Action Front," they will go into action and fire one shot. Time taken from the movement of the above command until shot is fired. Piece must be laid at a given range and deflection. Value: 10.

26. Mounted Rescue Race: Each team, two men; one competitor to be at scratch, mounted, the other 200 yards to the front, dismounted; one in front, at signal, will fire five rounds with his rifle; the competitor at scratch will ride forward firing five rounds to the front with his revolver, pick up dismounted man, and return with him to scratch, both men retaining their arms. No sabers. Value: 4-2-1.

27. High Jumping, Mounted Officers.

28. Relay Race Mounted: Four men from each squadron. To take message from scratch over indicated course (around flags). Troopers to be posted at discretion of team leader. Value: 12-6.

29. *Driving Competition*: Best Quartermaster four-line team. Four entries. Time, form and performance to count. Drivers will have teams hitched to wagons, and at signal go over indicated course at a walk and trot. Value: 15.

30. *Mounted Wrestling*: One man from each squadron. Value: 12-6.

31. *Shelter Tent Pitching Contest*: One squad of eight men from each troop, to be placed in line by judges. Picket line (lariat) 15 yards in front of the line of tents, will be put down beforehand. Tents to be pitched as directed in par. 877, Cavalry Drill Regulations, as amended by G. O. No. 199, W. D., 1910. Judges will see that the pitching is in strict conformity with this order. Any deviation to disqualify. Value: 16-8-4.

IN ADDITION:

Polo pony race for officers; bucket (Fire Brigade) contest; swimming race; swimming race with obstacles—(barrels, or logs, anchored); tub race; water polo game; horse swimming race; horse swimming race in pairs—horses handled as in "Roman races," floating wagon body races; each wagon body to be wrapped in wagon sheet and navigated by crew of six men.

(Mem. July 16, 1914.)

FIELD PREPARATION EXERCISE

To insure readiness for war service in this Brigade, the field preparation exercise as given below is prescribed.

PREPARATION

(a) A distinction will be made between the various kinds of property pertaining to the troop. They are:

Stationary Property, including barrack furniture, table ware, kitchen utensils and all other articles which should, in case of change of station or absence on prolonged field service, be turned in to the Post Quartermaster and left behind.

Removable Property, including all Quartermaster property which is permitted to be taken with the troop when changing station; all troop Ordnance, Engineer and Signal property;

the individual property of the men; the troop library and amusement room property, etc.

"Removable" Property, including removable Quartermaster property (which should be carried on a distinctive memorandum receipt), should (with the exception of those articles required for use during the movement) be packed in boxes or packages. On the occasion of change of station or prolonged field service, the removable Quartermaster property for which the command is accountable, should be transferred by the Post Quartermaster to the Quartermaster of the command without verification, on proper certificates of transfer.

(b) Each organization should, therefore, have on hand: a sufficient number of packing boxes and crates to pack its entire equipment and property; each box and crate to be marked with number, troop letter, and names of articles. Also a set of doubled oat sacks for saddle kit marked with troop letter, number and regiment; and a complete set of fitted horseshoes with nails, in addition to those carried in saddle bags.

THE EXERCISE

As soon as notification is received the command will be made ready for entraining, as follows:

(a) Stationary property, which is to be turned to the Quartermaster, will be laid out for verification in the order in which it appears on the returns, in rooms under lock and key. To assist the Post Quartermaster, and to personally check this property and certify to the accuracy of the count, a number of officers, one to each two troops, should be detailed from the command.

(b) Removable supplies or equipments, which cannot be taken into the field, will be packed and the packages made ready for transfer to the Post Quartermaster for storage.

(c) The requisite articles to enable the troops to take up the march or go into camp on detraining will be placed by the troops themselves on the porches of barracks, packed, ready for shipment in the baggage cars which accompany the troop trains. These will include the following:

(1) Extra ammunition, as prescribed.

(2) Blanket rolls. Sabers, in bundles.

(3) Saddles and saddle equipment. This equipment will be double-sacked and marked. Slickers may be placed in saddle sacks.

(4) Surplus kit bags or barrack bags containing, in addition to the articles prescribed in G. O. No. 147, W. D., 1911, the following: one suit of service uniform, one extra blanket, one pair leggins, one suit underclothes, one olive drab shirt, one suit fatigue clothes, one pair riding gloves.

(5) Gold Medal cots, mosquito nets, and horse covers, when authorized.

(6) The field range, with cooking utensils, complete. In addition will be carried either the Army field range No. 1, or the company cooking outfit, for use with pack transportation.

(7) Portable forge, with all blacksmith's tools, complete.

(8) Field desks, field kits for blacksmiths, saddlers and farriers, extra leather, officers' field baggage, and four water cans.

(9) A light box containing four axes, two spades, two pickaxes, one picket rope, four lanterns.

(10) Tentage, as prescribed for the occasion.

(11) Rations, as prescribed.

(12) Forage, as prescribed. All nosebags, double-sacked, to be loaded with forage on horse cars.

(d) Troops will "fall in" at their barracks, dismounted. Arms—rifle and revolver. Rifle in scabbard.

Ammunition, on person—80 rifle, 20 revolver.

Clothing and equipment, on person—service uniform, complete, including hat, olive drab shirt, black neckties. Saddle bags packed with the following: two fitted horseshoes and nails; toilet articles, including shaving utensils; mess kits; watering bridges; grooming kits. Canteen to be carried on belt.

Surplus kit bags or barrack bags and contents.

Saddle-bags and contents.

(e) An inspection of each troop in front of the barrack will be made by the colonel and squadron commanders, of arms, equipment, clothing and personnel. Contents of saddle-bags,

surplus kit or barrack bags, and saddle-sacks, will be verified. Inspectors will see that stationary Quartermaster property to be turned over to the Quartermaster is properly laid out, that removable property is properly packed. Also that the part of the removable property intended for shipment is piled in front of the barracks.

As a rule, removable property not in use should be kept in the troop packing boxes, and listed. If this be done, this exercise should not require more than three hours. For this exercise, company library and amusement room property need not be packed.

* * * * *

When troops actually go in the field, the equipment will be as prescribed herein, subject to such modifications as may be made by proper authority.

(G. O. 14, 1913.)

THE REVIEW—A TEST

1. The review of cavalry, properly conducted, is an inspection having for its object a test of appearance of men and horses; a test of precision in evolutions; a test of horsemanship and horse training at increased gaits, and a test of endurance and condition of horses.

2. To effect this a rectangle should be laid out, 600 yards by 300 yards, or thereabouts. On this the command should march past at a walk, trot, gallop and extended gallop, and then charge past. Thus the command will cover four miles—three miles at increased gaits.

3. After the command is presented to the reviewing officer, and before the march past, a hasty inspection of appearance should be made by him by riding along the line, to determine generally care and cleanliness of the horses' coats, manes and tails, etc.; neatness of equipments and clothing. It is desirable that these points be determined before the dust and dirt caused by the march past have altered the appearance of the command. After the march and charge past a similar hasty inspection, by riding along the line, should be made of the con-

dition and endurance of the horses, as shown by their more or less fatigued condition after the rapid march. A closer and more detailed inspection of the individual organizations which constitute the command may, if desirable, be made later. This later inspection should not be construed, however, as part of the Review.

4. In the Review as a Test the following points should be noted by the inspector—(Deficiencies should be published): On forming: precision and promptness with which the command is formed for Review. At the first inspection: correctness of alignments; care of coats, manes and tails of horses; smartness and neatness of clothing; care of equipments. During the march past: precision of evolutions; correctness of alignments; correctness and uniformity of gaits; control of individual horses; horsemanship and seat of men; uniformity in carrying the saber. During the charge: control of horses, seat of men; correct handling of the saber; rapidity of gait—(the charge should be made at a run, and the slowest horses must be trained individually to move a mile in a little over two minutes); cohesion (boot to boot), order and alignment. During the hasty inspection following the march past and charge: whether the horses are unduly fatigued or panting; comparative condition of horses in different organizations, thus establishing the extent to which the horses have been hardened by training.

5. The Review, thus conducted, is a test of organization, discipline, smartness, precision, endurance, and of garrison training, as well as of field training. Commanding officers should frequently put their commands through this Test in order that they may assure themselves that in every respect these requirements have been fulfilled.

(G. O. 1, 1916.)

Drill Schedule: As heretofore, a "Schedule of Drills and Instruction" will be submitted weekly by troops, squadrons, regiments and M. G. P.'s in conformity with G. O. No. 17, W. D., 1913, and G. O. No. 5, 1st Cavalry Brigade, 1913. When approved by the next higher commander it will be forwarded to these Headquarters.

This schedule, prepared at the end of each week, will contain the following:

(a) The detailed schedule for the next week's work, giving, each day, the instruction to be had during the first, second, third, etc., periods, and the number of hours devoted to each.

(b) The average number present at, and average effective strength absent from, the principal drill during the preceding week.

Effective strength includes all men present at the station except the sick and M. G. P. men. Thus, the men absent on guard or on extra and special duty, etc., are effective strength absent. The principal drill is usually mounted. Recruits who drill during this period are regarded as present. Men absent from the station will not be considered.

(c) The number of exercises in Spanish held the preceding week, and progress.

(d) Explanatory remarks.

The effectiveness of drill depends primarily upon the proportion of the troop present. In order to determine this relatively, a consolidated schedule will be kept at these headquarters, showing the strength of each troop as determined by the monthly returns, also the average number present at, and the average effective strength absent from, the principal drill. The results obtained from the consolidated schedule will be published from time to time to the Brigade.

The value of an exercise depends primarily upon the number of men present in ranks. Thus, if only 30 are present out of a total effective strength of 60, the efficacy of that drill is, other things being equal, less than 50 per cent of the possible.

(G. O. 3, 1914.)

(Example)

SCHEDULE OF DRILLS AND INSTRUCTION

For Week beginning.....

Troop.....Cavalry,

Fort.....

<i>Periods</i>			<i>Hours</i>
Monday	1	Setting-up exercise	1/6
	2	Mtd. drill. School of the trooper, 1 hr.; running at heads, 1 hr.	2
	3	Dsmt. drill. Fencing, signalling, packing, estimating distance..	1
	4	N. C. O. School—S. A. F. M.	1
Tuesday	1	Setting-up exercise	1/6
	2	School of the trooper on the riding track, 1 hr; the platoon, 1 hr.	2
	3	School of the soldier. Marchings, manual of arms, firings.....	1
	4	Spanish for entire troop.....	1½
Wednesday	1	Setting-up exercise	1/6
	2	School of the troop, close and extended order; use of the rifle, mtd.	2
	3	Packing; signalling; gallery practice; aiming exercise; fencing..	1
	4	N. C. O. School—C. D. R.	1
Thursday	1	Setting-up exercise	1/6
	2	Squadron drill; instruction of scouts.....	3
	3	Fencing; gallery practice; signalling; simulated skirmish runs..	1
	4	Spanish for entire troop.....	1½
Friday	1	Setting-up exercise	1/6
	2	Bareback drill; jumping bar and ditch; mounted exercises.....	2
	3	Automatic pistol-manual, loadings, firings. Tent pitching.....	1
	4		
Saturday	1	Inspection: mounted, equipped for the field.....	2
	2	First-aid drill and instruction. Estimating distance. Fire drill..	1
	3		
	etc.		

REMARKS:

Average number present at principal drill Past Week....56....

Average effective strength Absent from Principal Drill Past Week....4....

No. Exercises in Spanish Past Week—Privates....3.... Progress....Fair....

No. Exercises in Spanish Past Week—N. C. O....2.... Progress....Good....

Recruit drill: mtd., 3 hrs; dsmt., 2 hrs.

Orders have been given directing horse training, etc.,
at patrol stations.

.....

.....Cavalry,

.....Commanding Troop.....

.....

.....Cavalry,

.....Commanding.....

INSTRUCTIONS.—This schedule will be submitted weekly, etc.

(Memorandum, 1914.)

Garrison Training

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(Example of order publishing attendance at drill)
HEADQUARTERS FIRST CAVALRY BRIGADE,
Fort Sam Houston, Texas,

February 25, 1914.

MEMORANDUM:

The following extract from the consolidated record of attendance at the principal drill of troops of the Brigade for week ending the 14th instant is published.

TROOPS	3d Cavalry.												
	A	B	C	D	E	F	G	H	I	K	L	M	MGP
Effectives present..	44	45	44	48	51	41	48	49	49	43	50	50	20
Effectives absent..	16	18	17	11	6	6	4	5	6	17	6	5	3

14th Cavalry.													
Effectives present..	..	47	..	57	49	53	40	47	44	60	25	51	19
Effectives absent..	..	6	..	4	8	4	6	4	10	9	5	17	4

15th Cavalry.													
Effectives present..	53	53	12	51	..	25	37	37	47	58	42	30	16
Effectives absent..	16	18	6	6	..	4	4	9	4	5	4	28	4

Average number of effectives absent from drill: 3d Cavalry...9.2...;
14th Cavalry...7...; 15th Cavalry...9...

It is noted that in some troops an undue number of effectives are absent from drill.

By command of Brigadier General Parker:

W. S. Scott,
Lieutenant Colonel, Cavalry,
Adjutant.

COMPETITIVE TEST OF GARRISON TRAINING

Remarks: In order to inculcate a healthy zeal to excel among the officers and men of a command, it is desirable to adopt a means whereby the efficiency of the various organizations of which it is composed may be compared. This was formerly done with success in musketry training by the annual published reports and by the device of the figure of merit. It is accomplished in this brigade, as far as garrison training is concerned, by the "Annual Inspection and Test of Garrison Training."

This test requires about two hours for each troop of cavalry. The ground which it covers is shown by the orders which follow. It will be seen generally that it is a kind of "examination" in which each organization is marked as at a school examination, from 0 to 10 in the various details which make up "Appearance of men, horses and equipments" (weight 2); "Horse Training and Horsemanship" (weight 4); "Use of the Saber" (weight 1); and "Precision in Drill" (weight 3). It is impossible to deny that numerous things included in garrison training, and which are required to be practiced, are not included in this summary (dismounted instruction principally). But efficiency in these things is determined by further inspection. And the Test is sufficiently comprehensive to insure that care of animals, smartness of clothing and equipments, good riding, proper handling of horses, and precise drill are given due credit for. In consequence many officers and troops strive for perfection in these details, while others are ashamed to fall behind. The Test is particularly useful when troops are in scattered camps, as they are in this brigade, which occupies a line following the windings of the Rio Grande, 925 miles long. Sometimes more than half the troops are in camps. But this test brings about a spirit of competition that has resulted in wonderful results. In some of these isolated camps, where the troop commanders are not hampered by the limitations of post orders, they have worked many hours a day to obtain superiority, and have brought about an esprit de corps in many

organizations which has been of great value. There are many officers and men in the service who are only too anxious to work if they can gain due credit for what they have accomplished, and these officers have seized upon this opportunity with avidity.

The difficulty which would seem to arise in giving the correct mark in each of its many details, is solved by the device of comparison. Thus, the first troop examined is marked throughout. If in any particular detail (say, "Equipment of Horses") the second troop examined is superior or inferior to the first troop, its mark in that detail is correspondingly higher or lower than that of the first troop; and so on. In this manner a fairly just total is arrived at.

The justification for this new and remarkable method of comparing troops is its success, its cheerful acceptance by officers and men, and the fact that it secures much efficiency.

Competitive Test Procedure: 1. (a) The annual inspection of the garrison training of the brigade will begin in the month of March. It will include the Competitive Test of the training of troops.

(b) In this test the most important thing, in the opinion of the brigade commander, is the training of the horses. It is horse training in which the American cavalry is most deficient. It can be declared as a truism that if horses have been trained to be entirely responsive to leg and hand, and are thus under complete control, nine-tenths of the difficulties of drill evolutions have been mastered. Without this preliminary training precision is impossible.

(c) All horses in a troop should be put through a period of training, or individual schooling, once per year. If this is not done many horses in the troop will get out of hand.

(d) All the men of the troop should take part in this training. The training of a horse is a course in equitation for the man. Not less than one month per year, drilling four times a week, should be devoted to this schooling. The work should be performed on the riding track. Obedience to the hand and leg cannot be taught in ranks.

PROGRAM OF TEST

2. All the effective strength of the troop to be present, mounted, except recruits joined within one month. The troop commander will furnish the inspector, on form to be supplied from this office, a statement of the number of men present and absent, as required by G. O., No. 8, Hq. 1st Cav. Brig., 1913. This will show also the number of horses present belonging to the troop and the number borrowed from other troops. Each troop will use all of its own serviceable horses. All cooks, guards, prisoners, extra and special duty men, etc., will turn out. Men without horses will ride horses borrowed from other troops. At one-troop stations such men will ride in a second detachment.

3. Troops will be marked on equipment of horses; uniform of men; excellence of grooming; trimming of horses; care of coat, mane and tail; biting; weight 2.

4. (a) Column of troopers on riding-hall track, 33 by 100 yards. Inspector examines appearance of horses and equipments and troops are marked on horse training and horsemanship; length of stirrup; turning on forehand; passage at walk and trot; change of lead; backing; halting; change of gait; turning on haunches; neck suppling; seat of trooper.

(b) Jumping: a straightaway course having four brush hurdles three feet high, and not less than 15 feet long, with wings, and 25 yards apart, will be prepared.

Horse training, horsemanship and jumping—weight, 4.

5. *Saber Exercises and Swordsmanship Test.* For the swordsmanship test a straightaway track without hurdle or ditch, 145 yards long with four dummies on headposts on alternate sides, five on the ground in a group and one on the ground at the finish, will be prepared. Distance from start to first dummy, 25 yards; from 1st to 2d dummy, 10 yards; from 2d to 3d dummy, 10 yards; from 3d to 4th dummy, 10 yards; from 4th dummy to group of five, 25 yards; from group to last dummy at finish, 40 yards.

The group of five with intervals of about 10 yards should cover an area of about 25 yards diameter. (See plate accompanying G. O., No. 88, W. D., 1914.)

Gait: From start to 4th dummy, the maneuvering gallop; from 4th dummy through the group of five, the trot; from the group to last dummy at finish, the extended gallop.

Time limit, 30 seconds.

At each dummy struck the soldier will call out, "One," "Two," etc.

Saber exercise and swordsmanship test—weight, 1.

6. (a) *Squadron Drill:* In squadron drill the troop, organized as a squadron of two platoons in double rank, will execute the drill required by the C. S. R. During the horse training, horsemanship and drill, the troop may be handled with special reference to beauty of drill. That is, the troop commander may prepare for the occasion a special exhibition drill.

(b) *The Charge:* which will be marked according to its cohesion, rapidity and alignment.

(c) *To fight on foot, horses mobile:* In marking the following factors will be considered: precision and quickness in dismounting from a column of squads and deploying into line of skirmishers, ten yards to the front of the horses; including the time from the moment the troop commander gives his command or signal until the first shot is fired and the majority of the men are on the line; the rapidity with which the led horses start to the rear and are taken to a point 600 yards in rear of the line.

(d) *To fight on foot, horses immobile.*

Precision in drill—weight, 3.

7. In addition to the usual test, troops may also be examined in estimating distance, the use of the trumpet, signalling with the flag, first-aid drill, pack drill and mounted rifle practice with blank cartridges. For the last named a straightaway track, having five headposts forty yards apart, with tin cans suspended by a pliable wire, four feet from the center of track, will be prepared. Each man, firing blank ammunition, and riding at a 12-mile gallop, will execute one run, shooting to the left. Officers may be tested in estimating distance, in knowledge of trumpet signals, jumping hurdles, and in the use of the saber and pistol. Officers who own mounts will ride them in these tests.

8. All tracks will be trodden down in advance.

9. At regimental posts the band will be present. Attendance of spectators will be encouraged.

(G. O. 4, 1916.)

Suggestions. With a view to producing greater uniformity and efficiency in the competitive test of garrison training made annually by the brigade commander, the following remarks are published:

I—FORMATION OF TROOP

The Troop, when presented, should include in ranks all the officers and enlisted men available. As the test lasts but two hours, all effectives except the men actually on patrol or guarding the patrol camps should be in ranks. Recruits joined within one month should be present for inspection, but not in the ranks of the Troop.

II—APPEARANCE

The Troop should be inspected carefully by the troop commander before it is presented to the inspector, and faults corrected. If possible, the Troop should be examined by the inspector at or near the stables, and not after its appearance has been spoiled by the dust of the road.

In order to protect the collar of the coat from grease and sweat, and produce a neat appearance, white collars will be worn with the coat. If white collars are not available, stocks or handkerchiefs may be worn.

Service clothing should be new or newly washed, to obtain a high mark. Service belts which have been washed until they are white are considered a blemish. Gloves should be uniform. If this is not possible, they should not be worn. Hats should be uniformly creased. Service belt suspenders will not be worn. Halters will be worn, but no halter straps or ropes. The mouthpiece of the bits will be at a correct distance above the tush, the angle which the branches make with the mouth to be uniform. The horses' feet should be oiled. When necessary to remove dirt, the horses should be washed. The horses, in

this climate, should be clipped in the spring. The men should be personally clean, shaven, and with their hair cut.

An inspection of appearance will be made of the officers. Officers will ride their own horses.

III—DRILL ON THE TRACK—HORSE TRAINING AND HORSEMANSHIP

On the demeanor and bearing, the coolness and quietness of the commander largely depends the performance of the Troop. There should be no excitement either of horses or men, to obtain good results. No shouting or harsh correction by non-commissioned officers should be indulged in. The troop commander should give his commands by voice, calmly, and at the same time in a loud enough tone for all to hear. To commence the drill by galloping the horses is fatal. Every care should be taken to keep the animals from becoming excited. What is desired by the inspector is to see what the horses and men can do under the most favorable circumstances. What is wanted is precision and exactitude in all movements. The gait at first should be slow. A complete demonstration should be given of the movements demanded by the inspector, performing some of them twice, and dwelling on each until the inspector can be satisfied that all officers and men have performed the movement.

If troop commanders cannot fully comply with the above requirements, a formal "exhibition drill" should not be attempted, but in such cases the movements desired by the inspector should be demonstrated in turn as he directs.

The attention of troop commanders is called to the fact that only when the horse is fully collected and balanced, and his neck is supple, will it be practicable to correctly perform the movements required on the riding track. There are too many stiff necks to be seen among our mounts, and too many horses which cannot be moved at a slow canter. In track drill the reins should be held in both hands, low down.

The turn on the forehand should be performed from the halt. The passage at a walk should be performed at right

angles to the direction of the horse. This movement is often necessary in closing in to the right or left without gaining ground to the front. The passage at a trot should be on two tracks, diagonally to the front. The change of lead should be conducted on a straight track, or on a slight curve. In the halting and change of gait, troopers should not be taught to come to a too sudden halt from the gallop. Turning on the haunches will be required. It should be performed like the passage, the hind legs moving on a small arc of a circle. The jumping should be over solid obstacles, uniformly three feet high, without wings.

The inspector marks each horse and man as he passes over the first hurdle. To accomplish this, the horses pass over one by one, each at a distance from the preceding horse of 15 yards, the inspector calling out the mark as the horse lands.

IV—USE OF THE RIFLE AND SABER

The track for rifle firing, mounted, will be straightaway with five one-quart tin cans hanging six feet from the ground. Line of heads four feet from center of track. Distance between heads forty yards. Gait, 12-mile gallop. Form to count. Blank cartridges will be used.

In the swordsmanship test the course will be the same as during the present year, except that the targets on the ground will be dummy figures dressed in service uniform. The target on the ground to be taken at a slow canter. The charging position will be taken.

In the saber exercises there exists a great difference between Troops in the way certain movements are performed. In each regiment uniformity should be established. In the test each movement should be performed twice.

In the first motion of "Inspection saber" the hand should be held in front of the right shoulder, instead of in front of the center of the body.

As a physical exercise practice of the moulinets (right, left and rear, continuous motion) is considered by the brigade commander essential to give suppleness and strength to the wrist. It will be included in the test.

V—PRECISION IN DRILL

The drill for precision will be performed with sabres drawn. Troop commanders seem to consider drill at high gaits more necessary than precision.

The inspector desires to see in the movements in close order and at a trot, gallop or charge, the same solidity, riding boot to boot, the same precision in dressing and in maintaining intervals as when drilling at a walk. The drill will be silent, conducted by signals.

The same remarks regarding coolness and calmness in drill apply here. The drill should be commenced at a walk, continued at a trot and finished at high gaits. The whole drill should not occupy more than ten minutes, after which, at a signal from the inspector, the troop will charge three times past without coming down to a gait slower than the trot.

The charge should be always at full speed—the fastest gait of the slowest horse; and in order that this should be sufficiently fast, the slower horses of the Troop should be discovered and taught to run.

Cheering at the charge will be discontinued. It causes the horses to bolt and brings disorder in the ranks. It should be indulged in only in the actual attack in battle, and at the last moment, when voice and spur should be employed to force the horse into the enemy's ranks and pierce them.

Troops should be able to pass from the trot to the fastest gait of the charge in a space of fifty yards. The charge should be short.

The object of the test in dismounting to fight on foot is to determine how quickly when suddenly fired upon, the troop can open fire and get the horses to the rear.

Time will be taken from the first command: to first shot; to general firing; to general movement of horses to the rear.

In this movement precision is not essential. Troop commanders should practice methods by which these requirements can be best accomplished. Fire should be opened in less than three seconds, general fire in less than ten seconds, and the horses be off the ground in twelve seconds.

Horses should be taught (if necessary with the whip) to rush to the rear as soon as the proper signal is given, and formed in column.

Horses may be linked after they reach shelter. The reins of the horses of each four may be held by either No. 3 or No. 4.

* * * * *

In general, it may be said that the object of the test is to enforce instruction; but also to discover the best methods of obtaining certain results. For this reason experimentation will be welcomed.

(Mem. June 3, 1915.)

Publication of Marks, Competitive Test (Example). The following are the marks made by the troops of the 15th Cavalry, Colonel George H. Morgan, commanding, at the competitive test made during the inspection of garrison training by the brigade commander:

<i>Troops</i>	A	B	C	D	E	F	G	H	I	K	L	M	MGT
Equipment of horses.....	10	10	10	10	10	10	10	9	10	10	10	10	10
Uniform of men.....	10	10	10	9	8	10	10	10	10	10	10	10	10
Excellence in grooming.....	10	10	10	10	10	10	9	10	10	10	10	10	10
Trimming of horses.....	10	10	10	10	10	10	10	10	10	10	10	10	10
Bitting	10	10	10	10	8	10	10	9	10	10	10	8	10
Appearance of men, horses, and equipments—Weight 2	10	10	10	9.8	9.2	10	9.8	9.6	10	10	10	9.6	10
Turning on forehand.....	10	10	10	10	9	10	10	8	10	10	10	10	10
Passage at walk.....	10	10	10	10	7	10	10	9	10	10	10	9	10
Passage at trot.....	10	10	10	10	7	10	10	10	10	10	10	5	10
Change of lead.....	10	10	9	10	5	10	8	9	10	10	9	10	10
Backing	10	10	10	10	9	10	10	8	10	10	10	8	10
Halting—change of gait.....	10	10	9	9	7	9	9	10	10	10	10	9	10
Jumping	10	10	9.2	10	9	9.5	9.5	9.3	10	10	9.4	9	9.8
Seat of trooper.....	10	10	9.5	10	9	10	10	10	10	10	9.5	9	10
Horse training and horseman- ship—Weight 4.....	10	10	9.58	9.87	7.25	9.8	9.56	9.16	10	10	9.7	8.6	9.9
Saber exercise.....	10	10	10	10	9	10	10	10	10	10	10	10	10
Swordsmanship test	9	9	8.4	9.8	7	9.8	9.3	8.5	9.7	9.6	8.9	7.5	10
Use of saber—Weight 1.....	9.5	9.5	9.2	9.9	8	9.9	9.65	9.25	9.85	9.75	9.45	8.75	10
Squadron drill	10	10	10	10	10	8	10	8	10	10	10	8	10
The Charge.....	10	10	10	10	8	8	9	10	10	10	10	9	..
To fight on foot.....	10	10	10	10	9	10	10	10	10	10	10	9	10
Led horses.....	10	10	10	10	9	10	10	10	10	10	10	9	10
Precision in drill—Weight 3..	10	10	10	10	9	9	9.75	9.5	10	10	10	8.75	10
Average proficiency, weights considered.....	9.95	9.95	9.75	9.9	8.44	9.62	9.67	9.36	9.98	9.97	9.84	8.87	9.99

NOTE: Under MGT for "Fight on Foot," "Action Front" was substituted; for Saber Exercise, "Unpack, Unsaddle"; for Swordsmanship Test, "Harness—Pack."

G. O. 7, 1915.

VI
FIELD INSTRUCTION
ALLOTMENT OF TIME

1. In compliance with G. O., No. 5, Hq. So. Dept., 1916, the following allotment of time is made for this brigade for the period of Field Training:

(a) Emergency Target Practice

Under letter of instruction from the Department Commander, dated March 14, 1916, target practice for all men of this brigade who have not completed a full season's course, will be taken up at once.

Where ranges are available, or can be improvised, the regular course for such men will be followed. Where this is impracticable, Course B, prescribed in Appendix 2, Small Arms Firing Manual (C. S. A. F. M., No. 6), pages 3 to 6, will be followed, using service ammunition.

An emergency now exists which demands immediate preparation.

(b) Regular Small Arms Target Practice

<i>Regiment</i>	<i>Station</i>	<i>Regular</i>	<i>Supplementary</i>
3rd Cavalry	Fort Sam Houston Brownsville and Fort Ringgold	June and July	November
		May and June	November
8th Cavalry	Fort Bliss	April and May	October
14th Cavalry	All stations	April and May	November

Due to border conditions, and their liability to cause interference with target practice, organizations upon beginning this duty should expedite it as far as possible, consistent with efficiency.

During the course of target practice troops should be trained in mounted firing with the rifle, using blank and surplus ball cartridges. This firing should be conducted to the left only, and at targets placed along a straightaway track, with forty yards interval.

From commencement until completion of target practice organization commanders will report progress to date on weekly reports for both rifle and pistol.

During this period all horses should receive one hour's exercise daily, by mounted drill or otherwise.

MOUNTED AND DISMOUNTED INSTRUCTION

(c) April 1 to August 31—when not engaged in Target Practice

Mounted: Two or more hours per day, the time consumed to conform to the demands of the exercise.

Four days per week: The trooper, platoon and squadron.

One day per week: The regiment, or largest available command.

Dismounted: One or more hours per day, five days per week.

(d) September 1 to October 31

The number of days and hours per week to be the same as in (c).

Mounted: Three days per week: The regiment or largest available command.

Two days per week: The trooper, platoon or squadron.

Dismounted: Daily, the troop.

(e) Training of Combined Arms

To be had when practicable. When not practicable to assemble the regiment, the exercises will embrace instruction of the largest command available. In the field instruction of commands larger than a troop, the time should be devoted to field exercises and problems under the direct supervision of the cavalry commander present. These should be varied and cover the entire scope of the season's training.

2. During the entire period of field training incidental instruction will be conducted as follows: Recruit drill; training new horses; packing; signalling; mounted use of the sword, pistol and rifle; field fortification; estimating distances; first aid; map making; swimming horses, etc., including a weekly

field exercise of every organization, involving a march under war conditions in compliance with par. 8, G. O., No. 17, and G. O., No. 65, W. D., 1913.

3. As soon after August 31 as practicable an inspection of each troop and squadron should be made by the regimental commander to determine the state of efficiency and the relative proficiency in field training. The inspection, if practicable, to be a competitive test.

The inspector should indicate by percentage marks the degree of proficiency attained in each detail. The result should be published to organizations.

4. During the period of annual concentration and tactical inspection by the Department Commander (par. 193, A. R.), the Brigade Commander will make, if practicable, his usual competitive test of organizations, to determine their tactical efficiency. This will include a test of the proficiency of the machine-gun troop of each regiment.

In case the brigade is not to be concentrated, this inspection and test will be made by the Brigade Commander at the close of the period of field training as heretofore.

5. The following brigade orders relate to training and inspection. Officers are enjoined to study them carefully and to apply the methods therein prescribed:

1913—G. O., Nos., 6-11-15-18-22-23-26-29.

1914—G. O., Nos., 16-17-20.

1915—G. O., Nos., 6-11-12.

1916—G. O., Nos., 1-5-6.

6. The following combat exercises heretofore prescribed, covering important features of instruction, will be continued during the approaching season of field training, and will be practiced as follows:

Exercise No. 1—Mounted attack against outlined or represented enemy: three times.

Exercise No. 2—Use of the pistol in attack: frequently.

Exercise No. 3—Mounted attack of a position: three times.

Exercise No. 4—Outposts: three times.

Exercise No. 5—Scouts; patrolling: ten times.

Exercise No. 6—Advance guard; attack by ambush: four times.

Exercise No. 7—Direct attack of a position; use of over; three times.

Exercise No. 9—Night attack: twice.

Exercise No. 10—Attack and evasion in a wooded country: three times.

Exercise No. 11—Pursuit of the rear guard by a mounted force: twice.

Exercise No. 12—Pursuing patrols: twice.

Exercise No. 13—Methods of forced marches: twice.

(Memorandum No. 6, 1915—Cavalry training.)

These exercises will be modified to conform to detachments, depending upon size.

Exercises prescribed in Brigade G. O., No. 10, 1913, should be practiced, the terrain in the locality being selected to conform to the requirements of the exercise.

7. Isolated detachments at patrol stations will receive instruction each day at hours to be designated by troop commanders; the prescribed instruction to conform to the size of detachment and nature of its duties. (G. O. 8, 1916.)

Inspection. The annual tactical inspection of field training of the brigade will be made during the months of November and December.

The inspection will include, if practicable, an observation of the efficiency of the troops in combat exercises, namely: outposts; advance guard; ambush; scouts; attack and evasion; dismounted attack of a position; night attack; methods of forced marches. In drill regulations particular attention will be paid to estimating distances; equitation; training of horses; care of horses; precision of drill; jumping of hurdles; dismounting to fight on foot; moving at fast gaits and charging; mounted attack against outlined cavalry; mounted assault of intrenchment, etc., mounted use of rifle, saber and pistol; packing and signalling. Machine-gun troops will be tested.

(G. O. 23, 1914.)

The annual inspection and tests of field training by the brigade commander will also include regimental formations; regimental exercises; dismounted action; and the employment of the regiment. The enemy will be habitually represented.

Regimental formations and regimental exercises will be practiced at every station where more than one troop is located, each troop, when necessary, acting as a squadron.

When it is possible by short practice marches to assemble two or more troops for regimental formations and exercises, it should be done.

Particular attention should be paid to the preliminary reconnaissance, which should be always made, if practicable, by the commanding officer and the principal commanders. It is also desired that the noncommissioned officers and enlisted men should, if practicable, be always informed of the nature of the attack and its principal features preliminary to the combat.

Led horses should, when possible, be in charge of an officer. Carelessness is often shown in exposing the led horses to the fire of the enemy. This officer, by riding around the position, should verify the concealment of the horses. Their position should be guarded by dismounted outposts.

In these exercises the use of entrenching tools will be illustrated; the use of cavalry in delaying action when acting as a rear guard; the protection of flanks; intercommunication and transmission of information; the use of machine-guns; reconnaissance and patrolling; practice of combined frontal and flank attacks against a nonenterprising enemy; the practice of simulated retreats, drawing the enemy into ambush, where his ranks can be swept at short range by machine-guns and rifle fire, etc., etc.

To indicate the moment of dismounted attack, the direction of the enemy's fire, etc., blank cartridges should always be used. A very small expenditure will ordinarily suffice.

(G. O. 11, 1915.)

In order to more fully comply with sections 3 and 6, par. 194, A. R., officers as a class will be examined in estimating distances; equitation; jumping hurdles; use of the pistol mounted; use of the saher mounted; hasty reconnaissance, selec-

tion and sketching of defensive positions, the locating and staking off of lines of intrenchments thereon, and the formulation of written dispositions for constructing same. They will also be examined in war games and terrain exercises.

(G. O. 23, 1914.)

PROGRAM—TACTICAL INSPECTION (Example)

1st Day—Morning: Full field equipment.

- 1—Review, concluding with charge past. (When necessary troops will act as squadrons, the rear rank being outlined only.)

Present: Complete strength of troops, excusing only one sentinel for quarters and one sentinel for stables.

- 2—Inspection, mounted, of troops and transportation.
- 3—Inspection of camp or quarters.
- 4—Talk with officers.

Afternoon:

Examination of officers in estimating distances, equitation, jumping hurdles and use of saber and pistol mounted.

2nd Day—Morning: Troops with saddle stripped, carrying saber, pistol and rifle.

- 1—Review (same as 1st day).
- 2—Regimental drill.
- 3—Mounted attack of batteries.
- 4—Mounted attack of trenches.
- 5—Dismounting to fight on foot—horses mobile.
- 6—Dismounting to fight on foot—horses immobile.
- 7—Mounted combat exercises against outlined enemy.

Afternoon: All officers.

Reconnaissance, sketching and preparation of defensive positions. (Par. 4, G. O., No. 23, these headquarters, 1914.)

3rd Day—Morning: (Same as 2nd day).

Afternoon: All officers.

Terrain exercise.

4th Day—Morning: Same strength and equipment as 2nd day.

- 1—Formation of line of outposts.

2—Dismounted attack of position.

Afternoon:

1—Use of rifle, saber and pistol by troops.

2—Estimating distances.

5th Day—Morning:

Advance guard; attack by ambush; use of scouts; attack and evasion.

Afternoon: Packing and signalling.

Evening: Night attack.

6th Day—Morning: Advance guard; attack by ambush; use of scouts; attack and evasion; pursuit of rear guard by advance guard.

Afternoon: Machine-gun troop test.

7th Day—All day: Forced march.

Test of proficiency of going into camp; promptness and proficiency in preparing meals, breaking camp and packing wagons and pack trains.

PREPARATIONS REQUIRED

1. For officers running at heads with sword: Track as required by Memorandum No. 2, these headquarters, April 9, 1915.

2. For mounted rifle practice: Straightaway track, five headposts forty feet apart with tin cans hanging four feet from center of track. Each man at gallop 16 miles per hour, firing with blank ammunition; one run shooting to left.

3. For officers: Pistol practice mounted. Good backstop; straightaway track; five targets, standing silhouettes; gait, extended gallop or run. One run shooting to right.

4. Field exercises: Commanding officers are requested to secure a large piece of ground, if practicable two or three miles long, undulating and affording cover. Each trooper to carry 30 rounds blank rifle ammunition.

5. For officers' exercises: All officers attend. Officers will provide themselves with notebook, compass, pencils, paper and field glasses.

6. For march: Rations for first quick meal.

(Mem. Dec. 9, 1915.)

VII

FIELD INSTRUCTION—MUSKETRY

For the purpose of comparing, in this brigade, the proficiency in rifle and pistol firing of its different troops, squadrons and regiments, a figure of merit will be adopted.

In rifle firing the individual figure of merit, dependent upon the accuracy of fire of the individual soldier, will be computed by multiplying the number of enlisted expert riflemen by 200; sharpshooters by 150; marksmen by 100; first-class men by 75; second-class men by 50; unqualified men by 0; and dividing the sum of the products thus obtained by the total number in the above six classes.

In pistol firing the individual figure of merit will be computed by multiplying the number of expert pistol shots by 200; first-class men by 100; second-class men by 50; unqualified men by 0; and dividing the sum of the products thus obtained by the total number in the four classes.

Officers will not be included in either classification.

The computation will be made and published at these headquarters annually.

(G. O. 13, 1914.)

CLASSIFICATION AND FIGURE OF MERIT MUSKETRY FIRING, RIFLE (Example)

The following tables show the classification and the individual figure of merit in known distance rifle practice of the troops and regiments of this brigade for 1915. The figure of merit is obtained by multiplying the number of expert riflemen by 200; sharpshooters by 150; marksmen by 100; first-class by 75; second-class by 50; and unqualified by 0.

THIRD CAVALRY

Troop	Expert	s. s.	m. m.	1st cl.	2d cl.	Unqual.	Total	Fig. of Merit
Hq. Tr.	2	3	6	1	1	1	14	112.5
A	2	5	25	7	8	26	73	62.7
B	3	14	25	4	10	20	76	78.9
C	2	11	27	10	15	16	81	77.2
D	3	10	34	17	10	5	79	92.9
E	4	20	31	13	7	1	76	108.2
F	3	11	27	16	8	9	74	88.5
G	8	11	35	9	1	5	69	108.3
H	6	10	24	12	8	16	76	84.2
I	0	11	20	18	18	3	70	84.3
K	3	10	23	13	14	3	66	92.0
L	3	10	29	15	2	8	67	92.9
M	4	16	25	9	3	8	65	100.4
MG Tr.	1	2	24	14	2	5	48	84.8
	44	144	355	158	107	126	934	

FOURTEENTH CAVALRY

Troop	Expert	s. s.	m. m.	1st cl.	2d cl.	Unqual.	Total	Fig. of Merit
Hq. Tr.	1	6	0	0	0	1	8	80.1
A	2	7	35	11	6	16	77	80.2
B	6	14	35	11	4	9	79	99.0
C	1	10	19	20	14	7	71	81.7
D	1	10	30	15	10	7	73	86.6
E	1	9	23	17	11	12	73	77.7
F	2	7	27	18	11	9	74	81.8
G	7	10	30	9	5	3	64	97.3
H	6	16	27	11	4	4	68	107.7
I	2	11	36	12	7	5	73	95.2
K	2	5	27	16	5	12	67	79.1
L	3	8	14	12	15	22	74	65.5
M	4	4	25	17	8	7	65	87.5
MG Tr.	0	5	9	5	1	5	25	83.0
	38	122	337	174	101	119	891	

FIFTEENTH CAVALRY

Troop	Expert	s. s.	m. m.	1st cl.	2d cl.	Unqual.	Total	Fig. of Merit
Hq. Tr.	5	2	5	4	0	0	16	131.3
A	4	8	29	13	4	8	66	92.0
B	5	7	32	14	5	5	68	96.3
C	8	9	31	15	3	16	82	89.3
D	6	11	33	9	3	5	67	104.2
E	15	13	26	14	4	13	85	103.5
F	22	10	17	3	9	6	67	123.5
G	7	4	6	8	6	15	46	76.1
H	13	10	32	10	7	3	75	112.0
I	12	22	27	4	1	0	66	132.6
K	3	13	30	11	9	4	70	95.7
L	2	12	34	11	10	8	77	89.9
M	0	11	29	15	5	4	64	92.6
MG Tr.	2	5	16	8	9	5	45	84.4
	104	137	347	139	75	92	894	

REGIMENTAL FIGURE OF MERIT

Third Cavalry 89.0

Fourteenth Cavalry 87.2

Fifteenth Cavalry 100.9

The summary shows the brigade qualified a total of 1,628 expert riflemen, sharpshooters and marksmen—667 more than it had in 1913, and 180 more than it had in 1914. Of these the 3rd Cavalry has 543, the 14th Cavalry 497, and the 15th Cavalry 588. The average regimental figure of merit was in 1914 83.8 per cent; in 1915 92.7 per cent.

Most of the brigade being in the field, these results were obtained largely on improvised ranges and in the face of many obstacles. They are worthy of commendation and congratulation. (G. O. 17, 1915.)

CLASSIFICATION AND FIGURE OF MERIT MUSKETRY FIRING,
PISTOL (Example of Order)

1. The following tables show the classification and the individual figure of merit in pistol practice of the troops and regiments of this brigade for 1915. The figure of merit is obtained by multiplying the number of expert pistol shots by 200; first-class by 100; second-class by 50; and unqualified by 0.

THIRD CAVALRY						
TROOP		Expert	1st class	2d class	Unqual.	Total
Hq.	Tr.					Fig. of Merit
Hq.	Tr.	4	2	0	35	41
A		15	12	25	21	73
B		13	20	17	26	76
C		15	17	18	31	81
D		11	16	35	17	79
E		13	0	13	50	76
F		4	0	10	60	74
G		15	13	7	34	69
H		5	22	15	34	76
I		15	0	0	55	70
K		17	19	18	12	66
L		8	13	21	25	67
M		27	15	10	13	65
MG Tr.		17	20	4	7	48
		179	169	193	420	961

FOURTEENTH CAVALRY

TROOP	Expert	1st class	2d class	Unqual.	Total	Fig. of Merit
Hq. Tr.	3	6	5	20	34	42.6
A	21	9	0	42	72	70.8
B	8	17	32	20	77	63.6
C	10	8	33	18	69	67.1
D	23	34	7	9	73	114.4
E	4	29	17	23	73	62.3
F	10	8	25	31	74	54.7
G	10	11	30	10	61	75.4
H	16	12	31	8	67	88.8
I	28	2	25	17	72	97.9
K	9	2	26	49	66	34.8
L	19	0	10	45	74	58.1
M	7	22	21	15	65	71.5
MG Tr.	9	7	6	1	23	121.7
	177	167	248	308	900	

FIFTEENTH CAVALRY

TROOP	Expert	1st class	2d class	Unqual.	Total	Fig. of Merit
Hq. Tr.	5	7	14	18	44	54.5
A	2	8	30	24	64	43.5
B	5	19	21	25	70	56.4
C	6	19	24	33	82	52.4
D	7	15	24	23	69	59.4
E	14	7	11	53	85	47.6
F	6	11	18	38	73	43.8
G	4	3	16	39	62	30.6
H	5	7	37	29	78	45.5
I	6	5	30	25	66	48.5
K	10	7	28	21	66	62.1
L	20	18	16	21	75	88.0
M	24	21	12	13	70	107.1
MG Tr.	11	16	11	7	45	96.9
	125	163	292	369	949	

REGIMENTAL FIGURE OF MERIT

Third Cavalry 64.9

Fourteenth Cavalry 71.7

Fifteenth Cavalry 58.9

2. Thus the regiment having the highest figure of merit is the 14th Cavalry, with a percentage of 71.7. The troop having the highest percentage is Troop D, 14th Cavalry, with a figure of merit of 114.4 per cent.

The following troops have a figure of merit of over 100 per cent.

Troop M, 3rd Cavalry	113.8
Troop D, 14th Cavalry	114.4
Troop M, 15th Cavalry	107.1

3. The brigade qualified a total of 481 expert pistol shots, 208 more than it had in 1914. Of these the 3rd Cavalry has 179, the 14th Cavalry 177, and the 15th Cavalry 125. The average regimental figure of merit was in 1914 38.4; in 1915 65.2.

VIII

FIELD INSTRUCTION—COMBAT EXERCISES

GENERAL RULES

The field instruction of a cavalry command is greatly facilitated by practice in combat exercises.

Combat exercises are especially adapted to the training of cavalry. They deal with small commands. In the duties of reconnaissance and widespread action which devolve upon cavalry in time of war, small collisions continually occur. It is therefore more necessary that junior cavalry officers should be able to handle troops efficiently in combat, than it is for the junior officers of infantry, which arm as a rule very seldom fights in small detachments, or moves independently.

It is very necessary that there be practice in combat exercises for cavalry as a preliminary to grand maneuvers. As a training for war they are in many respects superior to maneuvers. A maneuver is too often largely a map problem, and the conditions are too often so arranged that troops in a certain formation shall inevitably meet at a certain time and place, resulting in a certain engagement. More than one situation seldom occurs during the maneuver which demands a halt and the interposition of the umpire. If the troops are badly handled the junior officer and the soldier sometimes receive false impressions as to conditions in warfare, which impressions, going uncorrected, result in the maneuver doing him harm rather than good. In a Combat Exercise, on the other hand, there is a succession of situations which demand a decision of the umpire; after each decision the exercise proceeds. The soldier, as well as the officer, thus learns by constant repetition the correct manner of performing his duty when on the march, in action, in pursuit, or in retreat.

When one sees what gross mistakes are committed by officers and troops when practicing Combat Exercises for the first time, in the manner of handling troops in action, in the failure by commanders to control or coördinate the work of detach-

ments, in lack of team work or support between detachments, in unnecessary exposure of troops to fire, in failure to use cover to conceal troops or their led horses, in the lack of proper scouting and reconnoitering, in the failure to transmit information, one is impressed with the fact that frequent practice in details of field instruction, even more than practice in the minutiae of drill, is imperative to fit a command for war. Many of these details can be learned and thoroughly inculcated by Combat Exercises. To the officer and men they teach the use of ambush and of flank attacks; the value of mobility; the comparative value, in various situations, of mounted and dismounted action; fire discipline; conservation of ammunition; the necessity for security and information while on the march and in combat. They also teach quick judgment and comprehension as to ground, cover, and the necessary action of troops.

All these acquirements are indispensable to the competent cavalry commander. In time of war they are usually learned at the cost of great losses of men and horses in killed and wounded. It is claimed that by a proper course in combat exercises much of this loss may be avoided.

The combat exercise is also useful as a test. It enables the brigade commander to discover and point out deficiencies in the field instruction of the troops. It also gives an opportunity for officers of talent to distinguish themselves. It enables the commander, in war, to select officers of peculiar efficiency in the field for important missions.

One requisite for successful combat exercises is blank ammunition. This in amount should be sufficient merely to indicate positions by a slow fire. There are occasions where for blank ammunition can be substituted the waving of small signal flags; but this is not so satisfactory. Horses should be previously accustomed to firing, in order that at these exercises they may not become unduly excited.

In certain of these combat exercises limitations are imposed as to rate of march, limits of action, distance of scouts from main body, dispersion of command, etc., etc. These limita-

tions are requisite to make the exercise possible. While they would not always be imposed in actual war, there are often, in war, occasions when conditions necessitate them, and they must be cheerfully accepted. In other words, officers and men must "play the game."

GENERAL RULES FOR COMBAT EXERCISES

The following rules should regulate the conduct of officers and men at Combat Exercises and Field Maneuvers. (See also Pars. 185 and 141, F. S. R., and Pars. 664-762 C. S. R.)

The Commander

The commanding officer of the troops and his staff officers should wear on the arm or cap a band or other device in order to be readily distinguished.

The commanding officer should be supplied liberally with aids, orderlies, messengers and trumpeters.

His position in small commands should be near the front of his command.

He should always be in communication with every part of his command and with his chief of scouts. He should demand constant reports from his scouts.

His command should not be scattered, but should be under his direct control, and the detachments of his command should be in a position to always support each other.

As far as practicable he should make his subordinates, including his men, acquainted with the nature of his plans. In order that he may profit by their suggestions he should frequently consult his officers, either by conferences or otherwise.

When practicable he should always personally reconnoiter the enemy's position before attacking.

He should not lose control of his artillery and machine-guns.

He should as a rule adopt the simplest form of attack, keeping his troops well together and profiting by the mistakes of his enemy. He should avoid making combined attacks by widely separated detachments.

He should never attack when the probable gain will not offset the probable loss, nor should he attack when victory will cripple

ple his command to such an extent as to make it useless for further operations.

The Mounted Attack

The principal occasions for the mounted attack are when a surprise can be made at close range; when hostile cavalry forces meet each other unexpectedly; under circumstances where dismounting to fight on foot is undesirable or impracticable. At short ranges it is sometimes safer to charge foot-troops mounted than to attempt to dismount or retire in their presence. It is also a question of the weapon and of moral effect. Against foot-troops the pistol or the rifle should be used; against mounted troops, preferably, the saber. A great expenditure of horseflesh in action is to be avoided. As a rule the rifle is the most important weapon, and the horse is most valuable for the mobility it gives the troops.

Conservation of Horses

Since as a rule the fighting of cavalry is dismounted and the horse is used principally for mobility on the march and in taking position, and since the loss of the horse destroys the value of cavalry, every means should be utilized to conserve his life and efficiency. Cavalry troops at a halt under artillery or rifle fire should instantly disperse and, if possible, take cover from fire and from observation. Moving cavalry can escape the effects of artillery and long range musketry fire by dispersion, or by filtering troopers one by one at a fast gait across a bullet-swept space. If it can be avoided, cavalry should never dismount under a close fire of musketry; if cover is to be had immediately in rear, they should gallop to the rear, preferably in dispersed order, and having reached cover they re-form and dismount before moving forward to the attack. It sometimes happens that cover for the horses can be found to the front, in which case it should be taken advantage of, if it can be done without undue loss. Troops approaching the firing line mounted should always be preceded by special combat patrols. The act of galloping up on a ridge and dismounting while under fire of the enemy cannot be too strongly censured, since

under these circumstances the slowness of dismounting and moving the led horses to the rear exposes the animals to numerous casualties. Dismounting and firing while holding the reins should never be indulged in except against a fleeing enemy, or when not exposed to rifle fire.

Led Horses

Great care should be taken for the safety of the led horses. An officer should invariably be in command. His duty should be to move the led horses rapidly to the nearest cover. In case they are under fire, the movement should be made in dispersed order. On reaching cover he should see that they are concealed. When necessary to further hide their position the horse-holders should dismount. That they are concealed should be carefully verified by the officer. To accomplish this he should make an inspection, moving around their flanks mounted, and again on foot. He should establish outposts to protect the led horses, and files to connect the led horses with the firing line. If at a distance, the led horses should have a special guard. In case the led horses cannot find cover from fire, but only cover from observation, he should so disperse them behind trees, buildings, etc., that they cannot be seen from the front. He should be ready at any time, if ordered, to reinforce the firing line by linking his horses, head to tail, and sending the spare troopers to the front.

When necessary to dismount under fire the casualties among led horses are much diminished by quickness in dismounting and in sending the animals to the rear. To accomplish this troops should be trained to dismount and get into action by methods quicker than those heretofore indicated in the drill-book. The command should be simple, as: "Action Front: Commence Firing." The dismounted troopers should rush to the front and commence firing at once, in order that they may keep down the fire of the enemy. The horses should be trained to dash to the rear as soon as they are taken charge of by the horse-holders. The horses in an emergency should not be linked, the reins being merely passed to the horse-holders.

Order in moving to the rear is not necessary. It is better that they move in fan-shaped formation, or in line, each horseholder moving without regard to the other fours. Arriving under cover the column may re-form.

Scouts

Scouts should move in groups of three, one acting as non-commissioned officer in charge. The principal faults of scouts are:

Moving out too far from their commands, by which they lose touch, are in danger of being cut off, and their reports are received too late to be taken advantage of.

Failure to move out far enough, whereby the head of the column is exposed to ambush, and the information received is inadequate.

Failure to send back information. Reports should be made at regular intervals, whether there is anything to report or not.

Falling back hastily on the command in case of a threatening movement of the enemy. Scouts should always remain in touch with the advancing enemy.

Blanketing the fire of lines by remaining in front when the fire is opened.

Engaging in combat with the enemy, or with opposing scouts.

Scouts should never fire except as a signal to indicate the danger of a surprise.

Failing to conceal their presence from the enemy.

Failing to dismount when in a stationary position to observe the enemy.

Dismounting aids concealment.

In reporting, a failure to state the exact position and number of the enemy, whether a platoon, troop, squadron, etc.

Where ambush is feared, a failure to observe signs and marks on the road, horsetracks, the trail of detachments, etc.

Scouts should never be withdrawn from their proper duties to be used as combat detachments, to mislead the enemy, etc.

Neighing horses should not be used by scouts.

The Firing Line

Officers with the firing line must take cover, otherwise in action they draw the fire of the enemy.

In combat exercises officers who expose themselves should be ruled out. Failure to dismount under fire is fatal.

Exposure of skirmishers when on the firing line must be avoided when by moving to the front or rear cover may be obtained.

The men should be taught by preliminary exercises how to conceal themselves in looking over a rise of ground. They should make use of brush (and if necessary cut it for the purpose), tufts of grass, etc. It often happens that taking off the hat aids concealment.

Do not change the position of line unnecessarily, for this often gives the enemy a target.

In making an advance to cover reconnoitered beforehand, the movement should be made at full speed. The position where the line should halt should previously be explained to the men. When necessary the men should be filtered from one position to another over open ground individually, obliquely or by zig-zags.

Conservation of ammunition should always be practiced, the officer in command always knowing whether the first, second, third, fourth, etc., clip is being used. When ammunition is scarce, or when conditions require it, firing should be conducted by the commands: "No 1; Fire one Round; Commence Firing"; "No. 2; Fire one Round; Commence Firing," etc.

The distance to the enemy should always be carefully estimated and given. The best method is to obtain the mean of several estimates made by the most reliable noncommissioned officers. When at combat exercise, firing, when properly conducted, is the best kind of musketry training. It teaches the men to distinguish and make out the heads and bodies of the enemy when at a distance; to locate the proper point on the ground or on the enemy's body at which to aim. The men should be required to draw a bead on the point aimed at, and pull the trigger slowly. Except at ranges between 400 and

600 yards, the rear sight should be raised. Commanders of troops fighting defensively should appreciate the fact that the apparent area of a target, and therefore the chances of hitting it, diminish as the square of the distance, and that it is one hundred times as hard to hit a man at one thousand yards as at one hundred yards. Therefore if the ground to the front is level and without cover, it is better to await the close approach of the enemy before opening fire, since in the retreat he is likely to suffer seriously. Troops firing at horsemen galloping across the front should realize that it is necessary to aim a horse's length in front of a horse at an extended gallop at a distance of 300 yards; two horses' lengths at 500 yards, etc.

In fighting retarding actions withdrawals under fire should be concealed as much as possible, otherwise the enemy will rush the position before it is completed. Shouting and the use of the whistle, galloping, etc., should be avoided. The men should sneak back quietly in small detachments, the remainder increasing their fire. Mounting and moving off should be done quietly. A few men should remain in position until the command has moved to the rear. In the presence of the enemy, in dismounted fighting, the guidon should always be cased. The fighting line should always be protected by outposts on the flanks. A special detachment should be detailed to fire on the enemy's machine-guns. Men should be practiced in crawling while lying flat on the ground. Also in scraping and digging to get cover, in ground that is favorable. Passing orders must be practiced by word of mouth from man to man. Machine-guns should be always placed behind brush, natural or artificial.

(G. O. 6, 1916.)

COMBAT EXERCISE No. 1

The Mounted Attack of Cavalry against an Outlined or Represented Enemy

1. The terrain selected for this exercise should admit of free movement, but have frequent cover. If cover is not available, it should be simulated.

The exercise may be practiced by a force of cavalry in size ranging from two troops to a regiment, or brigade.

In preparation for this exercise the horses of the command should be so trained that when moving at an extended gallop they can be pulled up within 30 yards.

The gaits employed in the advance to the attack should be the trot, gallop and extended gallop. In the attack itself, to prevent dangerous collisions, the gait should not be faster than the extended gallop. To accustom the horses to the exercise it would be well to practice it at first at the trot.

A force of scouts under a chief of scouts should be employed to cover front, flanks and rear. They should move in groups of three, one scout acting as noncommissioned officer in charge of each group. The scouts should combine the duties of "combat patrols" and "ground scouts." To facilitate this exercise the scouts should at all times keep within 150 yards of the command.

The Outlined or Represented enemy should be placed under the command of a capable officer.

In describing this exercise the main force will be designated as "Blues," and the Represented enemy as "Reds."

2. The exercise commences with the Blues moving at a walk over a predetermined route, the Reds concealed under cover. The formation adopted by the Blues should be such as will enable it readily to maneuver in attacking formation to the front, flank or rear. Supports should be employed.

In order that mounted action, exclusively, shall be used, attacks should be made at short range. The approach of the Reds being signalled or reported by the scouts, the Blues turn in that direction. On the appearance of the Reds the Blue commander gives the signal for the attack. Both Reds and Blues take up the increased gaits, pulling up so that the line will halt before collision. The umpire then sounds the halt and officers' call; and the exercise is discussed. The umpire explains the defects of the charge, suggests improvements, etc.

3. It will be found on practicing this exercise, that from the moment when the attack is sounded further maneuvering of the

command as a whole is impracticable. The officer in command must practically give up control, until after the collision, to the commanders of troops. Squadron and troop commanders, on the other hand, while leading their troops so as to strike at a vulnerable point of the enemy, must at the same time support each other and move so as to carry out the main object of the attack. If a troop is on a flank and exposed to a flank attack, it should front toward the enemy. If it is where it can make a flank attack with advantage, it should do so. If it overlaps the enemy's line and can envelop it and attack it in rear, it should do so. If, on the other hand, it is threatened with attack from the rear, it should repel such attack. In the same manner platoons which at the moment of collision find themselves overlapping the enemy's line should wheel around in such manner as to envelop it, and attack the enemy's troops in their rear.

4. Generally speaking, it may be said that from the moment that the attack is sounded troops should be moved independently, at the same time supporting each other; and at the moment when the collision is imminent, or has taken place, the *Platoons* of each troop should move independently, supporting each other, but remaining near the guidon.

5. After the attack is sounded the principles of leading should be carried out to their fullest extent, the men following their troop and platoon leaders. The guidon should follow the captain and be a rallying point for the troop; the squadron flag should follow the squadron commander and be a rallying point for the squadron.

6. In the advance to the attack at the trot or gallop, the opposing forces, when possible, should maneuver and change direction with a view of gaining the enemy's flanks.

7. When the discussion has been concluded time is given for the Reds to seek cover, when the Blues continue their march.

8. The attack of the Reds may occasionally, for the sake of variation, be made in swarm formation, the Reds galloping in extended order by the flank around the Blues and discharging their pistols or rifles. Or the attack of the Reds may be

begun from such a distance that it can be opposed by the Blues by dismounted rifle fire.

9. The exercise may be varied by having either the Reds or Blues recoil after the collision, the opponents to follow in pursuit.

10. Instruction in this exercise should be progressive. Primarily the commander should explain exactly how the attack by the Reds should be made, and how met by the Blues, and the reverse, practicing these attacks front, flank and rear, first at the trot and then at increased gaits. When officers and men thoroughly understand the principles involved they will be practiced without any warning of the approach or position of the enemy other than by reports of scouts, or by the enemy coming in view.

11. It is found that the practice of this exercise is a necessity if cavalry is to be prepared so that it can be handled in combat. Flexibility, independence of units, mutual support, and team work are taught by it. Without these things the attack can never be a full success. The exercise also teaches leading, the use of scouts and use of cover. It gives an object lesson which enables officers and men to judge of the advantages and disadvantages of different formations, and of the comparative value in mounted combat of the saber, pistol, and rifle.
(G. O. 3, 1916.)

COMBAT EXERCISE No. 2

The Use of the Pistol Against an Outlined or Represented Enemy

1. The pistol is a valuable adjunct to the mounted cavalrman. It is a formidable weapon when used properly. This is demonstrated by the records of the American Civil War. The present automatic pistol is a much superior weapon to the revolver, then in use.

2. We employ much time gaining accuracy with the pistol at target practice mounted and dismounted, but it remains to formulate a proper system of using this weapon in action.

3. In the shock attack, riding boot to boot, the pistol cannot be used. The use of the saber is essential. It is only necessary to practice the Combat Exercise entitled "The Mounted Attack of Cavalry Against an Outlined or Represented Enemy" to discover that at the conclusion of a charge troops are so intermingled by flank movements, overlapping movements, rear attacks, and the movements of supports and reserves, that this long range pistol, if used, will endanger the safety of our own men.

4. The pistol is a weapon for open order work. It is necessary to formulate a system of training that will enable us to use it in open order formations without confusion or danger to our own men, and with deadly effect to the enemy.

5. In considering its use by small bodies of troops, commencing with the platoon, we find there are, generally speaking, three methods of attacking.

First: The Swarm Attack, where the troopers, in open order, approach the close formations of the enemy and then flee from them, remaining a short distance in front of them and firing to the rear.

Second: The Encircling Attack, where the troopers circle around the close formation of the enemy, firing into their ranks.

Third: The Direct Attack, where the troopers, in open order, charge the enemy's lines, or columns, and ride through them.

To instruct in these various methods of attack the platoon can best be used.

6. *The Swarm Attack:* If the hostile cavalry is in close order and about to charge, a swarm attack can be used with advantage. The platoon, in open order, directed by its commander, who takes his place in the center, moves rapidly to the front at the command: "Raise Pistol; Swarm Attack; As Foragers; Gallop March." When near the advancing enemy the chief gives the command, or signal, for moving to the rear. The troopers halt their horses, turn them on their haunches and gallop to the rear, riding in front of the enemy in close range (ten or more yards), and fire into his ranks.

7. *Encircling Attack*: If the enemy is in close order and it is desired to harass his columns and break up his formations, using a small force, such as a platoon, the encircling attack may be used with advantage. The command is given: "Raise Pistol; Encircling Attack; As Foragers at Ten Yards Interval; Gallop, March." When near the enemy the chief of platoon commands: "By the Right (Left) Flank; March; Follow Me," and leads the platoon in column of files at eight yards distance along or around the enemy's column, the men firing into his ranks.

8. The Direct Attack is also executed in line of foragers. The command should be given: "Raise Pistol; Direct Attack; As Foragers; Gallop March." Troopers should wait until they are within a few yards of the enemy and then use the pistol, shooting to the right or left; never over the horse's head. This form of attack is particularly useful against artillery, convoys, led horses, and irregular infantry.

9. The pistol attack finds particular application as follows:

In the work of patrols. (Swarm Attack; Encircling Attack; Direct Attack.)

When attacking close order formations of hostile cavalry, superior in force, and who depend on the saber or lance, to break up their order and throw them into confusion, so that they may be open to the attack of the main force. (Swarm Attack; Encircling Attack.)

In pursuing fleeing troops: (Encircling Attack; Direct Attack).

In attacking infantry: (Direct Attack; Encircling Attack).

In attacking artillery: (Direct Attack; Encircling Attack).

In attacking convoy: (Direct Attack; Encircling Attack).

In attacking led horses: (Direct Attack; Encircling Attack).

To delay pursuit: (Swarm Attack; Encircling Attack; Direct Attack).

To charge through the enemy's lines and escape: (Direct Attack; Swarm Attack).

10. Troop commanders must train their men carefully in practicing these attacks, employing an outlined or represented enemy. Squadron and regimental commanders should also make use of this Combat Exercise. In no other way can the full value of the pistol be discovered or demonstrated. It will be found that a great advantage that the pistol has, when employed by troops in open order against troops in close order, is that the individual trooper has in his enemy an immense target; whereas the enemy, if he attempts to reply to the fire, has great difficulty in utilizing his full fire, and has a much more difficult target.

11. It should be clearly understood that what is said here of the pistol applies also to the rifle, which, when used on horseback, is found to be fully as efficient as the pistol. Further, the rifle can be utilized when pistol or pistol ammunition are lacking.

12. For more complete details as to methods of using the pistol, see the article in the *Cavalry Journal* of October, 1915, by Captain H. S. Hawkins, of this brigade.

COMBAT EXERCISE No. 3

Mounted Attack of a Position

1. It sometimes happens that a position may be taken with minimum loss by advancing at full speed in extended order, mounted, dismounting and attacking on foot when the enemy is reached. Some advantage of this mode of procedure are: by means of it a bullet-swept space of, say, 500 yards can be crossed in one minute, instead of by a slow approach; the enemy must fire on a moving target; the target, while larger than a dismounted man, is, when the horse is end on, only a little more than twice as large as that of the footman; the fact that at least a portion of the force is likely to reach the trenches, resulting in hand to hand fighting, is liable to disconcert the enemy.

2. To accomplish this mode of attack properly demands special conditions and special peace training. While it is desirable that charging cavalry shall start behind cover, it is not

likely, even on an open plain, that serious casualties will be felt until the charging force arrives within 600 yards. The best formation would seem to be a succession of lines of foragers following at distances of 300 yards.

3. The Boers in South Africa adopted this form of attack with success. On reaching the trenches they turned their horses loose and the horses were trained to stand. While this plan may work with ordinary cavalry, there is some danger of a stampede. To prevent this the men of each four on nearing the enemy's trenches should close in on the horse-holders. On arriving at the trenches all dismount, including the horse-holders, and throw the reins over the horses' heads on the ground, which are immediately gathered up by the horse-holders, the other troopers rushing to the front with their rifles and attacking the enemy. The first line of foragers is followed by a second line at 300 yards distance, and that by succeeding lines. All gallop up to the position of the horses of the leading line and dismount, reinforcing the leading line.

4. The conditions desirable for success are surprise, level ground free from obstacles, and a foe inferior in morale.

5. Before this form of attack will be available for use in war, proficiency must be obtained in its details by due practice. A portion of the command should act as an outlined or represented enemy, protected by obstacles, firing blank cartridges at the force as it advances, and retreating hastily as the troopers dismount for the assault on foot. The exercise will be concluded by a discussion. (G. O. 5, 1916.)

COMBAT EXERCISE NO. 4

Outposts—The Regiment

(See Field Service Regulations, pp. 76-89)

Cordon System. Normal Formation

The line of resistance occupied by the support of the line of outposts must be far enough from the main body to protect it from the artillery fire of the enemy (about 3000 yards) and near enough for reinforcement by the main body. It must occupy ground favorable for defense.

Assuming that the strength of the outpost is fixed at 300 to 400 men to the mile, the special problem in this exercise is with the three squadrons to outpost a line of one and one-half miles in length, each squadron occupying one-third.

Each squadron will furnish one reserve (of two troops), two supports (each of one troop), and each support will furnish three (or more) outguards, each outguard to be a set of fours consisting of a corporal or acting corporal and three privates. Each support will be large enough to furnish two reliefs for outguards, guards for led horses, cooks, helpers, etc.

In addition there will be taken from the reserve and supports such detached posts and patrols as may be desirable.

The regiment in column of fours moves in rear of the line of resistance and parallel to it (if practicable, behind cover). The colonel gives the command "On left into line of outposts, MARCH."

At the command, which is repeated by the squadron commander of the leading squadron, the captain of the first troop commands "Fours left, MARCH."

The first troop leaves the column and when on the line of resistance the captain commands "First platoon, line of outguards (at so many yards' interval), Guide left, MARCH."

At this command, repeated by the chief of the first platoon, it deploys (as in line of squads). The remainder of the troop halts and afterward is posted, as a support, on the line of resistance.

The second troop, when it arrives opposite the left of its place in line, deploys in the same manner.

The third and fourth troops of the squadron are conducted to the position of the squadron reserve, in rear of the center of its line of outguards.

Each of the other squadrons, when it has arrived at its position, deploys in the same manner.

This movement may similarly be executed to the right.

Normally the interval between outguards will be 150 yards, the distance between the outguards and the supports will be 600 yards, and the distance between the supports and the reserves

600 yards. These distances and intervals may be increased or decreased when necessary.

The outguards, supports and reserves having been posted, the necessary patrols and detached and connecting posts will be established.

The outguards will, as a rule, after reaching their posts, dismount and send back their horses to be taken care of by the support. The supports and reserves will dismount, their horses being placed under cover. No horses will be unsaddled.

As soon as the outpost line is formed, the task of perfecting the line will be begun; sentries and outguards will be placed where they have a field of view but cannot be seen; the positions of supports and reserves, if necessary, readjusted; sentries inspected for orders; instruction in outpost orders given by officers and qualified sergeants; intrenchments dug, etc.

For instruction outguards should be relieved every 20 minutes, and supports and reserves exchange places every hour; officers of the day appointed and lines inspected continuously by the colonels, majors and subordinate officers.

In general, the sentry's orders include limits of post; "See without being seen"; position of neighboring outguards, detached posts, patrols, connecting posts; probable lines of approach; what to do when stranger approaches; countersign, etc.

If an attack of an outlined enemy is simulated the line of resistance may be occupied in force, the outguards falling slowly back to that line and the reserve moving up.

This exercise can be practiced by squadrons and troops.

(G. O. 13, 1913.)

COMBAT EXERCISE No. 5

Scouts and Patrols

In connection with the service of security and information, soldiers should receive instruction as scouts.

Patrols should be composed of trained scouts, selected for their trustworthiness, intelligence, quickness, aptitude, and

experience. They should be good riders, good shots, skilled in woodcraft, and able to read a map.

Each troop should have 9 men including 2 noncommissioned officers thus trained.

In training scouts the following details should be kept in mind:

1. Scouts should work together in threes, one to hold horses, another to reconnoiter; one to remain watching the enemy, another to carry the report; one to reconnoiter in front, another in rear, etc.

2. Scouts should see without being seen. They should be able to sneak about the country on foot or on horseback. They should always, if possible, move under cover. In open country they should avoid the sky line. They should be able to precede a command, and discover the enemy and give information as to his whereabouts without being discovered.

Whenever necessary to go over a ridge, the scouts should first peer over, dismounting if necessary. If necessary, to pass within sight of the enemy a dark background should be selected.

3. Scouts should be instructed in the ability to always tell the points of the compass, to estimate distances, to remember land marks, and make use of them, to follow the trail made by men, animals or wagons, with facility; to ascertain by indications the number of horses, footmen, etc.; to ascertain the gait taken by the hostile party, the time that has elapsed since they passed. When at a distance they should be able, when in sight of the enemy, to estimate his strength in men, guns, etc.; to make clear, precise reports, written or verbal; to make rough sketches of positions; to find fords in rivers; to reconnoiter towns, etc.

4. Scouts, when at a distance and when they see the enemy, may signal the fact by riding rapidly in a circle; if close at hand and an immediate attack is expected, by firing a shot.

5. Scouts should always be under control of the chief. In the immediate presence of the enemy scouts and patrols should keep in touch with the main body. In mounted combat ground

scouts and combat patrols should rejoin before the final collision. Scouts and small patrols should never fight when fighting is avoidable. Their one duty is to obtain information.

6. The following exercises are recommended:

(a) To trail a hostile detachment. This exercise should be conducted first on a day when the ground is damp, afterwards when the ground is dry. The detachment to have a good start. To follow the trail to the end, ascertaining when the detachment trotted or galloped, when it walked, when it dismounted, the number of men and horses, etc. To do this without being discovered by the enemy. To discover the hiding-place of the enemy, if possible, without being seen. To send back a report.

(b) To ascertain the position of a hidden detachment which is in camp and has unsaddled and built a small fire, and has a lookout. To do this, if possible, without being seen. To surprise the detachment before it can arrange for defense against attack. To send back a short, precise report.

(c) By a stealthy approach under the cover to discover, without being seen, how many persons are in a certain place, as, a farm or hamlet, returning and making a report accompanied by a sketch.

(d) Unseen to penetrate a line of outposts, returning with sketches and information as to position and size of outguards, supports, reserves.

7. In these exercises the chief of scouts will accompany or watch the detachment and correct all errors.

8. For reference, Powell's "Aids to Scouting" and DeBrack's "Cavalry Outpost Duties," are recommended.

Instruction in scouting can be greatly facilitated by indoor demonstrations, using pictorial representations of country.

(G. O. 16, 1913.)

COMBAT EXERCISE No. 6

The Attack by Ambush—Dismounted Action

The Reds, one or more troops, are hurrying by a forced march over a predetermined route. Being in a close country,

and for the purpose of this exercise, all men of flankers, advance guard and rear guard must be within 100 yards of the main body.

The Browns, a troop or detachment, are aware of this movement and undertake to ambush the Reds as often as possible without committing themselves to serious action. To make sure of the attack, the Browns must be concealed if possible, they must have a good position with a line of retreat so that they can get away in the first moments after the surprise; they should be where they cannot be ridden down.

Different methods of conducting the ambush are:

To so thoroughly conceal the force that it is passed by the scouts.

To hide outside of the range of the scouts until opposite the main body, then rush forward to a position near the enemy's flank or rear and pour in a hot fire before the line can be formed.

To detach a portion of the Browns to attract the attention of the Reds to one side and make the attack on the other.

If, under these conditions, the Reds are attacked by the Browns under cover, firing at a distance of 100 yards or less, before the Reds can dismount and open fire, the Reds are defeated. Otherwise the attack is a failure.

Prompt methods of dismounting and deploying must be practiced.

At the conclusion of each attack the Browns will have ten minutes to move off, and will repeat the ambush.

On arriving at the end of the route the command will move over the route in the opposite direction, another troop being designated to act as the Browns.

The commanding officer may act as umpire.

No shots will be permitted at a distance of less than 50 yards.

No charging will be permitted.

This is an exercise in partisan warfare; in the surprise; in the individual duties of scouts; and in quickly forming up to meet a sudden attack.

This exercise can be practiced by single troops.

(G. O. 16, 1913.)

COMBAT EXERCISE No. 7

The Direct Attack of a Position—The Regiment, Dismounted

Enemy, Infantry in trenches, outlined.

Direct attack necessary, flank attack not possible.

Counter attack (inferior in numbers and morale) not practicable, unless attack is defeated.

Terrain, slightly rolling, occasional cover.

Elements of the Problem:

1. The position of the enemy having been discovered by the advance guard, it and the main body is fired upon by the outlined enemy.

2. The regiment being supposed to be in a brigade, the limits of the fighting front will be strictly defined, and will extend 200 yards on each side of the center of the attack for each of the two squadrons forming the firing line. In the attack there will be, first, a line of scouts, next a firing line, next the squadron supports, next the squadron reserve, next the third squadron disposed in a firing line, followed by supports and reserves.

The provisions of Drill Regulations will be carefully studied. If desired, the squadron supports and reserves may be merged in a single line following the firing line.

3. The object of the advance is to bring up within "rushing distance" of the enemy's position, with as little loss as possible, a force sufficient to take it by assault. This "rushing distance" must be, if possible, less than 100 yards—a charge of over 100 yards exhausts the attacking party.

4. To accomplish this, three things are necessary: (a) A quick movement to preserve the enthusiasm of the men. (b) The greatest possible use of cover. (c) Superiority of fire to keep down the enemy's fire.

5. Rushes should be always, if possible, from cover to cover, the officers selecting the ground before giving the command. The rush should never be more than 30 yards. Within that

limit the length of the rush may be greater at long ranges, where the fire of the enemy is inaccurate, than at short ranges, when it is deadly.

6. In the rush of 30 yards the skirmisher presents a target for 15 seconds, allowing of three well-aimed shots. In the rush of ten yards the skirmisher presents a target for but 4 seconds, which is not enough for one well-aimed shot. In an oblique rush, the target moves apparently across the line of fire, adding to the difficulty of hitting it. The rush should be always made at full speed. Usually, the movement forward of the firing line should be from left to right, or vice versa, so that the fire of the line will not be masked. The firing line should be followed by the other lines at distances depending on the available cover and the extent to which the ground is swept by the enemy's bullets. Three hundred yards should be the maximum distance, when practicable.

7. As soon as the lack of cover makes further advance difficult, the first line will begin the construction of hasty intrenchments. These will be continued by the lines following.

8. This being principally an exercise in the use of cover, the greatest care will be taken to make the advance with the least possible exposure, due attention being given to the necessity for the quick attack conforming to the movement of the brigade and division supposed to be posted on the right and left.

9. To enforce the use of cover the outlined enemy will be represented by a force of twenty men, good shots, to be posted in the position which is being attacked. These men, under the supervision of the Umpire, will fire blank cartridges at any exposed skirmishers.

At suitable intervals the attacking line will be halted and a proportion of the men who have exposed themselves ruled out.

The signal for halting the line will be the raising of a flag by the Umpire. No shots will be fired by the attacking troops.

The exercise will be concluded by a discussion and criticism.

(G. O. 24, 1913.)

COMBAT EXERCISE No. 8

The Troop Attack of a Position, Dismounted, Using Supports, but not a Reserve

1. The troop, mounted, will be conducted under cover by the inspector to the point from which the movement is to be commenced. The troop is supposed to have 100 rounds of ammunition per man. Arms: rifle, saber, revolver. Saddles full packed, except bed blankets, underclothes and overcoat.

2. The limit of ground, within which the attack may be made, will be indicated by the inspector.

3. The enemy, of strength equal to attacking force, will be infantry of inferior quality, in trenches, with an interval of 6 inches between men. They will be on the defensive, but not expecting an attack and not aware of the presence of the troop. The enemy is in position on the edge of impassable ground, extending at right angles to line of attack, making flank or rear attacks impracticable.

4. The usual reconnaissance by scouts will be made. The troop commander will then be required to make a personal reconnaissance and on return to write an estimate of the situation and his orders for the attack.

5. The attack will not necessarily be pushed to a conclusion.

6. Fifteen minutes will be given to reconnaissance by scouts; fifteen minutes to reconnaissance by commander; fifteen minutes to drawing up order and communicating it to men and officers; one hour to the development of the attack.

7. The manner in which the exercise is performed will be marked as follows:

(a) The written order. The extent to which men are verbally informed as to the intentions of the commander.

(b) The reconnaissance and report of the scouts.

(c) The reconnaissance of the troop commander.

(d) Dispositions to secure the flanks, rear, and led horses.

(e) The deployment.

(f) Manner in which the command is kept in hand.

(g) The handling of supports.

(h) Skilfulness in making use of cover; exposure of men.

- (i) Correctness in estimating ranges.
- (j) The use made of fire of position. (Par. 184, S. A. F. M.).
- (k) Control of fire; as to amount at different ranges; as to economy; as to character; as to correcting sights. (Par. 188, S. A. F. M. Remembering that accuracy of fire increases inversely as the square of the distance.)
- (l) Construction of trenches when necessary.
- (m) Time. The mark will be reduced for undue delay, or undue haste.
- (n) Strength of troop turned out.

(G. O. 12, 1913.)

COMBAT EXERCISE No. 9

The Night Attack

1. The object of the night attack is to take advantage of obscurity; the attacking force thus reaching a point within close proximity of the enemy without suffering undue loss.

(NOTE.—The obscurity of a fog, or a heavy downpour of rain, occurring during the daytime, may occasionally be made use of in the same manner.)

Generally the advance should be made at night, the attack at dawn.

2. Advantages of the night attack: It nullifies the range and accuracy of the firearms of the defense. If successful it is decisive. It leaves a long day for the pursuit.

3. Disadvantages: The difficulty of orientation on the march; the danger of collision with friendly detachments; the danger of panic.

4. Favorable conditions: Surprise; moonlight; starlight; snow on the ground; open country; conflagration in enemy's lines; roads or telegraph lines leading towards enemy's position; discipline and steadiness of attacking force.

5. Unfavorable conditions: Darkness caused by clouds, fog or storm; broken, brushy or wooded country; artificial obstacles in front of enemy's position; lack of discipline and steadiness in attacking force.

6. Preparations for attack: Previous reconnaissance by all superior officers by night as well as by day in order to familiarize them with landmarks; publication of carefully written orders; explain thoroughly plan to all officers and men; adopt compact formations, small columns, numerous connecting files and strong supports at short distances; make deceptive demonstration; cause, in some cases, previous artillery fire to cause a conflagration in enemy's lines; provide guides for columns to march by stars, luminous compasses and landmarks; lay out line of white marks in direction of entrenchments for center guide; provide a watchword; provide distinctive white badges; provide against rattling of equipments, against smoking, against flash light lanterns, against presence of dogs, or other noisy animals; mark rifle sights with luminous paint or bind rifle muzzle with white cloth; give strict orders against talking; direct that trenches should be taken by hand-to-hand fighting without preliminary fire combat; use mounted troops on flanks to intercept retreat of the enemy. It is indispensable that the attacking force shall be in deployed formation before it comes under heavy fire, and that the hours of deployment and hour of attack should be previously designated and strictly adhered to.

7. Precautions against night attacks: Strong outposts and patrols well advanced; when at close quarters use of searchlights and illuminations; entanglements, obstacles, mines; luminous paint for gun sights, etc.; fixed rests for small arms so that their fire will cover certain zones; use of star shells to be thrown among the enemy.

EXERCISES

8. In order to practice dispositions for the attack and defense by night, the following exercises are suggested:

(NOTE.—Practice in night attack and defense should be had not only by moonlight and starlight but also on dark cloudy nights. Each exercise should conclude with a discussion, a paper embodying conclusions to be read next day.)

(a) The advance in attack formation of the regiment, squadron or troop, dismounted, against a represented enemy. Direct attack.

(b) A similar advance in line of columns of the regiment, or squadrons dismounted, deploying into attack formations when at the proper distance from the enemy. Direct attack.

(c) Same as second exercise. Mounted advance followed by dismounted attack.

(d) Same as second exercise. Mounted advance followed by mounted attack.

(e) Mounted or dismounted or both. Advance and attack an enemy holding bridge (direct and flank attack) or defile (direct, flank and rear attack).

(f) Discover by daylight reconnaissance the camp of an isolated reconnoitering detachment of the enemy. By night, advance, surround and capture the detachment.

COMBAT EXERCISE NO. 10

THE REGIMENT OR BRIGADE

Attack and Evasion in a Wooded Country, free from Fences

1. Terrain: A section of country having a width of from one mile to a mile and a half, and a length of from two miles to four miles, containing abundant cover, no fences, giving an opportunity for cavalry to move freely (the best terrain is a parklike alternation of woods and fields). The borders of this area (to which the exercise must be restricted), should be plainly defined.

2. The force is divided into two nearly equal parts, the Reds and the Blues. The mission of the Reds is to pass from one end of this territory to the other, in spite of the opposition of the Blues. The exercise commences with the two opposing forces in contact, i. e., their advanced scouts have discovered each other.

It can be assumed that the Reds are a detachment of cavalry, which, after a raid or reconnaissance, is endeavoring to rejoin the main body, and find themselves in a defile which the enemy is endeavoring to block. Or, the Reds are a contact squadron whose instructions make reconnaissance more important than fighting. In general, the mission of the Reds is to traverse the

enemy's territory, evading the enemy's forces rather than engaging them. The mission of the Blues is to prevent the Reds from carrying out their designs and, if possible, to destroy them.

The conditions are such that neither commander is justified in scattering his command or breaking it up into small detachments.

3. From the nature of the problem, each force being in the presence of the enemy, a formation suitable for combat is desirable, as: the formation in one or more lines of platoon columns, of fours, etc. Scouts under the supervision and command of a commissioned officer should cover front, flanks, and rear. The machine-gun platoon should be in a position of protection.

4. The problem gives rise to the following situations:

Situation (a): The Reds find the Blues in position, dismounted. Leaving a small dismounted detachment to act as a detaining force (which will then mount and rejoin), the Reds, concealing their march behind cover, attempt to pass around the flank of the Blues and toward their objective.

Situation (b): The Reds find the Blues about to dismount to fight on foot. If within 600 yards (a distance which they can cross in one minute) they charge the Blues, hoping to overthrow them before they can form up and deliver their fire. If the Reds find themselves at a distance of more than 600 yards from the Blues they had better retreat hastily to cover.

Situation (c): The Reds find the Blues about to make a mounted attack. If within 600 yards the Reds must meet the attack by a counter charge. If at a greater distance than 600 yards, dismounted action is nevertheless (ordinarily) impracticable. For, if the Reds dismount, the Blues will probably do the same, and, holding the Reds in place by fire action, will make it impossible for them to fulfill their mission, which is, primarily, to reach their objective. A preferable course for the Reds would then be to make a counter charge, or, by evasion try to throw the enemy into confusion and then charge.

Situation (d): The Reds find the Blues dismounted and so disposed as to cover with their rifle fire the entire width of the defile. Under these circumstances the only recourse of the Reds (after due reconnaissance, in order to discover where the line is weak) is to charge through the Blue line, using a more or less open formation, and trusting to the speed of their horses to diminish casualties. The line pierced, the led horses of the Blues should be at the mercy of the Reds.

Situation (e): The Reds having passed the Blues, are pursued by them. In this case the proper rôle of the Reds is to continue their march with a view to completing their mission and reaching their objective, but taking advantage of any confusion among the pursuing Blues to punish them, if it can be done without endangering the Reds' retreat.

In this case an opportunity is given to the Blues to attack the flanks of the retreating columns by swarms of foragers, firing from the horse with pistol and rifle.

5. This combat exercise illustrates the value of initiative, of quick decision, of vigorous action, by commanders of regiments, squadrons, and troops. It teaches coöperation, team work, between organizations. It is a school of instruction for scouts. It demonstrates the great advantages which can be gained by making a skilful use of the terrain. It also demonstrates the value of mobility and the advantages of mounted action over dismounted action.

The exercise is applicable, in a less degree, to smaller bodies of troops, such as squadrons, and to country which, while devoid of trees, affords cover.

6. In order to be able to practice the exercise without injuring men and horses, the horses must be so well trained as to be absolutely under control, so that they can be pulled up without collision.

At the conclusion of each attack the umpire or senior commander will halt the movement, discuss the conditions, and give time to the Blues to move on and make the necessary dispositions for renewing the exercise.

* * * * *

7. In case the terrain is wooded but fenced up, the free movement of both Reds and Blues is limited, and the problem of evasion is complicated by the necessity for cutting fences and making outlets. The Blues have a great advantage, and are able to make a greater use of destructive fire action.

8. In case the terrain is level, open, and without fences, as in many parts of Europe, evasion is difficult, and a fire fight more probable. (G. O. 21, 1913.)

COMBAT EXERCISE No. 11

The Pursuit of the Rear Guard by a Mounted Force

1. The troops are divided into two equal forces; one, the 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 field 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 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 rôle of the Reds is to halt, cut off, capture, or destroy the Blues, or to attack the retreating Blue's main force. (See C. S. R., pages 256-257).

The rôle of the Blues is to protect the retreat of the Blue's main force, inflicting such damage as possible on 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 the 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 a noncommissioned 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 further 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 out 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 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 exercise 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.

(G. O. 2, 1916.)

COMBAT EXERCISE No. 12

Pursuing Patrols

1. In the performance of patrolling or reconnoitering duty it often becomes necessary to trail and pursue small parties of the enemy. Such small parties will not, as a rule, fight unless they are forced to, or unless they secure an opportunity to surprise and ambush our patrols or pursuing parties, in which case flight will, as a rule, immediately follow the surprise, whether successful or not.

2. The particular endeavor of such parties of the enemy is to rob and to kill inoffensive citizens. In proportion to their numbers, small bodies of the enemy are likely to do the greatest damage, and are most difficult to kill or capture. The smaller the party, the more difficult it is to trail.

3. To inflict any damage on such an enemy, surprise is necessary.

4. The presence in the country of such a raiding party is usually first known by the reports brought of depredations committed. The commander of the force sent in pursuit should first, if practicable, secure the services of one or more men who are good trailers and scouts, and are acquainted with the country, the people and the prevailing language; otherwise, enlisted scouts should be used. Such scouts should be well mounted and armed. They should ride in advance with a few men detailed as advance guard. The precaution of having an advance guard should never be dispensed with. The detachment should be provided with rations and forage (part of it carried on the horses and part on pack animals), with a view to making a long and continuous ride where the cooking of meals may be impracticable. The animals should carry light loads. The methods of the Forced March see Combat Exercise should be adopted.

5. In readiness for such expeditions rations and forages should always be kept packed, so that the start can be made within half an hour after the alarm.

6. Having picked up the trail, it is necessary that the commander of the detachment should decide as to the rate of march. If, for instance, the enemy is driving loose horses, it is probable that he will not move at a gait greater than four miles an hour. If then the enemy has five hours' start, he will necessarily have a lead of about twenty miles, which has to be made up. By marching alternately at a walk and a trot, say, six miles an hour, the enemy will be overtaken in about ten hours' marching. If a rate of eight miles an hour is kept up, the enemy should be overtaken in about five hours. If, however, the pursuers march at only four or five miles an hour, it is

evident that if the enemy is overtaken it will be only by the merest chance.

7. In the determination of the gait to be taken up much depends upon the coolness and humidity of the weather, the condition of the horses and the weight of the horses' load. In a country interspersed with wire fences and roads, as is the country along the Rio Grande, the problem of following a trail should be much simplified. By watching the ground along the wire fences it should be possible always to discover where they have crossed. If the enemy is moving on a road, by watching the borders of the road the place where his tracks leave the road should be discernable.

8. It sometimes happens that the enemy scatters to reunite at some point in the vicinity. This is usually done by having men drop out every few paces to take a new direction, usually at right angles from the road. When it is apparent that this has been done, it becomes necessary to scout on the circumference of a circle of considerable radius extending around the place where the tracks have disappeared until the new trail has been found.

9. Close questioning of the ranchers and natives will often secure considerable information. Inhabitants should be questioned separately. Often children will give information of value.

10. The art of following and reading a trail is one of the utmost value and importance to cavalry. If on the trail of the enemy there is a peculiar mark made perhaps by a horse with a peculiar foot, or a foot-man with a peculiar shoe, or by a trailing rope, the trail is much more easy to follow. It should be possible to tell by the tracks the number of horses and foot-men, the number of mules, and the gait at which the enemy is marching. If the trail is fresh the horses' dung shows it; the shoe prints are moist; the side of the impression in the soil is abrupt, the wind not having had time to fill it with dust; the stones moved by the horses' feet show an undersurface which is not yet dry; the sticks and grass seem freshly broken.

11. Across hard and rocky ground the trail must be followed by noticing where the grass has been broken, and where the pebbles have been turned bottom up. The upper side of a pebble which has been exposed to the rain is clean; the lower side is covered with dirt.

12. A difficult trail must, as a rule, be followed by fixing the eyes on the ground at a point thirty or fifty feet in advance, thus following the slight disturbances on the ground caused by the hoofs of the animals. If the trailer looks directly down he will soon lose the direction and is liable to get off the trail. Much practice in following trails should be given the enlisted scouts of a command in order that they may become proficient.

13. When the trail becomes "hot"—that is, when the pursuers have reached a point near the pursued—it will become necessary to decide upon the attack. It is not unlikely that the enemy has a rear guard of one or two men, who will give the alarm in case it is attempted to attack him while en route. If it is apparent that the enemy is making towards a certain point or a defile, it might be well to take part or all of the detachment on a circuitous route and post them in ambush on his line of march.

14. If the time of day, or length of march, or nature of the country indicates that the enemy is about to camp, it would be well to halt, send out dismounted scouts, reconnoiter his position and make arrangements for an attack at dawn. Every means should be taken to inflict punishment on the personnel of the raiding force, as well as to capture their booty. In case the attack succeeds and the booty is captured, great care should be taken to prevent the command from being ambushed while on its return march. Immediately after the enemy's camp is captured and his forces are dispersed, a considerable detachment should undertake to prolong the pursuit to pick up stragglers and to prevent his scattered forces from uniting.

15. Troops engaged in such expeditions should employ to the limit the best methods of security and information. The enemy knowing that he is pursued will make use of every

stratagem to ambush the pursuers. Ranches and suspicious places should be approached cautiously. The advance guard should ride well in front of the command, and flankers be used as far as practicable. Territory beyond the fences bordering the road should be reconnoitered. Great care should be taken to prevent the troops when in camp from being surprised, by the liberal use of outposts. Such outposts should occupy positions not only concealed from the enemy in front, but which give protection from his fire by means of sandbags or natural cover.

16. In this connection read "Indian Scouting," Chapter 9, Wagner's *Security and Information*. To prepare troops for duty as pursuing patrols, and to perfect enlisted scouts in trailing, this exercise should be constantly practiced.

(G. O. 13, 1915.)

COMBAT EXERCISE No. 13

The Forced March

1. Occasions: Pursuit of the enemy's detachments; Necessity for quick concentration; Raiding in the enemy's country; Escort duty; Officers' test rides.

2. Favorable conditions: Cool, dry weather; good dirt roads; level country; frequent watering places; bright moonlight (in night marching).

3. Horses on forced marches will be favored by limited watering on the road; by thorough rest at night; thorough rubbing down and grooming; good shelter; also by light loads.

4. Unfavorable conditions: Rough or heavy roads or trails; poor condition of horses; heavy loads; hot humid weather.

5. The gaits of a forced march should be the walk and trot. The gallop is too exhausting and should never be used.

6. Long closed-up columns are unfavorable for the maintenance of a uniform rapid gait on the road. Inequalities in the road and the necessity for closing up will cause the horses in rear to move irregularly.

7. To secure uniformity in the walk and trot each troop of cavalry should be divided into detachments, each having a

depth in column of not more than 12 troopers, and led by an officer or noncommissioned officer whose duty it is to maintain a uniform gait, keeping at a distance of not more than ten yards from the rear of the detachment in front. The leader should regulate the gait as far as practicable by that of the leader of the detachment which precedes him.

8. For freedom of movement the troopers should ride ordinarily in column of twos. When the road is hard in the center and soft on the sides it is often desirable that the column of twos should open up, thus moving in two columns of files, each riding on one side of the road. The columns should move alternately five minutes at the trot and five minutes at the walk, dismounting and leading during the last five minutes of the half hour, and dismounting and resting during the last five minutes of the hour.

9. During this halt the saddles should be adjusted and the horses' feet looked after.

10. It is sometimes of advantage to halt for half an hour when the day's march is half completed, allowing the horses to drink sparingly and feeding them a few pounds of oats. During this period the saddles should be taken off and the backs and legs rubbed.

11. Moving in the above manner the march is made at an average rate of 5.7 miles per hour, and a distance of 50 miles may be completed in nine hours. It is thus possible to complete 100 miles in 24 hours, with an interval for resting the horses 6 hours.

12. Since the horses obtain better rest and sleep during the night, the most favorable conditions for a forced march of 24 hours, are to start in the afternoon, making 50 miles, rest 6 hours, start after daybreak and make the remaining 50 miles.

13. It is not desirable to start before daybreak, as the best rest of the horse is obtained just before dawn.

14. Thus the following schedule is suggested:

To ride 100 miles in 24 hours: Ride from 2:00 P. M. to 11:00 P. M.; rest six hours; ride from 5:00 A. M. till 2:00 P. M.

To ride 150 miles in 48 hours: Ride from 2:00 P. M. to 11:00 P. M.; rest eight hours; ride from 7:00 A. M. till 4:00 P. M.; rest 13 hours; ride from 5:00 A. M. till 2:00 P. M.

To ride 200 miles in 72 hours: Ride from 2:00 to 11:00 P. M.; rest eight hours; ride from 7:00 A. M. to 4:00 P. M.; rest 15 hours. Ride from 7:00 A. M. till 4:00 P. M.; rest 11 hours. Ride from 5:00 A. M. till 2:00 P. M.

15. When, as often occurs in a campaign, horses are heavily loaded, and roads and trails are poor, the troopers should be required to dismount and lead at frequent intervals. By alternating the walk and trot, the troopers leading while at the walk, a gait of four or five miles an hour can be maintained without unduly exhausting the horses.

16. To dismount and lead is often a relief to the men; and at the same time rests the horses. The men should be required to walk when leading at least three and one-half miles per hour.

17. By experience it has been found that at the end of five minutes' trot the horse is beginning to blow; at the end of five minutes leading at a fast walk the trooper finds it a relief to mount and the horse has become rested.

18. In forced marches of squadrons over rolling country, the length of the column is such that if the whole column should trot at the same time, part would be trotting on level and therefore favorable ground, while other parts might be trotting on slopes, or unfavorable ground. To enable each portion of the command to trot when the ground is favorable, and walk when the ground is unfavorable, the troops should follow each other at a varying distance, the maximum being about 100 yards. The Major having notified each troop commander of his intention to move at a forced march gait, each troop then regulates its own gait, taking advantage of the most favorable ground, maintaining a distance from the troop in front of not more than 100 yards. No signals for the change of gait should be sounded.

19. Similarly, when a regiment is making a forced march, each squadron should maintain a distance from the preceding squadron, of not more than 300 yards. To keep in touch connecting files should be used.

20. Forced marches for long distances will be made only in emergencies.

21. The methods of the forced march, however, should be constantly practiced. (G. O. 8, 1914.)

COMBAT EXERCISE No. 14

THE RAID

"Raids are isolated, independent cavalry operations, conducted with secrecy, by rapid marches, usually avoiding general engagements.

The raiding force should be composed of the best mounted and most self-reliant troops, and should consist of complete organizations; as, regiments, squadrons, etc.

The objects of raids are:

To harass and weaken the enemy by drawing off in pursuit his cavalry or other troops, or by causing him to guard a great number of points; to threaten, interrupt, and destroy his communications; to destroy his depots and source of supplies; to gain information; to cause alarm in the enemy's country, or create a sentiment unfavorable to the prosecution of the war; to interfere with the mobilization of the enemy's forces at the beginning of a campaign; to effect the release of prisoners." (Par. 856 Cav. D. R.).

In order to accomplish such results the command should consist of one or more regiments of cavalry; a detachment of field artillery; a wireless telegraph detachment; a motorcycle detachment; a detachment of pioneers having a demolition outfit and canvas pontoons; numerous scouts; guides, spies, and interpreters; and a sufficient pack train.

Wagon trains cannot be used, since in wet weather or mountainous country they impede quick movement.

A sufficient sum of money should be carried for purchase of services, supplies, and animals.

In order to preserve the necessary mobility for such command, the loads on horses should be cut down to the minimum; at the same time there should always be carried a reserve supply of grain for the horses, of rations, and of ammunition.

Such a command in many cases will have to live off the country. When cattle are to be found the meat component need not be carried in full, and the remainder of the ration may be reduced, replacing it in weight with beef. In dry countries canvas bags for carrying water on pack mules are desirable.

As a rule the pack train will not be able to carry all the supplies needed, and part of the ammunition, rations and grain must be carried on the horse.

The greatest attention should be paid to the conserving of the strength of the horses. Marches of extreme length should be made only when necessary. Saddles should always be taken off when in camp at night, even when in the presence of the enemy. To leave the saddles on for a great number of hours, as was done frequently during the Civil War, ruins the horse. With good troops, with a sufficiently strong and active outpost line, it should always be possible to unsaddle even in the presence of the enemy.

Every effort should be made to keep the horses fit for the supreme effort of the raid. After long marches extra grooming and hand-rubbing should be practiced. When at a walk troops should frequently dismount and lead. Men with sore-backed horses should always dismount when at a walk. Grain should be fed at every meal. It is as necessary to the horse as meat is to the man. It can always be found in a populated country. To obtain hay or grass usually requires extra labor of the troopers, but nevertheless a full supply should be fed daily. Only by feeding the horses well can a long raid be made successful. In cold or rainy weather the horse should be covered at night. In warm climates, to reduce the weight on the horse, the following articles will be left behind: overcoat, bed blanket, extra clothing.

Two emergency rations will always be carried. On occasions when there is no train or when the pack train cannot carry sufficient rations, four days' rations additional may be carried in the saddle-bags, reducing the haversack ration by deducting half the bread and half the bacon, each half-ration to be

supplemented each day by two pounds of beef and such vegetables as may be obtained by foraging parties.

In view of the fact that the regulation mule train can carry only one day's grain for a regiment, it will ordinarily be necessary to carry grain on each troop horse. This extra grain may be carried in canvas tubes five feet long and three inches in diameter, strapped on the saddle, or it may be carried in the feed-bags, so arranged as to lace up at the top and strapped to the saddle. Ten pounds may be carried in this manner.

It is recommended to officers and officers' messes that they employ their own animals to carry extra baggage and luxuries.
(G. O. 21, 1913.)

COMBAT EXERCISES, FOR A TROOP OF CAVALRY

In connection with the field training of a troop of cavalry, in order to provide examples of situations for the practice of dispositions for attack and defense the exercises given below are suggested.

Many of these situations with slight modifications can be utilized for the training of a squadron or regiment.

It is desired that they be practiced by the troops of the brigade. As a rule, to retain sufficient force in ranks, the enemy will be only outlined.

In many instances the use of a few blank cartridges by the outlined enemy is necessary in order to indicate his position.

Practice in the use of signaling and in the sending of written reports and messages should not be neglected.

Advantage should be taken of all these exercises to instruct enlisted men in scouting.

These situations will not only be worked out and the necessary orders given, but the actual attack and defense carried out to its logical conclusion.

Time in the action of cavalry is an element of prime importance.

On discovering the situation orders should be given quickly and acted upon quickly.

Care should be taken that the enlisted men thoroughly understand the problem and its solution. Only thus can the action be properly carried out and the instruction be made beneficial.

SITUATIONS

1. The troop as an advance detachment moving north discovers the enemy about to advance south through defile. Make dispositions to delay the advance of the enemy. Attack. Counter-attack.

2. Being unable to hold the position, the troop retreats taking up successive positions to delay the enemy.

3. Troop as advance guard of an army moving south and arriving near a town, you are informed that mines are said to be planted in the streets. Make proper reconnaissance quickly in order to secure a safe passage of main body.

4. Troop as advance guard of force moving south arrives at a town and hears that enemy is in the city or on its outskirts. It is essential that the march of the main body shall not be unnecessarily delayed. Give and execute orders for proper defensive reconnaissance for safe passage of main body.

5. Being in the presence of a troop of equal strength in open country, to fight in retreat mounted.

6. The enemy, one small troop, is retiring toward defile. Dispositions necessary to inflict the most damage.

7. The troop retiring to the defile, enemy pursuing. Necessary dispositions for safe passage, wire fence being considered side of a precipitous impassable height. Counter-attack.

8. Being the rear guard of a retreating force, pressed by infantry, to fight in retreat.

9. Being in advance, having seized a bridge, take proper dispositions for holding it until the arrival of main force.

10. Troop as rear guard, enemy following within one mile, troop arrives at a bridge which it is necessary to blow up. Make proper dispositions, using simulated dynamite cartridges and fuses, holding enemy back.

11. Troop ordered to take possession of a bridge 60 feet long. On arriving within 600 yards discovers enemy same strength advancing toward bridge on other side of unfordable

stream. Make dispositions and practice attack. Practice this exercise at different or simulated bridges.

12. Same as No. 11. Bridge 200 yards long.

13. Read the Battle of Lodi, 1796. Practice attack by which bridge of Lodi was taken.

14. Being in an open country, enemy is found in a position in front to dispute your advance. At the same time scouts inform that the enemy's horses, insufficiently guarded, are in a gulch 400 yards in his rear. Occupy attention of the enemy in the trenches and capture the horses.

15. Being opposed by troop of equal strength dismounted and in position. Attack its horses by rifle fire.

16. Troop posted as outpost in a road. Fearing mounted attack by night of a superior force of cavalry moving on said road it barricades it and defends it. Execute the attack, the defense, make proper dispositions, construct necessary barricades and entrenchments.

17. Small force of hostiles camped on in thicket. Reconnaissance. Disposition for night attack. Attack.

18. The drill ground being considered a defile through which a force moving north has to pass. To dispose a troop of cavalry across its broadest part so as to best prevent the defile being rushed by hostile cavalry.

19. The above position occupied by a regiment of 1000 infantry. The troop coming from the north to rush and break through the line with least loss.

20. Mounted combat. Disposition for attack under the following circumstances; enemy of equal strength and outlined only:

- (a) Attack in column of fours;
- (b) Attack in double rank;
- (c) Attack in single rank;
- (d) Attack in column of platoons;
- (e) Attack in line of fours.

Practice should be had in combating these formations and other formations with supports, with enveloping wings and with combined mounted and dismounted action.

21. Moving along a fenced-in road in column of fours, the enemy's cavalry in equal force is discovered 600 yards ahead about to charge. Attack with necessary dispositions.

22. Same as No. 21. Enemy in superior force. Attack.

23. In a country without fences, being an advance guard with orders not to allow the march of the main body to be delayed, troop is fired on by twenty dismounted men at 600 yards distance. Attack the enemy mounted.

24. Same as No. 23. Attack dismounted.

25. Same as No. 24. Attack mounted and dismounted combined.

26. Enemy in entrenchments is 600 yards in front. Your force, mounted, is behind cover. In order to save time you are ordered to drive enemy out by a direct attack mounted jumping off your horses and employing the rifle on reaching the position. Practice this attack. Calculate losses. Compare time and losses with dismounted attack.

27. Concealed by a roll in the ground your troop arrives in front of a battery in action using indirect fire over a crest 100 yards in front of battery. Make dispositions and capture battery. Calculate losses.

28. Same as No. 27, except that troop is under cover 400 yards from the flank of battery.

29. Having selected a stone building or stone wall, prepare it for defense or explain to men how it would be prepared for defense.

30. Trailing exercise—to be executed morning after a rain. To trail and capture a small party of hostile infantry or cavalry, using all necessary precautions to prevent ambush from the enemy.

(G. O. 10, 1918.)

IX

HASTY TRAINING OF RECRUITS FOR WAR

It sometimes happens that we are confronted with a situation which requires the preparation for war of new men in minimum time. Such was the case with the 11th Cavalry in 1911. On that occasion 429 recruits were made ready for service in three weeks, the recruits being able to ride fairly well (100 hours' experience) and to shoot with average accuracy (average score at skirmish range half that of sharpshooters). In addition to this the recruits had received almost 30 hours' instruction in care of arms, etc., in regulations, guard duty, nomenclature of the horse, saddle, arms; setting-up exercises, marchings, manual of arms, etc., etc.

These recruits lacked the discipline and much of the training of the old soldier. Nevertheless, they were fairly well-fitted for the march, and should have given a good account of themselves on the firing line, merged with the old soldiers of the Regiment.

This was accomplished in the following manner: The regiment being in camp, the recruits were placed in a separate camp by themselves under two competent officers and 24 competent noncommissioned officers selected for their proficiency as drill masters. The recruits were called upon to work eight hours per day, including Saturdays—five hours mounted and three hours dismounted. The emergency was explained to them carefully, and they responded with enthusiasm. Old horses, gentle and well trained, were assigned to the recruits to ride. (Four hundred new horses just received were assigned for training to competent old soldiers of the regiment and worked four hours per day.) Grooming as part of the instruction of the recruit was omitted, the mounts of the recruits being groomed by old soldiers. This was done in order to utilize all the time of the recruits on other training, training in grooming to be postponed until later. On Sundays the recruits took a pleasure ride of three hours on the road, under charge of an officer, there being no drill.

The recruits were divided into twelve squads, each with two noncommissioned officers. For instruction in equitation each squad was given a riding track. One advantage of riding track drill is that the instructor can sit his horse and remain in one place and thus drill with a minimum of effort, concentrating all his energies and attention on the supervision and direction of the drill. Another advantage is that the recruit learns better than in marching and evolutions the use of the hand and legs (the aids), and the instructor being at ease, the recruit will be drilled at a faster gait than if he were in ranks. The trot teaches the balance. Only a correct balance gives a man the confidence of a good rider. Consequently, other things being equal, that man is the best rider who at a trot has ridden farthest. The gallop exhausts the horse, and should be used rarely. To save time explanations and demonstrations should be made while the recruit is in motion, and not when he is at a halt. The recruits should use the saddle, not ride bareback. The recruits each day should be closely inspected by a medical officer to see that they are not chafed where they come in contact with the saddle. Of course, the riding at first was gently conducted, and special care was taken that no recruit received a fall, a thing which often results in a recruit becoming timid and for a long time thereafter a poor rider. Effort was concentrated in teaching the recruits equitation, the management of the horse, perfect control over his movements, a good seat, good balance, and perfect confidence. It is certain that if this be accomplished it will be easy to teach thereafter the details of marching, wheeling by fours, and other cavalry evolutions. These evolutions can be taught readily to good riders and trained horses; but recruits cannot be taught equitation, marching in close order in ranks, nor can horses be taught obedience to hand and leg. It is on the track these things must be taught. Therefore, evolutions were postponed until the second week, and then only permitted for a short time each day. During the third week the recruits practiced equitation and mounted evolutions, but the principal care was concentrated on musketry training.

As said before, the course in three weeks covered about 100 hours of riding. As the cadet at West Point formerly received 60 hours of riding in his first year of instruction, and but 40 hours in his second year, and was then considered a fairly good rider, it is evident that 100 hours of intensive training in riding should fit the recruit fairly well for duty with his troop.

Each of the 12 squads of recruits was destined for a particular troop, and was drilled by two noncommissioned officers of that troop. These instructors were required to stay with the men of their squad day and night, to protect them from interference from outsiders, to advise them as to their duties, giving them talks on the customs and regulations of the army, showing the recruit how to take care of his person, his clothing and equipment, etc., etc. Harshness toward the recruits was not permitted. Every effort was made to maintain their enthusiasm and zeal.

To expedite their drill in equitation, manual of arms, marchings, etc., the recruits were given access to drill books, in order that their intelligence might do its full part.

The dismounted drills during the first two weeks consisted of setting-up exercises (two periods of 10 to 15 minutes per day), marchings, manual of pistol, saber and rifle, and in particular sighting and aiming and position drills. These latter, as a preliminary for rifle practice, are enormously important. It is even possible by proper instruction of an intelligent, zealous recruit to so well fit him for firing by these drills that his first shot on the target shall be a bull's-eye. There were numerous instances of this. To accomplish this, however, special precautions must be taken not to tire the recruit. When aiming at a mark it must always be as small as is consistent with good eye definition; and he must be taught to hold the rifle properly and pull the trigger slowly and steadily. This can only be accomplished by much drill aiming at small marks. That is, the mark, if at 50 feet, must be as small as 4-9 of an inch. This is the equivalent in visual size of an eight-inche bull's-eye, or a man's head, at 300 yards. Using a mark this small demands great care in "taking a bead" on the mark, steadiness in holding

the rifle and in pulling the trigger. To use at 30 feet a one-inch bull's-eye, as is often done, is like aiming at a bull's-eye 20 inches in diameter at 200 yards distance. Such practice does not teach the precision of aim, position, or trigger pull that is required to hit a man at medium ranges in war.

At the end of the second week, the recruits were marched, mounted, to the target range, 25 miles distant. This march, which was made in five hours, alternately at a walk and trot, was interesting as a demonstration of the partial fitness of the recruits for field service. Not only was it accomplished easily, but in no case was any horse's back galled.

In order to teach accuracy with the rifle, and not waste time, a special course of firing was made necessary. This is because the present course of training laid down in our manual of rifle firing is a *peace* course, not a war course. On the ordinary target range a company can seldom have the use of more than two targets. For a hundred men to complete the present annual course of firing, in all between 300 and 400 shots, firing an average of one shot per minute on each of two targets, will require over one month, shooting eight hours per day. And target ranges are seldom near posts. (Also it was found during the Spanish-American War that it was often difficult to obtain a place for target practice near the volunteer camp of instruction on account of the danger to the community from flying bullets.) Thus the distance of the ranges from the training grounds, and the length of time needed for the usual course of target practice, as a rule, enormously increase the difficulties in the way of quick strenuous training.

The course of firing laid down in our small arms firing regulations is, in fact, a peace course, and not adapted for conditions when time is lacking. It is a good system when there is plenty of time. When time is pressing, however, the question is, how to expedite? What portion of this course is most necessary to make a fair shot? What portion can be eliminated?

Owing to the difficulties in the way of complete preparation in rifle practice (the time, expense, etc.) it may be said that a large proportion of all troops, whatever the nation, are insufficiently prepared in rifle practice on the outbreak of war, and that the usual course is to trust to volume of fire rather than accuracy of fire to win battles. That this is a very wrong principle needs no demonstration. Poorly instructed troops fire away 300 to 1000 rounds (according to the range) for every hit. How much more efficient would be troops who can make a hit for every 100 rounds at the same ranges? It is not so much a question of panic, trepidation or morale as it is a question of previous training.

Analyzing conditions on the field of battle with special reference to the present great war, and also to former wars, we find that by far the greatest number of casualties occur at short ranges. This is as it should be when we remember that, as compared with the target at 100 yards, the same target at 200 yards has one-half the apparent height, and one-half the apparent width, or one-fourth the apparent area; thus being four times as hard to hit. And that the same target at a distance of 1000 yards has one-tenth the apparent height and width, or one-hundredth of the apparent area; thus being 100 times as hard to hit. The apparent area, or the ability to hit, decreases as the square of the distance.

It is also apparent that the principal thing we teach in musketry instruction is to hit a mark, and that when a man holding his sights accurately on a mark can pull the trigger without moving the gun the bullet is sure to hit the mark. This is so whatever the range. That is, a man who can, roughly speaking, shoot with the "marksman's" accuracy at 200 and 300 yards should, in ordinary conditions, make what is considered a "marksman's score" at 600, 800 or 1,000 yards without extra training. In other words, he has learned "to hit the mark." And it is evident that a commander whose men are on the average able to hit on the range an eight-inch bull's-eye, or a man's head, at 200 yards distance, once in every ten shots would be greatly to be felicitated on the musketry preparation

of his men for battle. As things go in war, he would be considered to have "an army of marksmen." If we can accomplish this much in "hasty training" we shall be doing well.

Analyzing the course of rifle firing as laid down in *Small Arms Firing Manual, 1913*, we find that it consists of Sighting Drills, Position and Aiming Drills, Gallery Practice, Estimating Distance, Known distance Practice, Long-distance Practice, and Combat Practice. Having but a limited time to train our recruits, and having inferior facilities, we must eliminate Gallery Practice. As to Combat Practice, this is a course of collective firing in which the individual score is not known. It can, therefore, be eliminated in the individual rifle course for hasty instruction.

Long range firing at 800 and 1,000 yards being a class of firing only intended for the instruction of "Sharpshooters" (a special class) can also be eliminated.

Considering what advantage is gained by firing at 500 yards and 600 yards (mid-ranges) as compared with 200 and 300 yards (short ranges), we find that the mid-range ("B" target) bull's-eye (20 inches in diameter) is visually equal in size at 500 yards to the short range ("A" target) bull's-eye, eight inches in diameter, at 200 yards. It looks larger than the eight-inch bull's-eye does at 300 yards and is easier to hit. The "apparent area" of the "B" target (6x6) at 500 yards, (36 square feet) is less than the apparent area of the "A" target (6x4) at either 200 or 300 yards. This explains the large proportion of bull's-eyes in mid-range firing.

A difficulty which has to be overcome at mid-range and long range firing is the effect of the wind. But this cuts little figure in action. If necessary, the officer in command of a firing line can obtain the necessary correction for the rear sight from a table and instruct his men accordingly. It is a question of judging the velocity and direction of the wind only.

Mid-range firing, therefore, can be postponed. It will suit our purposes to do all our firing at 200 and 300 yards. We can then make our recruits "good shots" without using other ranges. It is apparent, however, that we must instruct our

recruits when using these ranges to fire standing, kneeling, sitting and prone, and also to employ slow fire and rapid fire. The prone and kneeling positions are the most useful in action, and the value of training in rapid fire is inestimable.

A method of expediting this firing was invented in 1903 by the writer in "Special Course B" Small Arms Firing Regulations using miniature targets. It is apparent from what has been already said, that it is the same problem, and requires the same skill, to hit a four-inch bull's-eye at a distance of 100 yards, as to hit an eight-inch bull's-eye at 200 yards. Similarly, it is the same problem to hit a two-inch bull's-eye at 50 yards, or a 2-8 inch bull's-eye at 50 feet. These principles have determined the use of the Miniature Targets X, Y, and Z, used in Special Course "B." These miniature targets, which are used at a range of 50 feet, exactly reproduce visually the dimensions of the Target "A" used at 100 yards, 200 yards and 300 yards, the bull's-eyes being in diameter as follows: X target, 1 1-8 inches; Y target, 2-8 inches; Z target, 4-9 inches. The other divisions of the target are in proportion. The following is a description of the system, taken from the Small Arms Firing Manual:

B SPECIAL COURSE FOR VOLUNTEER RECRUITS

1. In time of war or when war is imminent and the course of target practice laid down in this manual is not practicable for the instruction of recruits, for the reason that ranges with proper facilities are lacking and time is short, this course may be used.

2. Preparatory to taking up this course, as much preliminary instruction as is practicable should be given in (a) Nomenclature and care of the rifle, (b) Sighting drills, (c) Position and aiming drills, (d) Deflection and elevation correction drills, (e) Gallery practice, and (f) Estimating distance drills. The estimating distance test for these recruits will cover distances from 550 to 800 yards. Proficiency will consist in making in five consecutive estimates an average degree of accuracy of 80 per cent.

3. Firing at miniature targets—service charges.

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Instruction practice.

TABLE 1.—*Slow fire.*

Ranges (real) feet.	Ranges (simulated) yards.	Targets.	Time.	Shots.	Position.
50	200	Y.....	No limit.	15	<div style="display: inline-block; vertical-align: middle;"> <div style="display: flex; align-items: center;"> <div style="font-size: 2em; margin-right: 5px;">{</div> <div> 5 prone. 5 kneeling. 5 standing. </div> </div> </div>
50	300	Z.....	No limit.	20	<div style="display: inline-block; vertical-align: middle;"> <div style="display: flex; align-items: center;"> <div style="font-size: 2em; margin-right: 5px;">{</div> <div> 10 prone. 10 sitting. </div> </div> </div>

TABLE 2.—*Rapid fire.*

(Battle sight only will be used.)

Ranges (real) feet.	Ranges (simulated) yards.	Targets.	Time.	Shots.	Position.
50	200	Y.....	1 min.	10	Kneeling from standing.
50	300	Z.....	1 min. and 10 secs.	10	Prone from standing.

Record practice.

TABLE 3.—*Slow fire*

Ranges (real) feet.	Ranges (simulated) yards.	Targets.	Time.	Shots.	Position.
50	200	Y.....	No limit.	10	<div style="display: inline-block; vertical-align: middle;"> <div style="display: flex; align-items: center;"> <div style="font-size: 2em; margin-right: 5px;">{</div> <div> 5 kneeling. 5 standing. </div> </div> </div>
50	300	Z.....	No limit.	10	<div style="display: inline-block; vertical-align: middle;"> <div style="display: flex; align-items: center;"> <div style="font-size: 2em; margin-right: 5px;">{</div> <div> 5 prone. 5 sitting. </div> </div> </div>

Rapid fire as given in Table 2 (20 shots).

Total course, 95 shots.

DESCRIPTION OF SYSTEM

4. *Range.*—The range is 50 feet, which enables the firer to see the hole made by the shot, and saves the time ordinarily taken in indicating the position of the hit.

5. *Targets.*—The division of miniature targets X, Y, and Z (see "Targets," Chap. III, Part IV) are, respectively, one-sixth, one-twelfth, and one-eighteenth of the size of the divisions on the A target, and subtend the same visual angle as do those of the A target when at 100, 200, and 300 yards.

6. *Course.*—The course is similar to Special Course A, using miniature target Y for 200 yards, and target Z for 300

yards firing. It is preceded, when there is no gallery range, by such firing at target X as may be necessary.

7. *Back stop.*—A back stop 10 feet high is, in point of safety, when firing at 50 feet, equivalent to a back stop of 60 feet at a distance of 100 yards and 120 feet at a distance of 200 yards. It is generally possible to find in the vicinity of the station or camp a perpendicular cut bank having a height of 10 feet or more. In case such a bank can not be found a suitable back stop will be constructed. Nine inches of sand or 18 inches of loam will be sufficient to stop the bullet.

8. *Method of firing.*—An instructed man is detailed to coach each recruit. The squad of recruits is drawn up facing the targets. At the command or signal "commence firing" the recruits, under the supervision of the expert shots detailed as coaches, fire slowly until 5 cartridges have been fired. The coach, standing by the recruit, corrects his fault of position or trigger squeezing, points out the position of each shot, and in each case explains the cause of each miss. When 10 shots are fired the miniature targets are removed to serve as records, and replaced by new targets, when the firing, if necessary, recommences. The disappearing target is not used in rapid fire in this course. In rapid fire each man takes position standing in front of the target assigned to him. The officer in charge of the line will command "Load." The magazine will be filled, the piece loaded with one cartridge therefrom, and the safety lock turned to "Safe." When all are ready the officer in charge of the firing line will command "Ready," when the safety lock will be turned to the ready and the position of "Ready" standing assumed, with the sling, if used, on the arm. At the command or signal "commence firing," he takes the prescribed position, opens fire and endeavors to fire 5 shots. The command or signal "cease firing" is given at the expiration of the time limit, when all firing ceases.

9. *Number of men shooting.*—From 1 to 100 men may fire at the same time, this depending on the number of coaches and the extent of the back stop. With 30 men shooting at the

same time, 1,000 men may finish the course of firing in eighty hours.

* * * * *

A hasty reading of the regulations for Special Course B might lead some to believe that it is only a form of gallery practice. It differs from gallery practice materially, however, in the fact that the firing is done with service cartridges. While the gallery cartridge has scarcely a perceptible recoil, in this firing the recruit has to become accustomed to the full force of the discharge, to the noise and kick of heavily loaded ammunition. Moreover, when a large number of recruits are firing at once, the conditions as to noise, etc., are like those on a battle line. The recruit is thus taught to aim and pull steadily under conditions that resemble those of war.

That practice firing at miniature targets following this system has, in general, the same effect in producing efficient shots as practice at full size targets, was demonstrated by a test made in 1903 by Captain Seay, Infantry. A large squad of recruits was divided into two detachments, one firing this course at miniature targets, the other firing the same number of shots at the large targets. On completion of the course a competitive match was had firing at the "A" target at 200 and 300 yards. The average score made by each detachment was practically the same.

In the instance cited in 1911 the recruits of the 11th Cavalry fired in 12 squads of 40 to 50 men each, each squad spending a half hour in aiming and position drill before firing. Thus while squad A was firing, squads B, C and D, near-by, were having aiming and position drill.

The 50 miniature targets were pasted about three yards apart on large target frames arranged in front of a butt or bullet catch about 150 yards long. At the command, Squad A moved up, each man 50 feet in front of his target. In rear of each recruit stood an old soldier (a good marksman) as his coach. Ten rounds of ammunition were issued to each recruit.

At the command "Commence firing," each recruit slowly and carefully began to shoot. The coach by word of mouth pointed out to the recruit the position of each shot, explained why it

was too high, too low, etc., corrected faults of holding the rifle, cautioned the recruit against jerking the trigger, etc. When the last shot was fired the coach went to the target frames, took off the miniature target, wrote on it the name of the recruit and handed it to the recruit as his record, explaining that after examining it carefully he should hand it to the sergeant in charge of Records.

"A" squad of recruits then faced about and marched to the rear, its place being immediately taken by "B" squad, the coaches remaining in their places.

By this method each squad of 50 men was relieved every ten minutes, having fired ten shots.

After the firing at miniature targets was completed, the recruits were given two skirmish runs, old style, 50 men firing at the same time, firing at silhouette targets from distances of 600 yards, 500 yards, 400 yards, 300 yards, and 200 yards, these runs being preceded by practice in skirmishing with dummy cartridges. The final run was in the nature of a collective fire test of the proficiency attained in firing.

The average percentage of the total possible score in this run obtained by the recruits was 22 per cent. This was about one-half the percentage of hits made by 20 sharpshooters who, for purposes of comparison, made a run over the same ground. This would indicate that the accuracy of fire attained by the average recruit was half that of a sharpshooter.

In addition, the recruits were given a combat practice exercise, "The Attack of a Position," expending 20 cartridges per man in an advance on groups of silhouettes, from a point 1,400 yards away in skirmish order.

The result of the skirmish test and of the Combat Practice was convincing that the recruits were sufficiently trained in firing to give a good account of themselves in battle.

This course took six days: viz., four days firing at miniature targets, with preliminary instruction on the skirmish course; one day skirmish firing, and one day combat practice.

During the week training in equitation and drill proceeded as usual. The recruits, then, at the end of the third week of training, joined their troops for duty.

X

HASTY TRAINING OF VOLUNTEER CAVALRY

To expedite the training of volunteer cavalry it is necessary that the horses supplied them shall be mature and previously gentled by either riding or driving. We have twenty-two million horses in this country, and such horses can be obtained if a sufficient price is paid. The use by volunteers, in the early stages of training, of unbroken horses is fatal to progress. Preferably only men who have had some experience in riding should be enlisted. But it would be hardly possible in this country and in this age to count filling the Regiment with such men.

On commencing instruction, special methods of preventing accidents should be employed, perhaps the most effective being to cut down the horses' rations, perhaps to limit them to a diet of hay until they have become accustomed to being ridden, and until the men have gained confidence and experience. The horses, too, could be gentled by long marches for the preliminary work on the track.

It would be desirable, during the first drills, were regular troops encamped for a few weeks with the volunteers, in the proportion, say, of one regular regiment to a division of volunteers. This would make it possible to utilize the services of the more experienced officers and men of the regular regiment as instructors, drill masters, horse trainers, etc., and would give an object lesson in cavalry methods and cavalry efficiency that would be of the utmost value to the recruits. If regular organizations are not available for this purpose, riding masters should be detailed from the regular army for volunteer service in the proportion of at least two riding masters to each troop of volunteers. There are many old sergeants of regulars on the active and retired list who would be most efficient for this work. These riding masters should receive special pay for their services.

The principal need of new volunteer cavalry is instruction in equitation. This must be conducted on riding tracks, not

more than 50 men to each track. The smaller the squad (within limits) the better the results. As the horses as well as the men will be new, great care must be taken that the instruction is conducted in such a manner as to properly train the horse as well as the man. Otherwise the horses will develop faults and vices that may ruin them as mounts. The length of the drills should be short at first. As the horses become more hardened and accustomed to the work, the time employed in drill should be lengthened, the horses' ration be at the same time increased. Later on three to four hours per day may be employed in mounted drill with advantage. As several hours per day will be utilized in dismounted drills, and from one to two hours in grooming, watering horses, care of equipments, etc., the time of the recruit will thus be pretty well taken up. After 100 hours of drill on the track, troop drills, squadron drills, and regimental drills may be begun.

One of the most effective methods of quickly breaking in new men and horses is a long practice march. This not only gives the man a good seat, and trains the horse to march quietly in ranks, but it instructs the recruits in many details of campaigning. Therefore, a practice march of a week or ten days of 20 or 25 miles per day should be had as soon as the recruit has had a month's training. This march will be a trying experience, but the volunteer soldier on his return from it will have more of the confidence of the experienced trooper. In addition, a practice march of 25 or 30 miles should be had each week.

The third month should be devoted to range firing with rifle and pistol, not neglecting to have three or four hours of mounted drill per day. To gain time, Special Course "B" (preceded by preliminary aiming and position drills) should be employed.

The fourth month could, with advantage, be devoted chiefly to practice marches and combat exercises, alternating with drill of precision and equitation.

With competent, energetic, experienced officers in command of regiments and squadrons, employing the above methods, it

is believed that cavalry volunteer regiments may be made fairly ready for a campaign in four months or less. But to accomplish such a result will require unremitting work and unfailing zeal. The volunteer recruit must work eight hours per day if he wishes to become a soldier in minimum time.

To secure results in a volunteer camp of instruction there must be system. A uniform course of training should be established during which the regiments should be required to make a report each week, giving a statement of progress of the preceding week and a schedule of drills for the next week.

At the same time the men should be supplied for their personal use with tracts or pamphlets giving the text of the drill books in primary drills of all descriptions. In addition these should be read to them and they should be questioned on them. This will result in making *intelligence* count, and will greatly increase the rapidity with which the soldier masters his trade. It is believed that by including such a system of theoretical instruction the soldier will learn in two months and a half what would otherwise require three or four months.

We should make that great American institution, the printing-press, take its part in the work.

The volunteer soldier is anxious to learn his trade, and he should be required to work, in favorable weather, six to eight hours per day. In order not to fatigue the soldier, the drills should be varied as much as possible. Since in war the unexpected is constantly happening, and troops are liable to be required for battle before they are fully trained, upon the arrival of the volunteers in camp preliminary rifle and musketry instruction should be commenced at once; so, also, should "Field Training" as well as "Garrison Training."

A competitive system should be adopted. During the period devoted to equitation the relative proficiency of Troops should be determined weekly by methods similar to those detailed in the chapter on "Competitive Tests of Garrison Training." In addition each inspection of quarters, of equipment, etc., should be made a competitive test, and the results made known, the best troop being mentioned.

Also Range Firing should be made a test between Troops. In general, the principle of competition should be applied and enforced by inspections and tests.

In brigades and divisions a competitive system should also be arranged and from time to time it should be made known in orders, as a result of inspections, which battalion, squadron and regiment was rated highest in drill and discipline, the condition of camp, etc. This rivalry will excite in the soldiers a feeling of pride in and loyalty to their organizations. There is nothing which so rewards the officer and soldier for strenuous effort. There is nothing which so much stimulates zeal.

Much stress should be laid upon the enforcement of *precision* in drill, as precision means discipline, and discipline means efficiency in battle and on the march. Individual instruction, especially equitation and marksmanship, is more than half the game. At the same time the soldier should early commence to regard himself as part of the regiment, and with the regiment receive instruction in marching, carrying a full pack, in minor combat exercises, such as the attack and defense of positions, the service of security and information, etc.

The course of drill should be interspersed with occasional maneuver problems in which brigades and divisions take part; with field days; with contests in athletic and military exercises, and with occasional reviews. These things give variety and interest to the instruction, but they should not be carried to an excess.

There should be also occasional competitive tests of squadrons and regiments in the attack of positions, or in the dispositions taken when suddenly attacked by a superior force while on the march, etc., etc. These things will serve to determine the efficiency of the officers as well as of the regiments.

Officers. In the preparation for war of a volunteer regiment the training of the *officers* must go hand in hand with that of the men. There should be an officers' class under competent instructors, for practical, as well as theoretical instruction. A method which rapidly brought a volunteer infantry regiment

(Twenty-first Kansas) to a state of efficiency was witnessed at Chickamauga during the Spanish-American War. In the morning the officers would study a lesson from Drill Regulations for half an hour. Then the officers were turned out as a company and were drilled by the chief instructor for half an hour. Then the officers turned out their troops and drilled them under the supervision of the chief instructor, for two hours. This was repeated in the afternoon. It had the advantage of making the instruction in the regiment uniform and complete. This method can best be adapted to drills of precision, like the evolutions of a platoon or troop mounted and dismounted, to the Manual of Arms, marchings, setting-up exercises, saber exercises, etc., etc., of a cavalry regiment. But during the period of equitation, if the regiment is well supplied with riding masters, it would be well if the uninstructed officers rode in ranks with their troops, sharing in the training in horsemanship given the men. For the officer should be as good a horseman as his men, and as well versed in the handling of the rifle, pistol and saber.

The education of officers for war should, in a volunteer regiment, be the object of unremitting attention. For uninstructed officers to command uninstructed men is like "the blind leading the blind." The officer should not only be an excellent horseman, a good shot, a good swordsman, and a competent drill master, but he should be well versed in the regulations and customs of the service, in the drill manuals, and in the higher textbooks on the art of war. His improvement in these subjects will require constant application and hard work. His proficiency should be tested constantly by inspections, examinations and tests.

To make good troops the most important thing is training. To the United States it is indispensable that our training be expedited. A week gained in the preparation of volunteers may mean hundreds of millions of dollars and thousands of lives.

In training a regiment nothing should be allowed to interfere with speedy preparation. No weather, no hardship, no obstacle should be permitted to delay us. It is only by unmitigated driving that efficiency can be obtained. That accomplished, we will have a regiment that officers and men will be proud of; a regiment for whose honor they will fight for in battle, as they fight for their flag and their country.

XI

CONSERVATION OF MOBILITY IN CAMPAIGN

The preservation of extreme mobility is necessary for detached action. By detached action is meant the employment of cavalry in screening, in reconnoitering, as contact squadrons, in scouting far in front of the army, in patrolling, in acting as advance and rear guards; in the pursuit of a beaten enemy; in special missions, as to occupy distant and important points and hold them against the enemy until the arrival of the infantry; special missions threatening the enemy's communications, his depots, his bases, his important towns, his railroads; in raids, in the duties of independent cavalry.

A full supply of food is requisite to maintain the horses in readiness for long, hard marches, for rapid pursuits, for surprise attacks. Only cavalry capable of supreme effort is of value.

On the march horses deprived of food fail from day to day. It is found by experience that when horses on the march are not fed grain, at the end of a week or ten days they will begin to give up and die. Grass alone will not, on march, sustain the American horse, carrying, as he does, a heavy load. When this tragedy has commenced, cavalry is fit for nothing. Encumbered with sick horses, a cavalry command is worse than useless.

Field trains. The principal load carried by field trains is food. The soldier's ration weighs four pounds; the horse's ration weighs from 12 to 26 pounds. If a full ration is carried, cavalry needs, therefore, from four to seven times as much transportation as infantry.

The principal means of supplying cavalry with food are the auto truck, the wagon and the pack-train.

Cavalry marches ordinarily at from four to five miles per hour. Wagons can march but three miles an hour. Cavalry can march on rough roads and trails. Wagons make but slow progress on rough roads, and cannot move on trails or cross difficult fords. Cavalry can move freely in wet weather. Wagons and auto trucks are impeded by mud. Cavalry, when

on screening, reconnoitering and scouting duty in front of the army, is expected to move sometimes several days' march in advance of the main body. Is it not plainly impracticable that wagons or auto trucks should accompany it?

In reconnaissances, raids and on special missions, cavalry must not only move in all kinds of weather, through all kinds of country, over all kinds of roads, but it must make long forced marches, sometimes at high rates of speed. Is it possible that wagons or auto trucks can accompany such special missions?

In the presence of the enemy it will not be ordinarily practicable for cavalry detached from the main body to be accompanied by wagon or auto trucks. Whether operating on the flanks or in the front such trains will probably, for security, follow in rear of the infantry, where they will be inaccessible to the cavalry, except upon favorable occasions.

It is true that the use of auto trucks in certain situations will add greatly to the mobility of cavalry. Even in a thinly inhabited country, if the season be moderately dry, and the soil and roads are adapted to the use of this heavy freight carrier, marching cavalry can be closely accompanied by these vehicles. But in such regions it so often happens that the progress of auto trucks is interrupted by rocky or miry roads, lack of bridges, wet weather, etc., that this vehicle is not always to be depended upon. Under the most favorable circumstances it can be relied upon to carry supplies as far as the advance bases only. More should not be expected.

Pack Trains. It is evident that no cavalry is fit for detached action unless it is liberally supplied with pack transportation. Cavalry without pack transportation must remain within reaching distance of its wagons. It is probable that this fact can explain many cases of cavalry inactivity in war.

It is evident then that if the full value is to be obtained from cavalry, it must be provided with both wheel transportation and pack transportation.

Pack mules driven in herds, or "trains," in the American style (not led, as is done by foreigners) will keep up with cavalry whether at a walk, trot, gallop or charge; they can pass

over any roads or trails or broken country; streams, bridges, fords, practicable for cavalry. Being always "up" with the cavalry on the march, and not trailing behind several hours in time, the soldier always has his dinner with him. Cook fires are made and coffee is in readiness within a few minutes after reaching camp. Having reached camp and unloaded, the pack trains are available to be sent across country with foraging parties to collect grain, hay and beef. Having pack trains, it is not necessary to load down the trooper's horse with grain and rations. When small scouting detachments are sent out entailing an absence of several days, a number of pack mules can accompany them. No escort is needed with the pack trains; they accompany the troops, either following the squadrons, brigade or regiments. In action they are invaluable for distributing ammunition. The pack train is, in fact, so useful and indispensable that it is difficult to understand why it has not been included in the organization of the regiment. In the Mexican War Taylor's column had 1,900 pack mules. In operating against Indians, our cavalry found them indispensable. Toward the end of the Civil War our cavalry columns had immense trains of pack mules.

The "aparejo" or pack-saddle, and the style of packing is essentially American, perfected by our army. The load carried should be, in addition to the weight of the aparejo, about 200 lbs. per mule. A heavier load makes it difficult for the mules to keep up on forced marches. The development of the military pack train as an adjunct to cavalry is a product of experience gained in one of the best schools for cavalry—Indian warfare. As a Yankee invention to double or triple the mobility of cavalry it is a success.

The difficulties found in Europe of scouting without a pack train were well illustrated in Biensan's work on "contact squadrons." In an instance given in this book, the squadron being several days in advance of the main body could not take wagons, and did not have pack mules; the men carried on their horses three days' rations and one day's grain, but this was for an emergency and could not be touched. So on arriving

at camp each day it was necessary to make a requisition on the authorities of the village for beef, bread, etc. If the bread was not at hand it became necessary to make it by seizing grain, grinding flour and baking. The soldiers, arriving at camp at 2:00 P. M., would sometimes not get their food until 9:00 P. M.

But this was in a thickly settled country where supplies were abundant. Imagine the difficulties of scouting without wagons or pack transportation in a sparsely settled country where supplies are scarce, as in the western and southern part of North America.

It is evident that cavalry in campaign needs both pack transportation and wheel transportation; wheel transportation to carry the main bulk of the supplies in field trains which march with the main body of the army; pack transportation which should accompany the advanced detachments of cavalry, carrying a few days' rations and forage, the pack mules being also used for the purpose of foraging and collecting supplies from the inhabitants, and for bringing up supplies from the wagon trains or auto truck companies to the advanced positions.

The question arises: How many pack mules are needed for these purposes?

Twelve mules to the troop, or 50 to the squadron of four troops, is about right. Including the weight of a light kitchen outfit, shovels, axes, pickaxes, lanterns, etc., a troop train of 12 mules, handled by three enlisted men, will carry ten days' rations for sixty men. Or for sixty men they will carry three days' rations per man and three days' grain (80 lbs.) per horse, giving the command a radius of four days' march before revictualling. The strength of sixty men per troop is adopted for the reason that this represents the approximate average strength of Troops whose maximum is 71 men, after the inevitable diminution which occurs on going into the field. A regiment composed of 12 troops having each a strength present in ranks of sixty men, is at once mobile and effective.

The cost of pack trains has always been a powerful argument against maintaining them in time of peace, the first cost of

the mule and his harness being about \$236, and the annual value of his feed and maintenance being about \$100. But the difficulties of organizing pack trains and training the mules in time of war, obtaining experienced packers, hardening the mules' backs, and making them fit for long marches, make it necessary that there should be maintained a nucleus and school in time of peace.

To ensure that in war the pack train should attain its most valuable function, that of the advance supply train of cavalry, it is recommended that the organization of the cavalry regiment include in time of peace one chief packer and a pack train of fifty mules. That the other packers be detailed from the regiment to serve as such for six months, to be then returned to their troops. That the regimental pack train be made a school for packers. When war preparations become expedient, or when the conditions, as at present in guarding the Rio Grande border, require active service in the field, the regiment will thus contain the necessary talent for breaking in the new pack trains which are made necessary.

To pack rations and grain on the horse. It sometimes happens that cavalry has to cut loose from its wheeled transportation, and is at the same time without pack mules, and is therefore obliged to carry food for both man and beast on the horse.

As the usual saddle-pack is already very heavy, we must take every means to prevent undue fatigue to the horse. Every extra pound carried on the horse lessens his ability to march.

Let us assume that a three days' march is necessary before supplies can be obtained. Two days' rations for man and horse will tide us over this period, since we arrive on the third day.

Cut down the weight carried on the saddle by leaving behind part of the clothing, equipment, bedding.

Cut down the men's rations so as to include only hard bread, bacon, salt, coffee. If beef cattle are numerous in the country, cut out bacon, except a small amount for grease.

Fix the horses' ration at 10 lbs. of grain per day. Ensure that the horse in camp obtains good grazing; have each man cut a supply of grass to be fed after nightfall. Give the horse a chance to graze each morning before commencing the march.

To compensate for the extra load carried by the horse (20 lbs. the first day; 10 lbs. the second day) lead and ride alternately while on the march.

When each day's march is half completed, rest for an hour, taking the saddles off the horses, rubbing their backs, grazing them, or giving them a small feed of grain.

Water the horses frequently.

When, during a march, grain is available, but hay or fodder is not to be had, give the horses during the day every opportunity to graze. This can be done by herding them, the horses being sidlined or hobbled. Or they can be picketed out on lariat. Or each horse can be held by the halter strap while grazing.

At night tie them to the picket line, and feed them grass cut by the men. Have an early reveille and a late start. In the early morning let the horses graze—this is the time when the grass, wet by the dew, is most greedily eaten.

To cut grass, sickles should be carried.

Dry Camp. If a long march (say, 50 or 60 miles) through a waterless region is made necessary, necessitating a dry camp, arrange the march as follows:

Leave camp late in the day, say about noon, with all canteens and receptacles for water filled. Do not allow the animals to drink until just before breaking camp; they will thus be thirsty; allow them to drink their fill, at leisure.

March until late that evening, say until 8:00 o'clock; thus, say, 30 miles will be accomplished. Go into camp. Use the water in canteens for coffee. Observe the usual routine as to stables, feeding, etc.

Have reveille at 3:00 o'clock, breakfast, feed animals and start at 4:00 o'clock. By 10:00 o'clock camp and water should be reached. Thus the animals will have been without water less than twelve hours, and will not have suffered from thirst.

Sore Backs. Conservation of mobility demands that the greatest care be given to horses' backs. Sore backs are a concomitant of hard marching, lack of proper food, poor condition of horses, loss of flesh, heat and hardship. Poor judgment in marching, and failure to carefully nurse the horse's back will often give sore backs, even to horses well fed and in good condition, especially when the weather is extremely hot. The sore-backed horse rapidly loses flesh and strength and becomes unfit for service.

Among the causes of sore back are bad riding; badly fitting saddles; careless saddling; wet saddle blankets; dirt, grit, gravel and twigs in saddle blanket; scratches and bruises caused by the horse rolling on stony ground; bites inflicted by other horses, etc.

The back is so sensitive and must stand such hard usage that an abrasion of its skin while on the march, usually results in a sore.

A special cause of saddle sores, in very hot weather, is the heat of the saddle blanket, which "scalds" the skin, producing a breakdown in its texture. The horse's back itches, and when the horse rolls an abrasion is readily produced which grows rapidly into a sore. To prevent this, the saddle should be taken off during the march, the back rubbed and the saddle blanket reversed, bringing a dry surface in contact.

When the horse loses flesh two blankets should be used. If a sore occurs the blanket should be cut away over the sore.

Much unnecessary fatigue to the horse is caused by carelessness in marching by the officer riding at the head of the column. When his gait at a walk is uniformly too fast, or is uneven, sudden checks and increases of gait are produced throughout the column, the rear troopers being obliged to slow up and take the trot suddenly and alternately. The effect of these irregularities in gait is to fatigue the horse, as well as to alter the adjustment of the saddle, causing sore backs.

In the same way, if the column is too long, as when a troop is in column of twos or troopers, there is liable to be much

rushing forward and checking of the rear troopers, especially when the ground is uneven.

To avoid these difficulties as far as possible, a steady gait should be taken at the head of the column. Also the troop should be divided into a number of sections, the leader of each section marching (within limits) at a variable distance from the rear of the preceding section, and maintaining a uniform gait.

XII

LESSONS FROM THE GREAT WAR

All accounts show that cavalry has been greatly used. They were employed as a cavalry screen; in reconnaissance; in patrol duty; in protecting flanks of armies; in filling gaps between armies; in acting as advance and rear guards; pursuing the enemy as independent cavalry; escorting large bodies of infantry and machine-guns moving in automobiles; seizing and holding important positions (heights, etc.) until the infantry could come up; holding long stretches of trenches; acting as a mobile reserve in rear of the trenches. Cavalry did invaluable service to the French and English armies in their retreat from Belgium in acting as rear and flank guards, holding back the enemy, and giving time for the exhausted infantry to recover its marching formation.

The fighting was almost invariably on foot—the proportion of shock action to dismounted action was perhaps one per cent. It was found by the English that the cavalry needed 150 rounds of ammunition on the body, and plenty of intrenching tools; that when under artillery fire the horses should be kept a long distance in rear; that the led horses should be scattered about in small detachments for safety from bombs; that a special drill should be practiced in order to disperse when under artillery fire; that when attacking on foot the alternate rushes we now practice are very often unsatisfactory and dangerous, the men advancing masking the fire of those in rear. It is better to have some form of covering fire to keep the enemy's fire down, either artillery, machine-gun or special squads of sharpshooters. In rushing forward, each rush should partake of the nature of a surprise, the men rising absolutely together. Exposed flanks should be protected by outposts, and patrols should be used to keep in touch with neighboring troops. Men must be practiced in crawling, lying flat on the ground to avoid exposure, and in scraping and digging, and in filling sandbags when lying down. Trenches should often be located behind crests of a hill so as not to be seen by the enemy. Cover which only conceals

from view should be avoided if it forms a target. Passing orders should be practiced by word of mouth from man to man. In estimating distance one distance should be accurately known—600 yards. At this distance rifle fire begins to be deadly. Long range musketry fire should rarely be opened. The advantages of retaining the fire and surprising the enemy at short ranges should be impressed upon all ranks. Commanders of platoons and detachments should carry rifles, but remember that their first duty is to command. Conservation of ammunition should be practiced, the commander keeping the account in clips, and always knowing what clip is being fired.

Much long and hard marching was necessary. The practice of the English cavalry was to halt for ten minutes each hour. To keep the horses in good condition, they were led from ten to fifteen minutes each hour. There were often long halts in the middle of the day. During these halts the horses, to ease them, were often unsaddled. During these halts outposts were put out and a dispersed formation taken for concealment from aeroplanes. The escort of infantry in autos was not always successful. The road was liable to be blocked in front or in rear of the autos. During night marches guides were found indispensable. The cavalry, being usually at a distance from the wagons, carried their rations on the saddle, or lived off the country. The weight on the English horse was 252 pounds. The English habitually carried on the saddle two feeds of grain, weighing six or eight pounds. Horses were always unsaddled when practicable. The failure to do this in some French regiments disabled many horses. Horses and men in all the armies, were billeted each night; they seldom slept in tents. Cavalry marched on roads in columns of twos, one file on either side of the road, seeking concealment under the trees, or against the hedges or buildings.

In reconnaissance, it was found, detachments should advance by bounds. Troops should be impressed with the value of stationary observation from a concealed position. Reconnaissance detachments halting should always provide a "get-away" in rear by cutting wire fences, etc. Troops in position should

always have men posted to look out for aeroplanes. Night reconnaissances were usually not of much value. In camp, squadrons often protected their own fronts with outpost lines, which were inspected carefully, especially just before dawn. Patrols should each consist of one officer and six men, well in advance, the patrols backed up by a squadron. Information usually carried back from patrols to brigade headquarters by motorcyclists. Troops marching should always have an advance guard. To keep in touch, each unit had one man as agent with the next higher unit, in order to bring back necessary information. This was called the Liaison method.

In a country of good roads, cyclists, auto machine-guns, and auto cannon, are found to be an important adjunct to cavalry.

It is evident from our limited sources of information that the cavalry in Europe during the great war has in many instances done valuable work, and as a whole has justified its existence. This is particularly true of the English cavalry. Nevertheless, there is much criticism of the failure of cavalry in general, particularly of the French cavalry, to accomplish more. No doubt can exist that this failure is principally due to the slavish adherence by many officers to the sword as the principal weapon of cavalry, and to faith in the shock as its principal action.

In 1904 the British nation had just been through a war in which 80,000 Boers, nearly all mounted riflemen, resisted for twenty-six months the strenuous attack of 400,000 British infantry, artillery and old-style cavalry, inflicting upon the British 80,000 casualties. It is noteworthy as showing the value of the rifle mounted that of these 80,000 casualties, more than 2,500 were due to Boer charges using the rifle, firing from the saddle. The remainder were due principally to accurate use of the rifle on foot.

As a result of this experience, in the British drill book of 1904 the rifle was declared "the principal weapon of cavalry." But later when a new drill book was issued in 1907 the policy

changed, and the *arme blanche* was again declared to be the cavalry's main reliance.

The Boer War was the greatest example of the value of the mounted rifleman the world has ever seen. It confirmed the experience of the American War of 1861-5. But, the lessons it taught Europe were allowed to go unheeded, and at the beginning of the present great struggle the French, Austrian and Italian cavalry were armed with a carbine little better than a popgun; while in none of those armies was the cavalry sufficiently trained in marksmanship or in dismounted action. As a result great masses of cavalry, which, had they been trained to use the rifle, could have moved with the speed of horsemen and fought with the determination of infantry, were obliged to stand helpless, useless, impotent spectators of fierce battles in which the fate of nations was decided.



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