Vol. XI MARCH, 1898 No 40.

JOURNAL

OF THE

United States Cavalry

ASSOCIATION.

PUBLISHED QUARTERLY
BY THE UNITED STATES CAVALRY ASSOCIATION,
FORT LEAVENWORTH, KANSAS.

PRESS OF KETCHESON & BURBANK,
LEAVENWORTH, KANSAS.

JOURNAL

OF THE

UNITED STATES CAVALRY ASSOCIATION.

VOL. XI. MARCH, 1898. NO. 40.

PRIZE ESSAY.

THE HISTORY OF THE CAVALRY OF THE ARMY OF THE POTOMAC, INCLUDING THAT OF THE ARMY OF VIRGINIA, (POPE'S) AND ALSO THE HISTORY OF THE OPERATIONS OF THE FEDERAL CAVALRY IN WEST VIRGINIA DURING THE WAR

BY FIRST LIEUTENANT CHARLES D. RHODES, SIXTH CAVALRY.

THE preparation of the following pages, especially that portion dealing with the events of the first two years of the war, has not been easy. To evolve a general history from those of individuals, and yet not deal with any one regiment to the prejudice of others; to separate the operations of the cavalry from those of the other arms, and yet preserve that degree of relationship which a part bears to the whole; to touch upon the details of the battle and the march, and yet not transgress the prescribed limits of this little history—all these have been difficulties which have severally and collectively taxed the writer's resources to the utmost. The almost total absence of works of reference, except histories of individual regiments, and the official records of the War of the Rebel-

lion, has, in itself, involved a vast deal of labor. It is, perhaps, not too much to say that a history of the cavalry of the Army of the Potomac might very easily have filled three times as many pages as have here been devoted to it; and the writer has, much against his will, been compelled to cut out matter of the greatest interest. At the same time, while he has borne in mind that this history is intended to be a faithful chronicle of the life of the Federal cavalry, he has tried not to lose sight of the fact that a mere record of events is certain to be monotonous reading.

I.

At the breaking out of the War of the Rebellion, the cavalry force at the disposal of the United States government, consisted of the First and Second Regiments of Dragoons, one regiment of Mounted Rifles, and the First and Second Regiments of Cavalry. When President LINCOLN issued his call for three months' volunteers, another regiment, the Third, was added to the five others, but, for the time, this was the extent of the increase in the cavalry. Volunteer infantry and artillery poured into Washington from all parts of the North, but volunteer cavalry neither came, nor were encouraged to come. Absurd as it now appears, it was the intention of the Federal authorities to confine the cavalry to the six regular regiments. The North confidently expected to crush the Rebellion at once. Cavalry was an expensive arm, and experienced officers knew that years were required to produce an efficient trooper. Even such a veteran as General SCOTT gave it as his opinion that owing to the broken and wooded character of the field of operations, and the improvements in rifled firearms, the rôle of the cavalry would be unimportant and secondary. MCCLELLAN'S report of the preliminary operations in West Virginia, says: "Cavalry was absolutely refused, but the governors of the States complied with my request and organized a few companies which were finally mustered into the United States service, and proved very useful."

Only seven companies of cavalry took part in the battle of Bull Run, but the firm front which they displayed while covering the precipitate retreat of the Federal army, probably saved a large proportion of the army from annihilation by STUART'S cavalry, and has never received the recognition which it deserved.

On the 27th of July, 1861, MCCLELLAN assumed command of what was destined to be called the Army of the Potomac, and the

regular cavalry regiments were reorganized, and renumbered consecutively from "one" to "six."

With the organization of the Army of the Potomac, begins the real history of its cavalry, but for two long years,—until its reorganization under HOOKER, its history is one of neglect, disorganization, and misuse. MCCLELLAN'S one idea of the shortcomings of the cavalry, was that it was not large enough. Meanwhile it furnished guides, orderlies, and grooms for staff officers; and was so divided up among corps, division, and brigade commanders as to completely subvert its true value, bringing sarcasm and ignominy on what should have been one of the most powerful factors in the overthrow of the Rebellion.

The drill regulations of the cavalry at the breaking out of the war —called at that time "tactics"—were modified from those of the French dragoons, and had been found unsuited to the needs of cavalry operating in the United States. General PHILIP ST. G. COOKE had accordingly prepared a new system which was approved by the War Department in October, 1861, but did not come into use on account of the conditions which obtained at the time. This, without doubt, proved a great restriction upon the usefulness of the arm.

The armament of the volunteer regiments, which were mustered in with some show of interest after the disaster at Bull Run, were along the same lines as that of the regular regiments of that day, and was in charge of General STONEMAN. Though suffering from a deficiency in cavalry arms and equipments, every cavalry soldier was armed with a saber and revolver as soon as circumstances permitted, and at least two squadrons in every regiment were armed with carbines.

One volunteer regiment, the Sixth Pennsylvania cavalry, (RUSH'S Lancers) was armed with the lance, in addition to the pistol, twelve carbines being afterwards added to the equipment of each company, for picket and scouting duties. The lances were carried from December, 1861, until May, 1863, when they were discarded for the carbine, as being ill-adapted for use in the wooded country through which the command operated.

The carbines issued were of various patterns, generally the Sharpe's, until the advent of the Spencer in 1863. The revolver was the Colt's. The saddle was the McClellan, and with the remaining horse equipments, had been adopted through recommendations made by General MCCLELLAN after his official European tour in

1860. The saddle, however, was covered with rawhide instead of leather, and became very uncomfortable when split.

The original regulations governing the mustering in of volunteer regiments, required the cavalry to furnish their own horses as well as horse equipments; * but this was later modified, and the government furnished them, as they had done to the regular regiments. But the horses furnished were in most cases very poor animals, due to fraud on the part of government contractors, and the overtaxed resources of the Quartermaster's Department.

On the 15th of October, 1861, the organization of the cavalry consisted of a small brigade under General STONEMAN, and some eleven or twelve other regiments, attached to divisions of infantry.† Its strength, November 12th, aggregated 8,125, of which but 4,753 are reported as "present for duty, equipped." It was constantly drilled during the fall and winter, with enough scouting and outpost duty in the Virginia hills to give the cavalry regiments a foretaste of actual service. And just preceding the Peninsular campaign, General STONEMAN with a brigade made a reconnaissance along the Orange and Alexandria Railroad as far as Cedar Run.

In March, 1862, the Peninsular army was transported Southward, and the siege of Yorktown was begun. The cavalry reserve, which was under that veteran cavalryman, General P. ST. G. COOKE, was organised as two brigades under Generals EMERY and BLAKE, and consisted of six regiments.‡ The rest of the cavalry was divided up among the army corps, and the various headquarters. Every available hour spared from outpost duty, was still utilized for drill, and when the enemy abandoned his lines at Yorktown, the cavalry was called upon to pursue.

General COOKE encountered the enemy in force at Fort Magruder, but as he failed to be supported by HOOKER's division through causes which have become historic, he was obliged to fall back. But not before the First U. S. Cavalry had made two brilliant charges, capturing a regimental standard. Major WILLIAMS's four squadrons of the Sixth U. S. Cavalry, which was cut off by a large force of the enemy, saved itself by promptly wheeling about by fours and charging the pursuers.

Had there been a larger force of Federal cavalry, or had it been properly supported by the infantry divisions, it is probable that

* See Appendix 1.

† See Appendix 2.

‡ EMERY's Brigade: Fifth U. S. Cavalry, Sixth U. S. Cavalry, Sixth Pennsylvania Cavalry. BLAKE's Brigade: First U. S. Cavalry, Eighth Pennsylvania Cavalry, BARKER's squadron Illinois Cavalry.

the Battle of Williamsburg, which followed, would never have been fought. LONGSTREET had not intended to fight here, but finding his rear guard successful, and posted in a strong position, and a large portion of his force involved, he gave battle.

The cavalry took little part in this battle. Williamsburg was abandoned by the enemy on the 6th, and Colonel AVERELL with portions of the Third Pennsylvania, and Eighth Illinois Cavalry, pressed on in pursuit as far as New Kent, recovering five pieces of artillery and capturing twenty-one prisoners.

"From this time on," as a distinguished cavalry officer has said, "affairs with the cavalry, through no fault of its own, went from bad to worse. Detachments from its strength were constantly increased, and it was hampered by instructions which crippled it for all useful action." But in spite of the disadvantages under which it labored, it displayed the same brave devotion to duty which was afterwards to be put to such good account during the two last years of the war.

During the next few days, the cavalry was almost constantly engaged in reconnaissance duty, and although there were numerous minor skirmishes, nothing of importance occurred until the taking of Hanover Court House, (May 27–29) when the Fifth and Sixth United States Cavalry, supported by the Seventeenth New York Infantry, cut off and captured the greater part of an entire regiment—the Twenty-eighth North Carolina Infantry—continuing the pursuit two and one-half miles beyond the town.

In pursuance of the general plan of cutting the enemy's communications with Northern Virginia, cavalry brigades under General EMORY and Colonel WARREN, destroyed the bridges over the South Anna and Pamunkey Rivers, and engaged in many creditable skirmishes with the enemy. Some of the volunteer cavalry, during these operations, were under fire for the first time.

The cavalry's part in the battle of Fair Oaks (May 29th), was insignificant. Nothing else could be expected, considering its disunited condition and anomalous status; so that when, two weeks later (June 13th) STUART, with about 1,200 cavalry, passed completely around the Federal army and fell on the weak right flank of the cavalry, there could be but one result. The cavalry was blamed for not having given notice of STUART's approach; and when General COOKE, with a small cavalry force was tacked onto an infantry division and told to catch STUART, his failure to strike his swift moving adversary was criticised in these words: "I have seen no energy or spirit in the pursuit by General COOKE of the enemy, nor

has he exhibited the characteristics of a skillful and active guardian of our flanks."*

Time has shown that General COOKE received positive orders from the commanding general of the left wing to regulate his pursuit by the march of the infantry column, and on no account to precede it. "The officer of to-day, even though he has had no experience in war, with the record of cavalry marches before him, can imagine the effect of such an order on a dashing, chivalrous, enthusiastic cavalry officer, chafing under the restraints that had already been placed upon him by a soldier who had learned from the books that a forced march for cavalry for one day was twenty-five miles." †

In the passage of the Army of the Potomac over the Chickahominy, General PORTER, with the Fifth Army Corps, was charged with covering the movement and keeping the enemy in check. All the cavalry was placed under his orders, and the battle of Gaines's Mill, which followed (June 27th) is remarkable for the stubborn resistance of the cavalry under General COOKE. ‡

The line of battle formed the arc of a circle, almost parallel to the Chickahominy, and COOKE's division, consisting of two small brigades, was placed behind the breaks of a plateau, in rear of the extreme left of the line. During the day the Confederate army, reinforced by the army of STONEWALL JACKSON from northern Virginia, made four desperate assaults on the Union lines, and every available infantryman was brought into action. In rear of the left of the line there was not a single reserve, save the cavalry and considerable artillery. The day was fast drawing to a close, when the Confederates made a final effort to force the left flank and cut it off from the bridge over the Chickahominy. The center and left of the line gave way under overwhelming numbers, many of the regiments being completely demoralized. The reserve artillery, left without support, had begun to limber up, when, by order of General COOKE, they were ordered to maintain their position, and were assured that the cavalry would support them. The artillery willingly complied, and opened a heavy fire on the advancing infantry lines. When almost too close for an effective charge, General COOKE ordered Captain WHITING, commanding the Fifth U. S. Cavalry, to charge with his regiment. Numbering but 220 sabers, the little force moved out under a heavy fire, and a portion of the line struck the enemy intact, and were only stopped by the woods at the bottom of the slope. The casualties in the charge were fifty-eight,

*Report of General FITZ JOHN PORTER.
† General MERRITT, in JOURNAL U. S. CAVALRY ASSOCIATION, June, 1895.
‡ See Appendix 3.

with twenty-four horses killed, a sacrifice that was well worth the results attained. Under cover of the charge the artillery was safely withdrawn, its bold stand having delayed the enemy's advance long enough for the re-forming of the best disciplined infantry regiments.

Had this determined stand not been made, the seizure of the Chickahominy bridge, and the capture of at least a portion of PORTER's command, would undoubtedly have followed. And yet General PORTER reported that the cavalry caused the loss of the action. The COMTE DE PARIS, in a letter to General COOKE, February 2, 1877, has said: "The sacrifice of some of the bravest of the cavalry, certainly saved a part of the artillery; as did, on a larger scale, the Austrian cavalry on the evening of Sadowa. The main fact is that with your cavalry, you did all that cavalry could do, to stop the rout."*

Not a more glorious act occurred during the entire war, than this misrepresented charge of the Fifth U. S. Cavalry, as a sacrifice for the withdrawal of the artillery. The survivors should have been decorated, and had they belonged to a French or German army, they would undoubtedly have been thus rewarded.

About June 24th, General STONEMAN was placed in command of all the cavalry on the right of the army (about 2,000 in all), and was charged with picketing the country towards Hanover Court House. During the Seven Days Battles, he was guarding the region from the Meadow Bridge to the Pamunkey, with the Seventeenth New York Infantry and Eighteenth Massachusetts in support. The maneuvering of the enemy was such as to cut off STONEMAN's command from PORTER's corps, and after falling back on White House, where he destroyed immense quantities of stores to prevent their falling into the enemy's hands, he retreated to Yorktown, arriving there the 29th instant. These cavalry regiments attached to the army corps during this movement, performed arduous and painstaking duties.

By an order published July 8, 1862, part of the volunteer cavalry of the Army of the Potomac was organized by General STONEMAN into two brigades, commanded by Colonels AVERELL and GREGG.†

*Battles and Leaders of the Civil War, Vol. II, page 344.
† First Brigade (AVERELL's): Third Pennsylvania, First New York, Fourth Pennsylvania, Cavalry.
Second Brigade (1. GREGG's; 2. PLEASANTON's): Eighth Illinois, Eighth Pennsylvania, Sixth New York.
To SUMNER's corps, BARKER's squadron.
To HEINTZELMAN's corps, DELANEY's squadron, Fifth Pennsylvania Cavalry.
To KEYES' corps, one squadron Eighth Illinois Cavalry.
To PORTER's corps, one squadron First New York Cavalry.
To FRANKLIN's corps, one squadron First New York Cavalry.

To AVERELL was assigned the task of thoroughly patrolling the country in front of the right wing and flank, and to Colonel GREGG was given similar duties on the left flank. Diminutive as this force was, for the many duties it was called upon to perform, it performed them well. But again was the cavalry called upon to furnish guides, scouts, orderlies and escorts, until the regiments dwindle down to mere nothings. In fact, as General MERRITT has said, "After Gaines Mill, the cavalry of the Army of the Potomac had no history of which it had reason to be proud, until the reorganization of the army, with HOOKER in command."

II.

On the 26th of June, General JOHN POPE had been assigned to the command of the Army of Virginia, composed of the commands of Generals BANKS, FREMONT, and MCDOWELL. FREMONT had succeeded ROSECRANS in command of the Mountain Department, March 29th, but under his administration and those of his predecessors, the Federal cavalry in West Virginia had performed no conspicuous deeds. The country was ill-suited for maneuvering large bodies of cavalry; but for scouting and reconnoitering, small bodies could be made very useful, as shown by the value to MCCLELLAN, of the hybrid commands known as MCMULLEN's Rangers, the RINGGOLD Cavalry, and BURDSALL's Cavalry. In fact, partisan warfare was a distinct feature of the operations in West Virginia throughout the war.

A year after the beginning of the war, the Mountain Department, which included West Virginia, contained thirty-six companies of cavalry, aggregating 2,741 men; but they were poorly equipped and mounted—many of them dismounted. And these, with the insufficient infantry and artillery forces, guarded a frontier 350 miles long, 300 miles of railroad, and 200 miles of water communication.

In his report of the battle of Kernstown (March 23, 1862)—one of the bright spots in the successive misfortunes of the Union forces in the Shenandoah Valley, General SHIELDS says: "My cavalry is very ineffective. If I had one regiment of excellent cavalry, armed with carbines, I could have doubled the enemy's loss."

The cavalry which FREMONT brought to the Army of Virginia, were partly dismounted; and the horses of those who were mounted, were in a great measure so broken down and starved as to be well-

nigh useless. The mounted forces of BANKS and MCDOWELL were in much the same miserable condition. The consolidated morning report of July 31, 1862, shows that out of 8,738 cavalry in the three corps, 3,000 are deducted as "unfit for service." Such a proportion is a commentary on the condition of the cavalry of the Army of Virginia at this time.

And yet this little force did excellent service, partly perhaps through the efficiency of those who commanded it, but principally on account of its wise use by the commanding general.

Pope's general instructions directed him to cover Washington, and pending the transfer of MCCLELLAN's troops from Harrison's Landing to Aquia Creek, Va., he was charged with resisting at all hazard any possible advance of the enemy.

Accordingly General KING, at Fredericksburg, was directed to send out detachments of his cavalry to operate on the line of the Virginia Central Railroad and destroy communications between Richmond and the Shenandoah. The cavalry expeditions sent out were highly successful.

At the same time BANKS was directed to push all his cavalry towards Gordonsville, and its execution was intrusted to General JOHN I. HATCH, an officer of the regular cavalry. But this officer, instead of pushing forward with all haste, burdened himself with infantry, artillery, and wagon trains, so that when POPE supposed the bridges and railroad destroyed in the vicinity of Charlottesville and Gordonsville, HATCH's command had just reached Madison Court House. This movement illustrates the common idea of the use of cavalry at this period. HATCH's delay allowed JACKSON's advance to occupy Gordonsville, and the movements contemplated became impracticable. HATCH was relieved from command, and was succeeded by BUFORD, as chief of cavalry of BANKS's corps.

On August 7th, the cavalry of the Army of Virginia was distributed as follows: BUFORD's brigade, at Madison Court House, picketing the Rapidan from Barnett's Ford to the Blue Ridge; BAYARD's brigade at Rapidan Station, picketing from Barnett's to Raccoon Fords. (BUFORD and BAYARD were young officers of the regular cavalry.) Pickets were also established from Raccoon Ford to the forks of the Rappahannock. The whole disposition of the cavalry was admirably arranged as a screening force, and on August 7th and 8th performed valuable service in retarding JACKSON's advance and keeping POPE informed of the enemy's movements.

At the battle of Cedar Mountain,* which occurred the following

* See Appendix 4.

day, the cavalry fell slowly back as the enemy advanced, and rendered effective service throughout the day, a squadron of the First Pennsylvania Cavalry making a most gallant charge against a body of the enemy which was about to charge the Union batteries. The squadron lost an aggregate of 93 men out of the 164 who participated in the charge.

As JACKSON fell back across the Rapidan, the cavalry kept touch with him, and reöccupied their old picket line, stretching from Raccoon Ford to the base of the Blue Ridge. Reconnaissances, too, were pushed forward, and a cavalry command sent out on August 16th, captured General STUART'S Adjutant General with important dispatches, the tenor of which strongly influenced POPE in his decision to fall back across the Rappahannock, which he did August 17th and 18th.

At this time the cavalry was greatly fatigued. POPE says: "Our cavalry numbered on paper about 4,000 men, but their horses were completely broken down, and there were not 500 men capable of doing as much service as should be expected from cavalry." That the cavalry would play an unimportant part in the subsequent movements leading up to, and culminating in the battle of Bull Run, would be expected from their miserable condition. With broken-down horses it was impossible to cover the front of the army, or to make reconnaissances. Speaking of the condition of the cavalry on the morning of the battle of Bull Run, POPE says: "The artillery and cavalry horses had been in harness and saddled continually for ten days, and had had no forage for two days previous." But the services of the cavalry under their two efficient brigade commanders could not receive greater praise then when General POPE says: "Generals BAYARD and BUFORD commanded the cavalry belonging to the Army of Virginia. Their duties were peculiarly arduous and hazardous, and it is not too much to say that, throughout the operations, from the first to the last day of the campaign, scarcely a day passed that these officers did not render service which entitles them to the gratitude of the government."*

Thus did the cavalry acquit itself. It had not always been used wisely, nor was it kept supplied with remounts and forage as it should have been. Efficiency, which comes only with experience, was gradually gaining ground, in spite of many obstacles. The true worth of cavalry, and consequently, its true employment, was beginning to be better comprehended. An order issued by General POPE, soon after the battle of Cedar Mountain, directing the cavalry

*See Appendix A.

detachments at brigade and division headquarters to report for duty to their chiefs of cavalry, and greatly reducing the number of orderlies, marks a decided change in the condition of the cavalry; but the time was still far distant when it was to be given a status in keeping with its importance, and when it was able to vindicate itself in the eyes of those who "never saw a dead cavalryman."

III.

On the 5th day of September, 1862, the Army of the Potomac and the Army of Virginia were consolidated, and General MCCLELLAN assumed command of both armies.

Contrary to public expectation, General LEE invaded Maryland instead of attacking Washington, and the Army of the Potomac, while shielding the National Capital, endeavored to keep touch with the army of invasion. Had MCCLELLAN had at his disposal at this time an adequate cavalry force, his task would have been made infinitely more simple.

But the cavalry, especially that portion which had passed through POPE'S campaign, was in deplorable condition for aggressive action. PLEASANTON'S cavalry division, weakened though it was by its experience on the Peninsula, was best able to take the field, and early in September was reconnoitering the fords of the Potomac. On the 9th, it occupied Barnesville, and captured the battle-flag of the Twelfth Virginia Cavalry. On the 13th, the right wing and center of the Federal army having reached Frederick, the cavalry cleared the passage over the Catoctin Hills, and early on the morning of the 14th, found the enemy occupying advantageous positions at South Mountain, on either side of the gap through which the National road passed.

The enemy was routed from his positions by the Federal army, but the cavalry took little part in the battle. PLEASANTON deployed a portion of his cavalry dismounted during the day, causing the enemy to mass a considerable force on the right of the Confederate position.

LEE'S army withdrew so as to cover the Shepherdstown Ford of the Potomac, and the cavalry, followed by three army corps, pursued by way of Boonesborough. At the latter place the cavalry caught up with the enemy's rear guard, and charging repeatedly, drove the enemy two miles beyond the town. The enemy left thirty dead and fifty wounded upon the field, besides two pieces of artillery and 250 prisoners captured; while the loss to the Union cavalry was but one killed, and fifteen wounded.

On the 17th, the date of the battle of Antietam, the cavalry moved to Antietam bridge, which was found to be under a cross-fire of the enemy's artillery. Cavalry skirmishers were thrown forward, and aided by the horse batteries of the division, the enemy's batteries were driven from their positions. The main battle was between the infantry and artillery of both armies, and resulted in the withdrawal of LEE's army into Virginia.

On the 18th, the cavalry was feeling the enemy and collecting stragglers; on the 19th, pushing the enemy's rear guard at the fords of the Potomac; and thereafter, for some time, it was so disposed as to cover the principal fords, making frequent reconnaissances into Virginia to develop the enemy's position and movements.

For these duties the strength of the cavalry was found to be inadequate. Overwork and disease had broken down the horses to such an extent, that when on October 11th, General STUART made a raid into Pennsylvania with 2,000 men, MCCLELLAN could mount but 800 men to follow him.*

To meet this raid, AVERELL, then on the upper Potomac, moved down the north side of the river, while PLEASANTON, taking the Cavestown-Mechanicstown road, was disposed to cut off the raiding force should it cross by any of the fords below the main army. Upon arriving at Mechanicstown, PLEASANTON learned that the enemy was but an hour ahead of him—retreating towards the mouth of the Monocacy; and although his own force numbered about one-fourth that of the enemy, he pursued vigorously † and attacked STUART's rear guard with such energy that the latter was prevented from crossing the Monocacy Ford and was forced to move to White's Ford, three miles below. Had the latter ford been occupied by troops as was originally ordered, it is quite probable that STUART would have been captured or badly crippled. A larger cavalry force, or even a supply of serviceable horses for the Army of the Potomac, might have prevented this raid, which had the effect of drawing a considerable force from LEE's tired army, produced great consternation among the people of the North, and led to a loss of much property.

On September 10th, General BUFORD had been announced as chief-of-cavalry of the Army of the Potomac, but the office was simply a staff position, and was attended with very little, if any, independence of action. So far as the cavalry was concerned the

* Rebellion Records, Vol. XIX, Part I, page 71.
For strength, "present and absent," see Appendix 7.
† PLEASANTON marched seventy-eight miles in twenty-four hours.

chief-of-cavalry was the executive officer of the commanding general.

On October 1st General BAYARD was assigned to the command of all the cavalry about Washington, south of the Potomac; and on the 21st General PLEASANTON was given a cavalry brigade consisting of the Sixth U. S. Cavalry, the Eighth Pennsylvania, the Eighth Illinois, the Third Indiana, and the Eighth New York Cavalry regiments.

On the 26th PLEASANTON crossed the Potomac at Berlin, and during the next few days was employed, as was also the brigade of BAYARD, in gaining information of the enemy's movements, resulting in skirmishes at Snicker's Gap, Upperville, Aldie, Mountville, Philomont and Manassas Gap. On November 5th his brigade fought an action at Barbee's Cross Roads, with STUART's command of about 3,000 cavalry, accompanied by four pieces of artillery. GREGG, with the Eighth Pennsylvania and the Sixth United States, turned the enemy's right; DAVIS, with the Eighth New York, attacked the left; and FARNSWORTH, with the Eighth Illinois, moved against the center. During the engagement DAVIS was met by a much superior force, about to charge him. He quickly overcame the disproportion in numbers by dismounting several of his companies behind a stone wall, and their galling front and flank fire soon threw the enemy into confusion. This accomplished, DAVIS, with the remainder of the regiment, mounted, charged, routed the enemy and drove him from the field. The Confederates left thirty-seven dead upon the field, while the Union loss was but five killed and eight wounded. This maneuver of fighting dismounted behind obstacles with a portion of a command, and charging the enemy in the flank with the remainder mounted, became a very common and effective method of fighting throughout the war.

On November 7th General MCCLELLAN was superseded as commander of the Army of the Potomac by General BURNSIDE, and the army was organized into three grand divisions—the right, center and left, commanded by SUMNER, HOOKER and FRANKLIN. An order of the 21st instant assigned the cavalry divisions of PLEASANTON, BAYARD and AVERELL to the three grand divisions respectively.

BURNSIDE moved his army down the north side of the Rappahannock on November 15th, and reached Falmouth on the 20th. Although the river was fordable a few miles above the town, and LEE's army had not yet reached Falmouth at this date, BURNSIDE did not cross the river until the 11th of December. The passage

of the river was effected without much opposition, but in the subsequent attempts to turn the enemy's position on the heights in rear of Fredericksburg, the Federal army was obliged to fall back. Both armies remained in position until the night of December 15th, when General BURNSIDE withdrew his forces to the north bank of the Rappahannock.

During the advance along the north bank of the river, begun on November 15th, the cavalry was in rear, employed in covering the fords, and this duty gave rise to much skirmishing. On November 16th at the United States Ford, and on the 28th at Hartwood Church, BAYARD'S and AVERELL'S cavalry divisions were engaged; and on the 28th to 30th of the month the brigade attached to the reserve grand division, whose headquarters were near Fairfax, advanced to Snickersville and Berryville and routed the enemy's cavalry, (WHITE'S) capturing their colors and many prisoners.

But the cavalry took very little part in the grander movements of the army. When SUMNER'S grand division crossed the river on December 12th, PLEASANTON'S cavalry division was massed in rear of the ridge commanding the approaches to the upper bridges. And when FRANKLIN crossed below the city, he was preceded by BAYARD'S cavalry division, which reconnoitered the country southward.* This was the extent of the cavalry operations, the exhausting and unceasing picket duty, monopolizing almost the entire time and attention of officers and men.

After the Union army fell back across the Rappahannock, the two armies confronted each other, each endeavoring to recuperate from the terrible struggle at Fredericksburg, and each hesitating to take the initiative. There were dissensions in the Army of the Potomac, and differences of opinion. BURNSIDE was for a general advance, but was opposed in this by his grand division commanders. And the Commanding General's views so far took shape that a cavalry expedition, proposed and organized by General AVERELL, was put on foot (December 28th), only to be recalled at the last moment by orders from the President, instigated by general officers, who differed with General BURNSIDE as to the wisdom of aggressive action at this time.

AVERELL proposed to take a thousand picked men, selected from

* General BAYARD was killed on the 15th by a piece of shell, while near General FRANKLIN'S headquarters. He was succeeded by Colonel D. McM. GREGG, Eighth Pennsylvania Cavalry; and Colonel THOMAS C. DEVIN succeeded to the command of the Second Brigade of PLEASANTON'S division. Both these officers were destined to become celebrated in the subsequent operations of the cavalry.

For the organization of the cavalry at Fredericksburg, see Appendix 8.

nine regiments, with four pieces of artillery, proceed by Kelly's Ford on the Rappahannock, and Raccoon Ford on the Rapidan, to the James River, and by crossing on the bridge at Carterville, to proceed to Suffolk, or join the Federal forces in North Carolina, under General FOSTER. The expedition was expected to destroy the railroads, bridges, and telegraph lines between the Federal army and Richmond, and was to depend upon the country for sustenance. In many respects it did not differ in conception from the STONEMAN raid of six months later.

IV.

On January 26th, General BURNSIDE was relieved from command of the Army of the Potomac, and was succeeded by General HOOKER. A few days later (February 6, 1863) the organization by grand divisions was abolished, and that by army corps substituted, with General STONEMAN to command all the cavalry.

This consolidation of the cavalry was by far the most important step that had yet been taken to increase its efficiency, and enable it to act in its true rôle.

The cavalry corps was organized in three divisons, commanded by Generals PLEASANTON, AVERELL and GREGG, with the Reserve Brigade in command of General BUFORD. On February 10, 1863, the corps had an aggregate of 13,452 officers and men present for duty--the present and absent numbering 17,166. These figures give some idea of the large number of absentees. The regular regiments, especially, were depleted in numbers. Regular officers were constantly assigned to duty with volunteer commands, as well as to many staff positions; and in the matter of recruiting, the government could not successfully compete with the States. At times the strength of the regular regiments did not average more than 250 men present for duty. A squadron—the tactical unit of organization—contained anywhere from sixty to one hundred men, and was only brought up to the required strength by the addition of extra companies.

During the months of January and February, the cavalry was kept constantly employed, reconnoitering the enemy's position, watching the fords of the Rappahannock, and engaged in almost constant skirmishing.* Much of this was done in severe winter weather, while the infantry was being made comfortable in winter quarters.

*Grove Church, Fairfax, Middleburg, Rappahannock Bridge, Somerville.

The enemy's cavalry was very bold and aggressive. On February 24th General FITZHUGH LEE, with 400 of his cavalry, crossed the river at Kelly's Ford, drove back the Federal pickets at Hartwood Church, and brought on a skirmish with AVERELL's cavalry. Under the impression that the enemy were in force, General STONEMAN immediately put the divisions of PLEASANTON and AVERELL in motion, followed by the Reserve Brigade; but after encamping for a night at Morrisville, the enemy eluded their pursuers by recrossing the Rappahannock.

On March 17th, however, an engagement was fought at Kelly's Ford, which made the Confederate cavalry more wary, and did much towards making the Union cavalry more aggressive.

General AVERELL received orders to cross the river with 3,000 cavalry and six pieces of artillery, and attack and destroy the forces of General FITZHUGH LEE, supposed to be near Culpeper Court House.

The Union general started from Morrisville with about 2,100 men all told, and arriving at Kelly's Ford, found the crossing obstructed with abatis, and defended by about eighty sharpshooters, covered by rifle-pits and houses on the opposite bank. After several attempts, the crossing was gallantly effected by Lieutenant BROWN with twenty men of the First Rhode Island Cavalry, who took twenty-five prisoners. The crossing could easily have been forced by the use of artillery, but it was not desired to give notice of the movement to the enemy.

Westward from the ford, the ground was comparatively clear for half a mile, followed by woods; and beyond the latter, was an open field. The cavalry column reached the first line of woods without opposition, when the enemy was discovered advancing in line. The Fourth New York was directed to form line to the right of the road, the Fourth Pennsylvania to the left, with a section of artillery between the two. In front of these troops was a broad, deep ditch, covered by a heavy stone wall; and from behind this obstacle the carbines of the cavalry and guns of the artillery delivered a brisk fire. Further to the right, the Third Pennsylvania and Sixteenth Pennsylvania had come into position; while to the left, the First Rhode Island and Sixth Ohio had also formed line. As the enemy advanced under the galling fire of the dismounted men, Colonel DUFFIÉ, commanding the first brigade, led the regiments on the left of the line in a most successful charge. This charge was closely followed by that of Colonel MCINTOSH, who struck the left flank of

another of the enemy's columns just arriving on the field, and the entire body of Confederate cavalry was driven back in great confusion.

The Federal line being re-formed, it again advanced three quarters of a mile, driving the enemy through a second line of woods. Beyond these woods, and distant about half a mile, the Confederates made another stand, and attempted to advance under cover of a heavy artillery fire, but were again repulsed and driven from the field. As it was then quite late in the day, and the horses of the Federal cavalry were much exhausted, the division was withdrawn, and recrossed Kelly's Ford without opposition. The official return of casualties was for the Union forces, 78; and for the Confederates, 133.

This engagement has been described with some degree of detail, because of its importance as being the first time the Federal cavalry was made to feel its superiority, or at least, equality, with the splendid cavalry of STUART.* It was another step in the increasing feeling of confidence in themselves and in their leaders, which was to manifest itself in a still greater degree at the subsequent battle of Brandy Station.

But the interminable picket duty of the cavalry still went on,† as though none but mounted troops were capable of performing such service.

During this period, too, the Federal cavalry in West Virginia, were kept more than usually busy, due to the expedition of the Confederate General IMBODEN into that State (April 20th to May 14th), and also the raid of General W. E. JONES on the Baltimore & Ohio Railroad (April 21st to May 21st), leading to skirmishes at Beverly, Janelew, and Summerville, W. Va.

In addition to these attempts to frustrate the more important raids of Confederate troops in the State, the Union cavalry in West Virginia had particularly arduous service during the entire year, in attempts to break up the depredations of the guerrilla bands of MOSBY and GILMORE. During the winter of 1762–63, movements

*Generals STUART'S and FITZ-LEE'S official reports of this engagement dwell on the fact that the Union forces were afraid to meet their opponents in the open, and that the mounted troops continually fell back, when hard pressed, to the protection of their artillery and dismounted skirmishers.

†The skirmishes of the cavalry while upon this duty were of daily occurrence, some of them very severe—Bealeton Station, Herndon, Occoquon, Little River Turnpike, Broad Run, Middleburg, Burlington, Purgitsville, Rappahannock Bridge, Kelly's, Welford's and Beverly Fords. (Skirmish of April 14-15.)

of troops were especially onerous on account of the severity of the winter weather in the mountains, and the extent of the territory to be guarded.

During the spring of 1863, as well as during the succeeding summer, the cavalry in West Virginia fought a number of minor skirmishes, which, though often bravely contested, reflected no great credit on the cavalry arm. As General HALLECK states in his report (November 15, 1863): "The force (in West Virginia) being too small to attempt any campaign by itself, has acted merely on the defensive in repelling raids and breaking up guerrilla bands."

The same may be said of the cavalry of General MILROY, operating in the Shenandoah Valley at this time. Though kept continually busy, reconnoitering, patrolling, and picketing this part of Virginia, its operations were of a minor character.*

On April 27, 1863, was inaugurated the Chancellorsville campaign, General HOOKER crossing the Rappahannock and Rapidan above their junction. At the same time the major portion of the cavalry corps under STONEMAN crossed the upper Rappahannock for a raid on the enemy's communications with Richmond.

STONEMAN'S instructions from HOOKER were framed with the idea in view that the coming encounter between the Army of the Potomac and the Army of Northern Virginia would be gained by the Federal army.

"You will march," says the order, "with all your available force, except one brigade, for the purpose of turning the enemy's position on his left, and of throwing your command between him and Richmond, and isolating him from his supplies, checking his retreat, and inflicting on him every possible injury which will tend to his discomfiture and defeat. * * * You may rely upon the General (HOOKER) being in connection with you before your supplies are exhausted."

Leaving DEVIN'S brigade of PLEASANTON'S division for duty with the Army of the Potomac, STONEMAN crossed the Rappahannock on April 29th, by way of the railroad bridge and Kelly's Ford. Three days' rations and three days' allowance of short forage were taken on the troopers' horses; while three days' subsistence and two days' short forage were taken upon pack mules. With the exception of the artillery, not a wheel of any description accompanied the command.

*The cavalry fought skirmishes at Bucks, Front Royal, and Berry's Fords.

After crossing the river, General STONEMAN turned over to AVERELL'S command — which consisted of one division, one brigade, and six pieces of artillery — the task of defeating any force of the enemy likely to impede the operations of the raiding force. But AVERELL had not gone far when he was recalled by an order from General HOOKER, leaving STONEMAN with one division, one brigade, and six pieces of artillery, aggregating 4,329 men.

The Rapidan was crossed at Morton's and Raccoon Fords on the 30th, and thereafter until May 8th the command subsisted entirely on the country through which it passed. After taking possession of Louisa Court House, STONEMAN passed on and destroyed the Virginia Central Railroad from Gordonsville, for eighteen miles eastward, together with all railroad bridges, trains, depots, provisions and telegraph lines. Passing on, a large portion of the Aquia and Richmond Railroad was destroyed, all the bridges across the South Anna, and several across the North Anna.

On May 3d Colonel JUDSON KILPATRICK, commanding one of the brigades, was sent with his own regiment (HARRIS' Light) to destroy the railroad bridge over the Chickahominy. But being unable to rejoin STONEMAN, KILPATRICK took refuge within the Union lines on the Peninsula, having burned the bridge over the Chickahominy, run a train of cars into the river, destroyed the ferry at Hanovertown in time to check a pursuing force, surprised a Confederate force at Ayletts, burned fifty six wagons and a depot containing 60,000 bushels of corn, destroyed the ferry over the Mattapony, as well as vast quantities of clothing and commissary stores.

As to STONEMAN'S main command, the six days having expired during which General HOOKER was to have opened communication, and supplies becoming scarce, STONEMAN decided to make the best of his way to the Army of the Potomac, which he reached in safety. He then learned the result of the sanguinary battle of Chancellorsville.*

As a moral factor and an engine of destruction, the STONEMAN raid was a great success. It destroyed millions of dollars worth of Confederate property, and, although for a short time only, cut LEE'S communications. Its moral effect, judging from the Confederate correspondence since published, was much greater than was at the time believed to be the case. It, moreover, taught the Union cavalry how to cut loose from their base of supplies, and gave them a new confidence in their mobility never before experienced.

*For organization of cavalry, see Appendix 9.

But as a part of the main operations, the raid was ill-timed. Its complete success, depending as it did on a Federal victory at Chancellorsville, was frustrated through no fault of the cavalry or its commander. The detaching of STONEMAN'S command, deprived HOOKER of cavalry at a time when he particularly needed a covering force to conceal the movements of his right, as well as to give timely information of the Confederate concentration against his right flank. The COMTE DE PARIS has said: "The absence of STONEMAN'S fine cavalry had probably been the cause of HOOKER'S defeat as he had deprived himself of all means of obtaining information when about to enter an impenetrable forest. Such was JACKSON'S opinion, expressed a few days before his death. * * * From the moment he (HOOKER) had failed to compel LEE to retreat, the rôle assigned to STONEMAN lost almost all its importance."*

But the cavalry brigade left with the Army of the Potomac performed most valuable service.

On May 2d, General LEE having concluded that a direct attack upon the Union forces would prove futile, determined to turn the Federal right flank, and its execution was entrusted to General T. J. JACKSON. By a flank march along the Furnace and Brock road, effectually covered by the heavy woods and by the movements of FITZHUGH LEE'S cavalry, JACKSON succeeded in placing three divisions opposite the Union right.

On the afternoon of this day, General PLEASANTON with three small cavalry regiments, the Sixth New York, Eighth Pennsylvania, and Seventeenth Pennsylvania, was ordered to assist General SICKLES in pursuing the enemy's wagon trains. Finding the time inopportune for a cavalry attack, PLEASANTON took position north of Scott's Run, on the left of the Eleventh Corps (HOWARD'S).

JACKSON'S attack on this corps was a complete surprise, and resulted in a demoralizing and panic stricken retreat on its part. As this was taking place PLEASANTON was notified, and the Eighth Pennsylvania Cavalry was dispatched at a gallop to check the enemy's attack at any cost, until preparations could be made to receive them. When this regiment reached the scene of action,† HOWARD had fallen back, and the enemy's skirmish line had crossed the road along which the cavalry was moving. Led by Colonel HUEY, the regiment made a desperate charge in column, at right angles to JACKSON'S column, losing three officers out of the five with

* History of the Civil War, Vol. IV, page 115. (COMTE DE PARIS.)
† HUEY'S report, Rebellion Records, Vol. XXV, Part I, page 764.

the regiment, and about thirty men, but checking for the time being the Confederate advance.

Meanwhile PLEASANTON, to whom every moment's delay was invaluable, had been straining every effort to concentrate artillery to meet the advancing lines, and before the enemy came in sight, had succeeded in placing twenty-three pieces of artillery in position, double-shotted with canister, and supported by two small cavalry squadrons. The fugitives from the Eleventh Corps swarmed from the woods, and swept frantically over the fields, the exulting enemy at their heels. But as the latter drew near, the Federal artillery opened with terrible effect. The Confederate lines, were thrown back in disorder, and with the arrival of reinforcements to the Union line, aided by darkness, the enemy withdrew.

It is impossible to say what might have happened had not the attack of JACKSON'S victorious divisions been checked. The sacrifice of the brave cavalry regiment well repaid the results gained, and illustrates how very effective as a gainer of time the charge in flank of even a small body of cavalry may be, when prosecuted with vigor. It was, perhaps, the most important piece of mounted work by a single cavalry regiment during the entire war.

VI.

After Chancellorsville the opposing armies rested for a time on opposite sides of the Rappahannock, near Fredericksburg.

During the entire month of May the cavalry was greatly annoyed by MOSBY'S men. On the 3d, MOSBY and others surrounded fifty men of the First West Virginia, but the latter were rescued by a brilliant charge of the Fifth New York. Towards the middle of the month the First New York had a skirmish with a portion of MOSBY'S command at Upperville, (May 12–14); and again on the 30th MOSBY attacked the train of the Eighth Michigan near Catlett's Station, burning it, and engaging in a spirited cavalry fight with the First Vermont, Fifth New York, and a detachment of the Seventh Michigan. Partly as an offset to these raids, the Eighth Illinois Cavalry was sent on a raiding expedition (May 20–26) into King George, Westmoreland, Richmond, Northumberland and Lancaster counties, destroying property estimated at one million dollars.

Early in June STUART'S cavalry were holding the fords of the upper Rappahannock, the main body being near Culpepper Court House and Brandy Station. It retained its division organization, being composed of five brigades, aggregating May 31st, 9,536 men.

To the right-rear of the Army of the Potomac, was the Federal cavalry, massed at Warrenton Junction under General PLEASANTON, who had May 22d assumed command. It was still organized as a corps of three divisions, numbering in all 7,981 men, and was charged with outpost duty from the neighborhood of Falmouth to Warrenton, with occasional expeditions into the country above the upper Rapidan.

In LEE's plan of invasion of the Northern States, his first objective was Culpeper Court House. HOOKER guessed LEE's intentions, and PLEASANTON was ordered to make a reconnaissance in force, having for its object to discover the strength, position, and possible intentions of any body of Confederate troops on the Fredericksburg-Culpeper road. But the corps was hampered by the addition of two infantry brigades—according to the still prevailing idea as to the employment of cavalry.

On June 9th, one division of the cavalry corps (BUFORD's), accompanied by AMES's infantry brigade, was to cross the Rappahannock at Beverly Ford, and move by way of St. James Church, to Brandy Station. The second column, GREGG's and DUFFIÉ's divisions, with RUSSELL's infantry brigade, was to cross at Kelly's Ford, and separating, GREGG was to proceed past Mount Dumpling to Brandy Station, while DUFFIÉ was to take the left hand road to Stevensburg.

By a strange coincidence, it was STUART's intention on this same day to cross the river at Beverly Ford and the upper fords, and divert the attention of the Union forces from LEE's movements northward—later information showing that he intended to invade Maryland.

The orders for the Federal cavalry divisions directed them to cross the river at daylight on the 9th, and push rapidly on to Brandy Station. Under cover of a heavy fog, and the noise of a neighboring mill-dam, BUFORD's command crossed the river at 4 o'clock, surprised the enemy,* and would have captured his guns, had it not been for the untimely death of the brave Colonel B. F. DAVIS, Eighth New York Cavalry, who was killed while charging the enemy at the head of his brigade. The enemy's force confronting the Federal column was superior in numbers, but in spite of this fact PLEASANTON had formed line of battle, crossing the ford in less than an hour. But the Confederates were in such force that no advance was made until GREGG's guns were heard on the enemy's left, when a general advance was ordered.

*This incident was afterwards known to the Confederates as "The Surprise."

The enemy fell back rapidly, and General STUART's headquarters, with all his papers, was captured. A junction was soon formed with GREGG, and with heavy losses to both sides the enemy was pushed back to Fleetwood Ridge. It was then found that the enemy's infantry was advancing from Brandy Station and Culpeper. The object of the reconnaissance having been partly gained, through the development of the Confederate infantry from the direction of Culpeper, and the information gained from the papers captured in the Confederate camp, orders were given to withdraw—GREGG, by the way of the ford at Rappahannock Bridge, and BUFORD at Beverly Ford. But as this order was being put into execution, the Confederates made a heavy attack on the Union right, resulting in the most serious fighting of the day. The mounted charges, rallies, and counter-charges by the cavalry of both sides, made this preeminently a cavalry fight of the most desperate character.

At 4 o'clock P. M. a superior infantry force being about to advance, PLEASANTON ordered a withdrawal, which was executed in good order, the re crossing of the river being effected about 7 o'clock P. M.

The contest had lasted for ten hours, and the casualties amounting to 866 for the Federal troops, and 485 for the Confederates,* attest the desperate character of the fighting. Although the battle illustrated all kinds of cavalry fighting,—mounted and dismounted, it was principally mounted. STUART had the advantage in position, but the conditions were most favorable for cavalry operations; men and horses were in prime condition for active service; the ground was undulating, rising slightly from the river towards Brandy Station; and the infantry on both sides served principally as a reserve.

Brandy Station rounded up the successful experiences of the Federal cavalry at KELLY's Ford in March, and with the raiding column of STONEMAN in April. It was the first great cavalry combat of the war, and was really the turning point in the fortunes of the Union cavalry. The Confederate cavalry had hitherto held their opponents in contempt, and the latter had had doubts of themselves.

But the experience of June 9, 1868, *made* the Union cavalry, and henceforth no one could doubt its efficiency, mounted or dismounted. MCCLELLAN has said: "One result of incalculable importance certainly did follow this battle — it made the Federal cavalry. Up to this time confessedly inferior to the Southern horsemen, they gained

*Official returns Rebellion Records, Vol. XXVII, Parts I and II, pages 170 and 719 respectively.

on, this day that confidence in themselves and their commanders, which enabled them to contest so fiercely, the subsequent battle-fields of June, July and October."*

VII.

LEE's second objective was the fords of the upper Potomac, and these he proposed to reach by the Valley of the Shenandoah, where, concealed from observation by the mountain ranges on his right, his safety could be secured by holding the mountain passes connecting the valley with the main theatre of operations. He entrusted this duty to STUART's cavalry, supported by LONGSTREET's infantry corps.

By June 15th STUART had pushed forward to the Bull Run Mountains, and held Thoroughfare and Aldie Gaps, traversed respectively by the main road from Winchester to Alexandria, and the Manassas Gap Railway. He also occupied Rectortown, and later on, Middleburg, from which points he could reinforce either one of the two passes, as occasion required.

On June 13th the cavalry corps of the Army of the Potomac was concentrated at Warrenton Junction, and from the 14th to the 17th, was covering the movement of the main army northward.

LEE's movements were, however, so well concealed, that on the 17th the cavalry corps was sent to obtain information. This was one of the very things that STUART had been instructed to prevent.

PLEASANTON proposed to move to Ashby's Gap in the Blue Ridge, by way of Aldie. To do this, he moved on Aldie with BUFORD's and GREGG's divisions — BARNES's division of infantry in support — and detached DUFFIÉ with his regiment, the First Rhode Island Cavalry, to march to Middleburg, by way of Thoroughfare Gap. It was expected that DUFFIÉ would rejoin the main command, after it had passed through Aldie, by way of Union, Purcellville, and Nolan's Ferry.

MUNFORD's brigade of STUART's cavalry was at Aldie, and GREGG's division encountered his outposts on the 17th inst. A spirited engagement ensued, in which the advantage remained with the Federal cavalry, the enemy withdrawing from the field and occupying Middleburg that night. The casualties were quite heavy on both sides, aggregating for the Federal troops 305 killed, wounded and missing, and for the Confederates, 119. There was much mounted and dismounted fighting on both sides, the greater number of casualties on the Federal side, being due to the obstinate

*McClellan's Campaigns of Stuart's Cavalry, page 294.

resistance of the Confederate sharpshooters, posted behind stone walls. STUART, in his report of the engagement, pronounced Aldie "one of the most sanguinary battles of the war."

Meanwhile, DUFFIÉ had proceeded through Thoroughfare Gap, where he encountered the enemy's outposts. As his orders directed him to proceed to Middleburg, he kept on, and was ultimately surrounded by CHAMBLISS's and ROBERTSON's Confederate brigades. DUFFIÉ, with four officers and twenty-seven men only, succeeded in escaping.

On the 19th PLEASANTON advanced against the Confederates at Middleburg. Three brigades under GREGG moved on the town, while one brigade was sent to outflank the enemy's position. The fighting was of the most desperate character, the Federal forces, as PLEASANTON stated in a letter to HOOKER, "really fighting infantry behind stone walls." The enemy's right flank was finally outflanked by dismounted skirmishers, and fell back to a stronger position, half a mile to the rear.

The same evening STUART was reinforced by JONES's brigade from Union; and on the 20th, by HAMPTON's brigade, which relieved CHAMBLISS on the Upperville Road.

On the 21st STUART's line of five brigades extended from Middleburg to Union, confronted by six brigades of Federal cavalry, supported by a division of infantry. GREGG's division moved against the enemy's right, while BUFORD's advanced toward Union to turn the Confederate left. As so often happened, GREGG's movement, though intended as a feint only, developed into the principal fight of the day. Protected by the heights, the enemy stubbornly resisted GREGG's advance, but were steadily driven back to Upperville, where the first division (BUFORD's), which had closed in on the second division on its left, cooperated with it in the attack on the town. Here the enemy had massed his cavalry, with his artillery in position at Ashby's Gap; but after repeated charges and counter-charges, was driven from the town, and his steady withdrawal was finally changed to a headlong retreat towards Ashby's Gap.*

That night a portion of LONGSTREET's infantry corps occupied the gap; and STUART's command, as that general says in his report, was "ordered farther back for rest and refreshment, of which it was sorely in need." And on June 22d, having accomplished the objects of the expedition, PLEASANTON fell back to Aldie, and a few days later joined the Army of the Potomac.

*Casualties at Upperville — Union, 209. Upperville and Middleburg (consolidated) Confederate, 510.

In these operations, the cavalry corps had admirably performed the duties of screening the movements of the Army of the Potomac, and of reconnoitering the enemy's movements. Some of BUFORD's scouts on the heights of the Blue Ridge had actually seen a Confederate infantry camp, two miles in length, in the Valley of the Shenandoah. At the same time, LEE was uncertain of the movements of the Army of the Potomac. The success of the engagements at Aldie, Middleburg, and Upperville, brought increasing confidence to the officers and men of the Federal cavalry.

Within five days it had driven the Confederate cavalry through a country capable of a most stubborn defense, as far as the base of the Blue Ridge; had proved its ability to cope, mounted or dismounted, with its formidable antagonists; and had been able to furnish information of a most important character to the commander-in-chief.

During this time the Army of the Potomac had, under cover of the cavalry, moved from Fredericksburg northward, covering Washington and Baltimore, and on June 25th and 26th, had crossed the Potomac at Edward's Ferry. Upon reaching Frederick, General HOOKER was, at his own request, relieved from command of the army, and General MEADE was appointed in his stead.

When PLEASANTON, on June 22d, withdrew from contact with the enemy he employed the few days in which his corps was on outpost duty in refitting. His horses needed shoeing badly, and his command required both rations and forage. On June 27th the divisions of BUFORD and GREGG crossed the Potomac in rear of the infantry, and on the following day a new cavalry division, composed of the cavalry hitherto guarding Washington under General STAHEL, was assigned to the cavalry corps as the Third Division. General JUDSON KILPATRICK was assigned to command it, with Generals FARNSWORTH (an officer promoted from the Eighth Illinois Volunteer Cavalry) and CUSTER as his brigade commanders.*

VIII.

On June 24th STUART's cavalry started on a raid which was destined to have a most important effect upon the battle of Gettysburg, about to follow. Its purpose was to cut the communications of the Federal army, destroy the immense wagon trains in rear of that army, and create a moral effect by threatening the national capital.

*For the organization of the cavalry at Gettysburg, July 1st to 3d, see appendix 10 and 11.

General LEE's letter to STUART, dated June 22d, gives him these general instructions: "If you find that he (the enemy) is moving northward, and that two brigades can guard the Blue Ridge and take care of your rear, you can move with the other three into Maryland, and take position on General EWELL's right."

And again, in a letter written to STUART the following day, LEE says: "You will, however, be able to judge whether you can pass around their army without hindrance, doing them all the damage you can, and cross the river east of the mountains. In either case, after crossing the river, you must move on and feel the right of EWELL's troops."

It seems, from these letters, and confirmatory statements in letters to General LONGSTREET, that LEE authorized, if he did not actually suggest, STUART's raid about the Federal army. But, while giving STUART great discretionary power, qualified this power by several important conditions. That STUART met with hindrances which prevented his keeping in touch with EWELL's right, and even caused his absence from part of the battle of Gettysburg, is a matter of history.

Taking the brigades of FITZHUGH LEE, HAMPTON, and CHAMBLISS, STUART moved on June 25th to Haymarket, via Glasscock's Gap, where he was delayed twenty-four hours by encountering HANCOCK's corps of infantry. On the 27th he crossed the Potomac at Rowser's Ford, and on the following day captured a Federal wagon train eight miles long.

On this same day the cavalry corps of the Army of the Potomac was disposed so that GREGG was on the right, BUFORD on the left, and KILPATRICK in advance. In consequence of STUART's depredations, KILPATRICK's division was, on June 28th, detached, and ordered to move eastward to intercept STUART, reported to be heading for Littlestown. By June 30th KILPATRICK's command was badly scattered, the First and Second Michigan and PENNINGTON's battery being at Abbottstown, north of Hanover, and FARNSWORTH's brigade was at Littlestown, southwest of Hanover. The Fifth and Sixth Michigan reached Littlestown at daylight, after an all-night march, and during the morning FARNSWORTH started towards Hanover. The troops at Abbottstown were also ordered there.

As FARNSWORTH passed through Hanover, his rear guard was attacked by the leading regiment of STUART's column (CHAMBLISS' brigade), which boldly charged and threw the Federal column into great confusion, capturing the pack trains. Under FARNSWORTH's skillful direction, however, the Fifth New York Cavalry was faced

about, and by a counter-charge repulsed the attack. Meanwhile the Sixth Michigan, which had been left for awhile at Littlestown, was hurried up, and was attacked en route by FITZHUGH LEE's brigade. About noon the entire division was united at Hanover, and until dark kept up a vigorous skirmishing with the enemy, now holding the hills southwest of the town.

STUART's dispositions, in guarding the long line of wagons he had captured, were such as to prevent his rapid deployment. Otherwise, he might have overcome the rear of KILPATRICK's column before it could have been reinforced. As it was, STUART's elongated column gave a fine opportunity for a successful attack by the Federal commander, which he failed to take complete advantage of, principally because he was unable to concentrate his scattered units. But KILPATRICK's final stand had the effect of still further delaying STUART's efforts to join LEE.

This encounter, coupled with his efforts to save the wagon train which embarrassed his movements, and the fact that he believed LEE to be near the Susquehanna, forced STUART to make a detour to the east, passing through Jefferson and Dover, and endeavoring to carry out his original instructions as to keeping in touch with EWELL's right. Swinging northward to Carlisle on July 1st, STUART learned to his dismay, that the Confederate army was at Gettysburg, and that, in spite of the exhausted condition of his command, he must push southward with all haste, in order to be present at the expected encounter of the two great armies. He therefore moved rapidly towards Gettysburg, while KILPATRICK, who had meanwhile been acting on interior lines, marched to Berlin, by way of Abbotstown, for the purpose of throwing himself across STUART's path, but the Confederate commander succeeded in eluding him.

While KILPATRICK had been following STUART, the First Cavalry Division (BUFORD's) had marched to Middletown, covering the left of the army, and watching the enemy in the direction of Hagerstown. While in camp at Middletown, BUFORD improved the opportunity to shoe his horses and refit. The Second Division (GREGG's) was stationed at different points from Frederick City to Ridgeville on the Baltimore pike, covering the right of the army.

On June 29th the first division moved so as to cover and protect the left flank of the line of march, the Reserve Brigade, under MERRITT, marching through Mechanicstown to Emmittsburg, protecting the division trains, while the First and Second Brigades, passing through Boonesborough, Cavetown, and Monterey, encamped

at Fairfield. The Second Cavalry Division on that day moved to Westminster on the right flank of the army, patrolling the country between York and Carlisle.

On June 30th BUFORD's First and Second Brigades moved towards Gettysburg, meeting en route two Confederate infantry regiments, with artillery, and became involved in a skirmish. But not wishing to use his artillery, lest he cause a premature concentration of the enemy's forces, and thus disarrange General MEADE's plans, BUFORD turned aside and passing through Emmittsburg, reached Gettysburg during the afternoon. His arrival was most timely. The enemy's advance was just entering the town, and BUFORD was able to drive it back in the direction of Cashtown before it gained a foothold.

During the night of June 30th scouting parties from BUFORD's division patrolled the country in all directions. No information of value could be obtained from the inhabitants, and it was only through the untiring exertions of these patrols that the cavalry commander learned by daylight of July 1st, that HILL's corps of the Confederate army had reached Cashtown, and that his pickets, composed of infantry and artillery, were within sight of the Federal pickets. BUFORD accordingly made every effort to hold the enemy in check until Reynolds corps, encamped five miles south of him, could arrive on the ground. His trained eye had been struck at once with the strategic importance of Gettysburg. From the town at least ten roads radiated in different directions, and the commanding ground above the town offered extraordinary advantages to the army which should first gain possession. It seems apparent that neither General LEE nor General MEADE were at the time aware of the strategic importance of the place.* To BUFORD belongs the credit of the selection of Gettysburg as a field of battle,† and the cool equanimity with which he disposed his two insignificant brigades, when he positively knew that the whole of General A. P. HILL's force was advancing against him, must excite the admiration of soldiers the world over.

* MEADE's dispatch to REYNOLDS, 11:30 A. M. June 30th. "P. S. If, after occupying your present position, it is your judgment that you would be in better position at Emmittsburg than where you are, you can fall back without waiting for the enemy or further orders. Your present position was given more with a view to an advance on Gettysburg than a defensive point."

Then again, REYNOLDS' dispatch to BUTTERFIELD, June 30th: "I think if the enemy advances in force from Gettysburg, and we are to fight a defensive battle in this vicinity, that the position to be occupied is just north of the town of Emmittsburg, covering the plank road to Taneytown."

† BUFORD stated to his brigade commander, DEVIN, "that the battle would be fought at that point" (Gettysburg). And again, "The enemy must know the importance of this position, and will strain every nerve to secure it, and if we are able to hold it we will do well." (BATES' Battle of Gettysburg.)

IX.

BUFORD had placed GAMBLE's brigade, to which was attached CALEF's battery of the Second United States Artillery, on the left, connecting with DEVIN's brigade across the Chambersburg Road, about one mile in front of the seminary. One section of CALEF's battery was placed on each side of the Cashtown Road, covering the approaches, and the third section was on the right of the left regiment. DEVIN's brigade was on the left of the First Brigade, its right resting on the Mummasburg Road.

Between 8 and 9 o'clock in the morning HETH's division of the Confederate army advanced along the Cashtown Road, and BUFORD sent a squadron from each brigade, part of which was dismounted, to deploy as skirmishers, and support the pickets. Gradually the whole of the cavalry, dismounted, became involved, and as BUFORD has said: "The line of battle moved off proudly to meet the enemy." In a short time the enemy's fire becoming unbearable through ever increasing numbers, the line of battle was moved back about 200 yards. Here again the dismounted cavalry fought desperately, and CALEF's battery did tremendous execution in the face of an overwhelming fire. Indeed, at one time twelve of the enemy's guns were concentrated on this battery. For over two hours the enemy was held in check by this little force of less than 3,000 effective men, when the arrival of the First Corps under General REYNOLDS, served to relieve the cavalry from its perilous position. During the greater part of the remainder of the day, however, the cavalry continued to fight side by side with the infantry; and portions of the Eighth New York, Third Indiana, and Twelfth Illinois regiments, posted behind a low stone wall within short carbine range of the enemy, did tremendous execution and by their fire prevented the turning of the left flank of General DOUBLEDAY's command.* Part of the Third Indiana Cavalry found horse-holders, borrowed muskets, and fought with the Wisconsin Regiment that was sent to relieve them.

The First Cavalary Division bivouacked that night on the field of battle, with its pickets extending almost to Fairfield. Early next morning, while reconnoitering the enemy's right, it became engaged with Confederate sharpshooters, but succeeded in holding its position until relieved by the Third Corps. Then, at the risk of leaving the Federal army's left flank unprotected by cavalry, it was

*General GAMBLE's report says: "The stand which we made against the enemy, prevented our left flank from being turned, and saved a division of our infantry."

ordered to proceed to Westminster to assist in guarding the supply trains at that point.

Meanwhile the Second Cavalry Division under GREGG had been moving along the right flank of the Federal army. On June 29th it covered the country between York and Carlisle with patrols. On the 30th, due to the enemy's concentration at Gettysburg, it left one brigade (HUEY's) to cover the depot at Westminster, and with the two other brigades, moved to a position on the extreme right flank of the Federal line of battle, with orders to prevent the enemy from turning the flank or gaining the rear.

The position of this division at the intersection of the Gettysburg and Hanover turnpike with the road in rear of the Federal line of battle, was taken about noon July 2d. A line of pickets was established to the front, connecting with the right of the infantry line. Towards evening an attempt was made to dislodge some of the enemy's sharpshooters, posted in front of the division, resulting in the enemy's sending a regiment of infantry (Second Virginia) to meet the dismounted cavalry. The key to the position was a well built stone wall running along the top of the ridge, to the right of the Hanover road. Each side raced for the wall at full speed, but the fire from RANK's battery, Third Pennsylvania Artillery, delayed the enemy long enough for the dismounted cavalry to reach the wall first and pour a withering fire from their breech-loading carbines into the Confederate infantry line, not more than twenty feet distant. The result was decisive.

The following day, July 3d, this cavalry division which had for a time been withdrawn from its position of the previous day, was again ordered to the right of the line, with orders to make a demonstration against the enemy. The First and Third Brigades were again posted on the right of the infantry, this time about three-fourths of a mile nearer the Baltimore and Gettysburg turnpike, for the reason that CUSTER's brigade of the Third Cavalry Division had been detached from that division and was occupying the ground held the day before by the Second Cavalry Division. Dismounted skirmishers from the Sixteenth Pennsylvania Cavalry were deployed through the woods in the direction of Gettysburg.

About noon a dispatch reached General GREGG, saying that a large body of the enemy's cavalry were observed from Cemetery Hill, and were moving against the right of the line. In consequence of this information, CUSTER's brigade, which had been ordered back to KILPATRICK's command on the left of the line, was held by General GREGG until after the enemy's attack.

This Confederate column, moving to the attack, was STUART'S cavalry, which, belated by obstacles already mentioned, was advancing in front of EWELL'S corps. STUART took position upon a ridge which controlled a wide area of cultivated fields. His plan, as stated in his official report, was to employ the Federal troops in front with sharpshooters, while a cavalry force was moved against their flank. He says: "I moved this command (JENKIN'S cavalry brigade) and W. H. F. LEE'S secretly through the woods to a position, and hoped to effect a surprise upon the enemy's rear." Taken in combination with PICKETT'S famous charge, STUART'S dispositions were such that he hoped to seize the opportune moment to profit by it.

To meet this attack the First New Jersey was posted as mounted skirmishers to the right and front in a wood; the Third Pennsylvania was deployed as dismounted skirmishers to the left and front in open fields and the First Maryland Cavalry was placed on the Hanover Turnpike, in position to protect the right of the line.

In a short time the skirmishing became very brisk, and the artillery fire on both sides very heavy—the Federal artillery under RANDALL and PENNINGTON, delivering an extremely accurate fire. To counteract the advance of the Federal skirmish line, about to cut off a portion of his sharpshooters, STUART caused a regiment of W. H. F. LEE'S brigade to charge. This was met by the Seventh Michigan, but without apparent advantage, both regiments discharging their carbines across a stone and rail fence, face to face. The First Michigan Cavalry, aided by firing from CHESTER'S battery, made a charge which, followed by a desperate hand-to-hand fight, drove the Confederate line back in confusion. Then followed counter-charges by the Confederates, until a large part of both commands were involved in the melee, and while withdrawing past a wood towards his left, the enemy was charged in flank by the First New Jersey Cavalry. In this terrible cavalry combat, every possible weapon was utilized. In a dash for a Confederate battle-flag Captain NEWHALL was received by its bearer upon the point of the spear head, which hurled NEWHALL to the ground. And after the battle men were found interlocked in each other's arms, with fingers so firmly imbedded in the flesh as to require force to remove them.* The Confederate brigades crumbled away, retiring behind their artillery, and after dark withdrew to the York Road. The Federal casualties had amounted to 254, and the Confederate to 181.†

*Battles and Leaders of the Civil War, Vol. III, p. 405.

†Rebellion Records, Vol. XXVII, Part I, p. 958; Part II, p. 714. Gregg's Fight at Gettysburg. (Battles and Leaders of the Civil War.)

This grand cavalry combat,* on the right of the Federal line of battle, has, like BUFORD'S glorious stand in the first day's fight, never received the recognition which its importance deserved. Had STUART'S plan of striking the rear of the Union army simultaneously with the desperate charge of PICKETT on Cemetery Ridge, succeeded, the result of the battle of Gettysburg would certainly have been different.

The occasion for STUART'S attack was most opportune. The tide of battle between the long lines of infantry, had been wavering, first one way and then the other. Had STUART, with his veteran cavalry, gained the rear of the line of battle, the panic which would have undoubtedly followed, would have been more than sufficient to win the day for the Confederate cause.

X.

On the Federal left another great cavalry battle was taking place. After KILPATRICK'S encounter with STUART'S cavalry at Hanover, June 30th, it will be remembered that the Third Cavalry Division marched on the following day to Berlin via Abbottstown, for the purpose of intercepting STUART. Not finding him there, a detachment under Lieutenant-Colonel ALEXANDER followed STUART to Rossville. On July 2d, the second day of the battle of Gettysburg, KILPATRICK received orders to march as quickly as possible to the battlefield. Here he received further orders to move over the Gettysburg-Abbotstown Road, and see that the enemy did not turn the Federal left flank. While nearing Hunterstown, KILPATRICK was attacked by a heavy cavalry force in position, which proved to be HAMPTON'S and LEE'S brigades. CUSTER, whose brigade was leading, at once covered the road with a line of mounted skirmishers, while dismounted skirmishers were thrown out on each side behind the fences which flanked the road. The leading squadron of the Sixth Michigan Cavalry charged down the road, and two squadrons were dismounted and deployed along a ridge to the right. PENNINGTON'S battery took position to their rear. This gallant charge of the leading squadron was futile against the superior force which it encountered, but it gained time. A counter-charge, which the enemy attempted, was repelled by the dismounted skirmishers with their Spencer repeating carbines.

The position was held until near midnight, when KILPATRICK received orders to march to Two Taverns. Reaching there early in

*Known as Rummel's Farm.

the morning of July 3d, the tired troopers were allowed a short bivouac. But hardly had the men of CUSTER's brigade stretched themselves on the ground, when orders arrived, detaching them, and directing the brigade to take position on the Union right,* where, as has been seen, they rendered such signal aid to the Second Cavalry Division.

The Union left had been deprived of protection by the detaching of BUFORD's division to Westminster on July 2d; so that at 8 o'clock the morning of July 3d KILPATRICK received orders from General PLEASANTON to move to the left of the line with his whole command and the Reserve Brigade, meanwhile ordered up from Emmittsburg. The purpose was to attack the enemy's right and rear, at the same time preventing, if possible, the turning of the Federal left.

The result of the Confederate operations of the day before had induced them to believe that another attack on the Federal right would succeed. The column of attack was to consist of PICKETT's, HETH's, and a part of PENDER's divisions, PICKETT being on the right.

General FARNSWORTH reached his position to the left and front of the "Round Tops," about 1 o'clock P. M., and became engaged with his skirmishers, the Confederate division immediately opposed to him being HOOD's division under General LAW. About this time (1 o'clock) began the grand cannonade from 125 pieces of artillery, which was to precede the assault of the Confederate infantry column. The arrival of FARNSWORTH's brigade had the effect of constantly threatening LAW's right, and greatly embarrassed that general's movements. †

Meanwhile, the Reserve Brigade under MERRITT, having marched from Emmittsburg, did not reach its position on FARNSWORTH's left until about 3 o'clock. Then, advancing along the Gettysburg Road, MERRITT's dismounted skirmishers caused LAW to detach a large force from his main line in order to protect his flank and rear.

*KILPATRICK's report characterizes this detaching of CUSTER's brigade "as a mistake." GREGG's report: "I learned that the Second Brigade of the Third Division was occupying my position of the day before," which seems to indicate that GREGG was not responsible for the detaching of CUSTER. PLEASANTON's report, too, gives no clue as to who detached this brigade. At all events, the detaching of CUSTER, whether due to mistake or to wise forethought, was of the greatest assistance in preventing STUART's attempted turning movement.

†General LAW regarded the appearance of the cavalry as exceedingly dangerous to his flank. He says (Battles and Leaders of the Civil War, Century Company): "While the artillery duel was in progress, and before our infantry had moved to the attack, a new danger threatened us on the right. This was the appearance of KILPATRICK's division of cavalry, which moved up on that flank, and commenced massing in the body of the timber which extended from the base of Round Top westward towards KERR's house on the Emmittsburg Road."

This so weakened the Confederate line in FARNSWORTH's front that KILPATRICK ordered FARNSWORTH to charge the center of LAW's line. The ground was most unfavorable for a charge, being broken, uneven, and covered with stone. It was, moreover, intersected by fences and stone walls, some of the latter being so high as to preclude the possibility of passing them without dismounting, and throwing them down. Posted behind these fences and walls, were veteran infantry.

After making a dignified protest against what he considered a most reckless sacrifice of life, FARNSWORTH placed himself at the head of his brigade, and rode, as became a brave soldier and gallant cavalryman, boldly to his death.* When his body was afterwards recovered, it was found to have received five mortal wounds.

The charge was most desperate. The First West Virginia and Eighteenth Pennsylvania moved through the woods first, closely followed by the First Vermont and Fifth New York, and drove the enemy before them until the heavy stone walls and fences were reached. Here the formation was broken, but two regiments cleared the obstacles, charged a second line of infantry, and were again stopped by another stone wall, covering a third line of infantry. One of the supporting cavalry regiments, after passing the first wall, encountered a large body of the enemy which had been sent from the enemy's left to cut off the retreat of the first charging column. The contest became hand to hand, and the cavalry used their sabers to such advantage as to disable a great many of their opponents and cause others to surrender. Being exposed to the enemy's artillery and sharpshooters, this regiment was at length obliged to fall back. If even a portion of the Federal infantry posted on KILPATRICK's right had advanced on LAW's attenuated line at the time FARNSWORTH's men had gained the enemy's rear, the Confederate division must have given way. But no cooperation took place. As it was, one of the regiments in the first charging line—the First West Virginia, after passing the two stone fences already referred

*Captain H. C. PARSONS, First Vermont Cavalry, says in Battles and Leaders of the Civil War: "I was near KILPATRICK when he impetuously gave the order to FARNSWORTH to make the last charge. FARNSWORTH spoke with emotion, 'General, do you mean it? Shall I throw my handful of men over rough ground, through timber, against a brigade of infantry?' The First Vermont has already been fought half to pieces; these are too good men to kill.' KILPATRICK said: 'Do you refuse to obey my orders?' If you are afraid to lead this charge, I will lead it.' FARNSWORTH rose in his stirrups, he looked magnificent in his passion, and cried, 'Take that back.'" KILPATRICK returned his defiance, but soon repenting, said, 'I did not mean it; forget it.' For a moment there was silence, when FARNSWORTH spoke calmly, 'General, if you order the charge, I will lead it, but you must take the responsibility.' I did not hear the low conversation that followed, but as FARNSWORTH turned away, he said, 'I will obey your order.' KILPATRICK said earnestly, 'I take the responsibility.'"

to, was entirely surrounded, but succeeded in cutting its way back with a loss of but five killed and four wounded, bringing with it a number of prisoners.

All things considered, it seems wonderful that these four regiments did not suffer a greater percentage of killed, wounded and missing.* It can, perhaps, best be accounted for by the moral effect of the charge, and the fine horsemanship with which the fearless troopers leaped the obstacles and sabered the infantrymen in their positions. Of this, the Confederate General LAW has said: "It was impossible to use our artillery to any advantage, owing to the close quarters of the attacking cavalry with our own men, the leading squadrons forcing their horses up to the very muzzles of the rifles of our infantry."

XI.

The Federal victory at the battle of Gettysburg owes much to the cavalry. BUFORD at Oak Hill, GREGG on the Federal right, and KILPATRICK on the left, performed deeds which have never been excelled by the cavalry of any nation. As Gettysburg was the turning point in the fortunes of the Union army, it also marked an epoch in the development of cavalry, trained in methods which were evolved from no foreign text-books, but from stern experience on the battlefields of the great Civil War.

By the morning of the 4th of July General LEE's lines were evacuated, his army was in full retreat, and the Federal cavalry and the Sixth Army Corps were in hot pursuit, striving to gain his rear, cut his lines of communication, and harass and annoy him in every manner possible.

The First Cavalry Division moved from Westminster to Frederick, where it was joined by the Reserve Brigade under MERRITT on July 5th. On the following day it moved towards Williamsport, to destroy the enemy's trains, reported to be crossing the Potomac into Virginia. Upon nearing the town the Confederate pickets were driven in until the enemy's line of battle became too strong for further progress. In an attack on GAMBLE'S brigade on the Federal left the enemy was severely punished, but the destruction of the enemy's trains in the face of the strong force guarding them proved too difficult a task for the division, with the exception of a small train of grain with about forty mules.

*There were 300 men in FARNSWORTH'S charge, and sixty-five casualties. (Captain PARSONS, in Battles and Leaders of the Civil War.)

Meanwhile KILPATRICK'S division had marched on July 4th from Gettysburg to Emmittsburg, where it was joined by HUEY'S brigade of GREGG'S division, and from thence it moved towards Monterey, with the intention of destroying the enemy's wagon trains near Hagerstown. After a series of combats with STUART'S cavalry, the Third Division reached Smithburg on July 5th, having entirely destroyed a large wagon train of EWELL'S, and having captured 1,360 prisoners, one battle-flag and a large number of horses and mules.

On July 6th, while BUFORD was attacking Williamsport, KILPATRICK attacked STUART at Hagerstown, resulting in that general's surprise and retreat towards Greencastle. KILPATRICK then endeavored to cooperate with BUFORD at Williamsport, but failed to gain any material advantage. The enemy, however, was forced to burn a large train northwest of Hagerstown.

From the 7th until the 14th of July, KILPATRICK'S division was constantly engaged with the enemy on the right of the Federal army, as was BUFORD'S division on the left, and HUEY'S brigade of GREGG'S division in the center.

Meanwhile GREGG had followed the enemy by way of Cashtown, where a number of prisoners were captured. The division then proceeded by way of Marion and Chambersburg to Boonesborough; MCINTOSH'S brigade being placed at Emmittsburg to prevent raids of the Confederate cavalry towards the Federal rear.

On July 14th, GREGG, with MCINTOSH'S and IRVIN GREGG'S brigades, crossed the Potomac at Harper's Ferry, and being reinforced by HUEY'S brigade, marched to Shepherdstown with a view of striking the enemy in flank and rear. On the 16th, HUEY'S brigade not being present, GREGG was attacked by the enemy in force. After a spirited engagement, lasting all day, the enemy withdrew.

On the same day BUFORD'S and KILPATRICK'S divisions followed the enemy closely to Falling Waters, capturing many prisoners, three battle-flags, and a large quantity of stores.

After July 15th the pursuit of the enemy through the Loudon Valley, and across the Rappahannock River, was made by detachments, and the Gettysburg campaign, so far as the movements of the cavalry corps was concerned, properly closed at that date.

By the end of July the entire cavalry corps was concentrated about Warrenton, Warrenton Junction, and Fayetteville, Virginia, and was again engaged in picketing the Rappahannock. The casualties of the corps from June 28th to July 31st, consisted of 1,949 killed, wounded, and missing.

XII.

During the first two years of the war 284,000 horses were furnished the cavalry, when the maximum number of cavalrymen in the field at any time during this period did not exceed 60,000.

The enormous number of casualties among the horses was due to many causes, among which were, ignorance of purchasing officers as to the proper animals for cavalry service; poor horsemanship on the part of the raw cavalry troopers, mustered in at the beginning of the war; the control of the cavalry movements by officers of other arms, ignorant of the limit of endurance of cavalry horses; the hardships inseparable from the duties of the cavalry upon such duties as the STONEMAN raid, the campaign of the Army of Virginia, and the campaign of Gettysburg; and last but not least, ignorance and gross inefficiency on the part of many officers and men as to the condition of the horses' backs and feet, care as to food and cleanliness, and the proper treatment of the many diseases to which horses on active service are subject.

Cavalry, of all arms, requires the greatest length of time to acquire efficiency, and if the reduction of the regular establishment of the army of the United States is ever contemplated, the experience of the government during these first two years of the War of the Rebellion with horses alone should serve as a warning.

Given men possessing unbounded patriotism, intelligence, and physical excellence—as were the volunteers at the beginning of this war, yet these qualities, while quickly combining to make excellent infantry and artillery soldiers, required many times the length of time to make good cavalrymen. Training and discipline, backed by the unlimited finances of a great government, prevailed in the end, but the lesson, to say the least, was a humiliating and costly one, which should never be repeated.

In such a tremendous machine as the Quartermaster's Department of the Army of the Potomac, containing at the beginning of the war, many officers with absolutely no experience as quartermasters, there was necessarily many vexatious delays in purchasing and forwarding supplies, and many disappointments in the quality of supplies furnished too often by scheming contractors.

The tardiness, too, with which cavalry remounts were forwarded to the regiments was a frequent subject of complaint. In October, 1862, when service in the Peninsular campaign and that of the Army of Virginia, had brought the numbers of mounted cavalry down to less than a good sized regiment, General MCCLELLAN wrote

to HALLECK: "It is absolutely necessary that some energetic measures be taken to supply the cavalry of this army with remount horses. The present rate of supply is 1,050 per week for the entire army here and in front of Washington. From this number the artillery draw for their batteries."

In reply to this the Quartermaster-General stated that since the battles in front of Washington there had been issued to the army, to replace losses, 9,254 horses, adding: "Is there an instance on record of such a drain and destruction of horses in a country not a desert?" A little later MCCLELLAN again complained that many of the horses furnished "were totally unfitted for the service, and should never have been received." General POPE had, in fact, reported that "our cavalry numbered on paper about 4,000 men, but their horses were completely broken down, and there were not 500 men, all told, capable of doing much service, as should be expected from cavalry * * * On the morning of the 30th, (August 30, 1862) * * * the artillery and cavalry horses had been saddled and in harness for ten days, and had had no forage for two days previous." And again he says: "Our cavalry at Centerville was completely broken down, no horses whatever having reached us to remount it. Generals BUFORD and BAYARD, commanding the whole of the cavalry force of the army, reported to me that there were not five horses to the company that could be forced into a trot."

The demand for horses was so great that in many cases they were sent on active service before recovering sufficiently from the fatigue incident to a long railway journey. One case was reported of horses left on the cars fifty hours without food or water, and then being taken out, issued, and used for immediate service.*

To such an extent had overwork and disease reduced the number of cavalry horses that when General STUART made his raid into Pennsylvania, October 11, 1862, only eight hundred Federal cavalry could be mounted to follow him, and the exhausting pursuit which took place broke down a large proportion of the horses that remained. Under date of October 21st, MCCLELLAN wrote to HALLECK: "Exclusive of the cavalry force now engaged in picketing the river, I have not at present over 1000 horses for service. Without more cavalry horses, our communications from the moment we march would be at the mercy of the larger cavalry force of the enemy."

* General MEIGS's report, Rebellion Records, Vol XIX, part I, page 19

The need of cavalry was so urgent and the numbers of dismounted men so alarming that even President LINCOLN wrote to McCLELLAN, October 27, 1862: "To be told, after [redacted] weeks total inaction of the army, during which time we have sent to the army every fresh horse we possibly could, amounting on the whole to 7,918, that the cavalry horses were too much fatigued to move, presents a cheerless, almost hopeless prospect for the future."

The reorganization of the cavalry under HOOKER worked a great improvement in the care and condition of horses, as it tended to systematize the forwarding of remounts, and by a centralization of authority brought the whole cavalry force under a stricter sense of responsibility for casualties among the horses. It also reduced the excessive picket duty which many corps and division commanders had deemed the chief duty of cavalry. But little by little officers and men were beginning to realize how important the health and strength of their chargers were to them, and by actual experience on many arduous campaigns they were gradually learning how best to preserve that health and strength.

But the STONEMAN raid again necessarily reduced the numbers of serviceable horses. STONEMAN reported that while the horses were generally in fair condition when they started, they were much exhausted and weakened by the march. Many were rendered temporarily useless from infrequent feeding, "mud fever," and sore backs, while at least a thousand were abandoned. Numbers of men thus dismounted, procured remounts from the country, mostly brood-mares and draught horses, which, though unsuitable for cavalry service, served for temporary use.

This raid, followed by the battle of Beverly Ford, was a poor preparation, so far as horse-flesh was concerned, for the Gettysburg campaign which followed. In immediate readiness for action, constantly in motion night and day, saddled for long periods,* fed and groomed at irregular times, often unshod in a country from which the Confederate cavalry had collected every horse-shoe, the horses of the Union cavalry fought their battles of the Gettysburg campaign at a disadvantage. Had not the enemy's cavalry been in much the same condition, this would have been a serious consideration.

Aside, too, from the ordinary diseases to which horses are subject, the Virginia soil seemed to be particularly productive of diseases of the feet. That known as "scratches," disabled thousands

*From Warrenton Junction to Thoroughfare Gap, the horses were not unsaddled for two days.

of horses during the Peninsular campaign and that of POPE, and late in 1863, after the BRISTOE campaign, General MERRITT reported: "Since arriving in camp I have sent to the Quartermaster's Department, Washington City, according to order, 471 disabled, unserviceable horses. There are at least 100 more in the command. This leaves the entire strength for duty not more than 1,500. The frightful loss among horses is owing to a disease which resembles tetter, (called in the army, 'foot-rot') from the effects of which the finest appearing horses in the command became disabled in one day's march. * * * The disease seems to have been contracted in the quartermaster corrals, in Washington."

Such was the enormous expense of the cavalry arm of the service during the first two years of the war, that in July, 1863, the Cavalry Bureau was established. The order of the Secretary of War, relative to its establishment, contained the following: "The enormous expense attending the maintenance of the cavalry arm, points to the necessity of greater care and more judicious management on the part of cavalry officers, that their horses may be constantly kept up to the standard of efficiency for service. Great neglects of duty in this connection are to be attributed to officers in command of cavalry troops. It is the design of the War Department to correct such neglects by dismissing from service officers whose inefficiency and inattention result in the deterioration and loss of the public animals under their charge."

The Cavalry Bureau was charged with the organization and equipment of the cavalry forces. It furthermore provided that the mounts and remounts be purchased and inspected under its direction, by officers of the Quartermaster's Department and Cavalry service, respectively.

Depots were established at important points—one of the principal depots being at Giesboro Point, near Washington. The establishment of a "dismounted camp," near Washington, where cavalrymen were sent to be refitted, worked great injury to the cavalry service, as the men purposely lost their equipments and neglected their horses, for the purpose of being sent to the "dismounted camp." So pernicious had been the effect of this camp, that on October 26th General MEADE recommended that all horses, arms, and equipments for the dismounted men be sent out to the army as needed.

The first chief of the Cavalry Bureau was General STONEMAN, followed January 2, 1864, by General GARRARD, he in turn being succeeded on the 26th of the same month by General J. H. WILSON. On the 14th of April, 1864, it was directed that the Cavalry Bureau

be under charge of the chief of army staff; the duties pertaining to organization, equipment and inspection of cavalry being performed by a cavalry officer, while those of the purchase, inspection, subsistence and transportation of horses were performed by an officer of the Quartermaster's Department.

The establishment of this bureau worked a decided improvement in the supply system of the mounted arm, and much of the success of the Federal cavalry is to be attributed to the systematic and efficient manner in which the officers of the bureau performed their duties. That it was difficult for even the Cavalry Bureau to keep the supply of remounts up to the number required, is shown from the fact that General SHERIDAN states in his Memoirs, that "only 1,900 horses were furnished the Army of the Potomac from April 6th to August 14th, 1864 — not enough to meet casualties — and that it was necessary for him to send his dismounted men into camp."

XIII.

The months of August and September were marked by several important reconnaissances by the cavalry.*

On August 1st General BUFORD advanced from Rapidan Station with his cavalry division and drove the enemy's cavalry towards Culpeper Court House. The enemy's infantry caused the division to retire, but the reconnaissance had the effect of causing LEE to draw his infantry south of the Rapidan. Towards the end of this month regiments of the Second Cavalry Division engaged the enemy at Edward's Ferry, Hartwood Church, Barbee's Cross Roads and Rixey's Ford.

Again, on September 1st, General KILPATRICK with the Third Cavalry Division march to Port Conway on the lower Rappahannock, where he drove a force of the enemy's cavalry across the river and, with his artillery, destroyed the gunboats "Reliance" and "Satellite."

Another cavalry fight took place September 13th to 17th. It had been reported that the enemy was making a retrograde movement, and General PLEASANTON with all the cavalry, supported by the Second Army Corps under General WARREN, crossed the river at a number of points, driving the enemy's cavalry across the

*On the 15th of August the Reserve Brigade was ordered to Giesboro Point to refit. On August 12th the Second Brigade, Second Cavalry Division was broken up; the Second New York going to the First Brigade, Third Division; the Fourth New York to the Second Brigade, First Division; and the First Rhode Island, Sixth Ohio and Eighth Pennsylvania to the two remaining brigades of the Second Cavalry Division.

Rapidan, and capturing three guns and a number of prisoners. The fords of the Rapidan were found fortified and held by such strong bodies of the enemy's infantry as to prevent the cavalry from crossing.

On September 16th the Army of the Potomac crossed the Rappahannock and took position near Culpeper Court House, with two corps advanced to the Rapidan. The fords on the latter river were found to be too strongly guarded to be forced. Just as a flank movement had been matured the Eleventh and Twelfth Army Corps were withdrawn from the Army of the Potomac, for duty in the Southwest.

During the next few weeks the cavalry was actively engaged in reconnoitering duty. On September 21st BUFORD and KILPATRICK crossed the Rapidan, their purpose being to develop the enemy's strength and position about his left flank. STUART's cavalry was encountered and driven back, and the fact that two of the enemy's infantry corps were north of Gordonsville was discovered.

Information having been received that the enemy was about to make some important movement, General BUFORD was, on October 10th, sent across the Rapidan with the First Cavalry Division, to uncover, if possible, the upper fords of the river while the First and Sixth Army Corps would attempt to force the fords in their front.

On this same day, before any word had been received from BUFORD, the enemy crossed the Robertson River, and advanced in heavy force from the direction of Madison Court House, driving in the Federal cavalry. As there was every indication that this force was endeavoring to pass the flank of the Union army, General MEADE, on the following day (October 11th) withdrew his army to the north bank of the Rappahannock.

Meanwhile BUFORD had forced a passage over the Germanna Ford, although without a pound of forage for his horses. He then proceeded along the river, capturing the enemy's pickets at the fords, and bivouacking that night at Morton's Ford. As the First Division train had in the meantime been ordered to recross the river, and the First Army Corps had retired, BUFORD was at a loss to know just what to do, especially as the enemy was pressing him hard. He finally recrossed the Rapidan at Morton's and engaged a body of the enemy that had crossed at the Raccoon Ford. Finally learning that General PLEASANTON with the Third Cavalry Division was still in the rear of the Third Army Corps, BUFORD determined to hold his position until the arrival of that division

The next day the First Division with SEDGWICK's corps, made a reconnaissance in force to Brandy Station, and accomplished its purpose of discovering the enemy's strength and position.

Meanwhile the Second Cavalry Division had proceeded from Culpeper Court House on the 11th instant, to Sulphur Springs, with orders to feel the enemy towards Sperryville and Little Washington. This was successfully accomplished, but the division was compelled by superior numbers to recross to the east side of the river. As the enemy advanced, the cavalry fell slowly back to Auburn, covering the rear of the Second Army Corps.

At daylight on the 14th instant the enemy attacked GREGG's division, but he held his position tenaciously, while General WARREN got the Second Corps across Cedar Run. After this stubborn contest the cavalry fell back slowly, and after dark moved to Brentsville to assist General BUFORD with the wagon trains. During this arduous rear-guard duty, the First Maine Cavalry, which had been cut off in its return from Sperryville, made a circuitous march of ninety miles, and reported in safety at Bristoe Station.

The Third Cavalry Division was, at the beginning of the enemy's movement across the Rapidan, picketing from Griffinsburg near Hazel Run, through Russel's Ford on Robertson's River to the vicinity of James City.

On the 10th of October the enemy moved through Cregler's Mills, Russell's Ford, and Creglersville, and although its advance of artillery and cavalry presented a bold front, the Third Cavalry Division succeeded in holding its position throughout the day. At 3 o'clock in the morning of the following day, the division received orders—in keeping with the general withdrawal of the Army of the Potomac—to fall back to Culpepper Court House, covering the rear of the Third and Fifth Army Corps. As the enemy approached Culpeper, PENNINGTON's battery opened upon them from the hills north of the town, and the entire cavalry division fell back on Brandy Station. Here it was found that the enemy had taken up a position immediately in front of the division, and was also approaching the left flank. The command was accordingly massed in column of squadrons, General DAVIES having the right and General CUSTER the left. A charge of a large force of the enemy's cavalry was met and broken by a counter-charge, and the division continuing to advance in good order, the enemy broke and fled in great confusion. Passing on, KILPATRICK effected a junction with BUFORD's division, and crossed the Rappahannock about 8 o'clock in the evening. On the morning of the 12th, the

division moved to Fayetteville to reinforce General GREGG, and from there moved through Buckland Mills, encamping on the 13th at Sudley Springs.

On the 15th the Army of the Potomac remained in position at Centerville, with skirmishing at Blackburn's Ford and at Liberty Mills; and on the 17th the enemy made a further attempt to turn the right flank of the army, retiring again on the 18th

On the 19th, with the Third Cavalry Division in advance, the army moved to Gainesville. On the 20th the Third Division moved out on the Warrenton Pike, driving the enemy from Gainesville and across Broad Run. DAVIES' brigade advanced from Buckland Mills to New Baltimore, where it narrowly escaped being cut off by a column of the enemy's cavalry and infantry, advancing from the direction of Auburn The Seventh Michigan was sent out to delay the enemy, CUSTER's brigade formed line of battle, and DAVIES' brigade was ordered to retire. The Michigan regiment was driven in on CUSTER, whose skirmish line repulsed the Confederate cavalry, but under stress of superior numbers was forced to retire.

DAVIES' brigade was at this time slowly retiring and CUSTER crossed Broad Run and took up a position, enabling DAVIES to cross safely by the right of the town, the enemy not being able to attack him without passing within range of CUSTER's artillery CUSTER then fell back upon the infantry supports at Gainesville and DAVIES extricated himself by marching to New Market

On the 20th instant the Army of the Potomac again occupied Warrenton, the enemy retiring to the south bank of the Rappahannock, having destroyed the Orange and Alexandria Railroad from Bristoe Station to the Rappahannock, and by the 22d both armies were again recuperating in camp.

In the arduous work of the cavalry corps as advance and rear guard during the Bristoe campaign, October 9th to 22d, it suffered a total of 1,251 casualties, which included four officers killed, and twenty nine wounded.*

But the period of rest did not last long. General MEADE submitted to the General-in-Chief, a plan for the seizure of the heights above Fredericksburg, thus transferring the base of operations to

*That this highly efficient work of the cavalry was not duly appreciated is shown from the fact that in congratulatory General Orders No. 96, of October 15, 1863, the cavalry was not mentioned. General GREGG accordingly asked for either a court of inquiry upon his conduct as commander of the Second Cavalry Division or that he be relieved at once from command. In replying, General MEADE disclaimed any intention of disparaging the services of the cavalry, and in General Order No. 97, following, bore testimony to "the activity, zeal and gallantry" of the whole cavalry corps during the operations from the Rapidan to Centreville.

the Fredericksburg Railroad. This plan not being approved, it was decided to force the passage of the Rappahannock.

Accordingly on November 7th General SEDGWICK advanced to Rappahannock Station with the Fifth and Sixth Army Corps, finding the enemy strongly intrenched on the north bank of the river. General FRENCH, with the First, Second and Third Army Corps, marched to Kelly's Ford.

SEDGWICK attacked and carried the enemy's works on the north bank, capturing four pieces of artillery and 1,600 prisoners; and the Third Corps of FRENCH's command, likewise gallantly forced the passage of the river at Kelly's Ford.

During these operations the First Cavalry Division under BUFORD moved on the right flank, crossing at the upper fords and forcing the passage of Hazel River at Rixeyville, thus cooperating with SEDGWICK.

KILPATRICK's division operated similarly on the left flank, crossing the river at Ellis's Ford, and coöperating with FRENCH's left infantry column. GREGG's division was held in reserve, guarding the trains at Bealeton and Morrisville.

The cavalry took part in the pursuit of the enemy to Brandy Station, and as far as Culpeper. The Army of the Potomac then took position from Kelly's Ford through Brandy Station to Welford's Ford; and the work of repairing the Orange and Alexandria Railroad to the Rappahannock was begun immediately. By the 16th of November the railroad and a bridge over the Rappahannock was completed; and by the 19th sidings and a depot, at Brandy Station, where supplies for the army were brought forward and delivered.

XIV.

By the end of November, the Army of the Potomac was ready for another advance southward. A front attack was deemed impracticable, as the position of the enemy along the Rapidan was strongly intrenched. Preparations were accordingly made for an advance on the enemy's flank. On November 26th the Federal army crossed the Rapidan in three columns—at Jacobs, Germanna, and Culpeper Fords. The Third Corps (FRENCH's) crossed at Jacobs, followed by the Sixth Corps (SEDGWICK's); the Second Corps (WARREN's) crossed at Germanna; and the Fifth Corps (SYKES') crossed at Culpeper Ford, followed by the First Corps (NEWTON's).

GREGG's division was ordered to operate on the left flank of the army, BUFORD's* on the right, to cover the movement, and KILPATRICK's to hold the fords of the Rapidan until further orders. Detachments of cavalry, each 100 strong, were also ordered to report to Generals FRENCH, SYKES and WARREN, commanding the advanced corps.

GREGG's division crossed the Rappahannock at Ellis's Ford on the 24th instant, and proceeded to Ely's Ford on the Rapidan. The advance guard crossed and took possession of the heights, but later the entire division was withdrawn to Richardsville and Ellis's Ford. On the 26th the division crossed the Rapidan, and operated in the direction of the head waters of the Po River. On the 27th it passed through Parker's Store, and took position on the Orange Plank Road, in advance of the Fifth Army Corps. At New Hope Meeting House, the enemy's skirmishers were encountered and driven back with loss by three of the advance regiments of the division. The cavalry division's casualties this day were 106.

On the 30th DEVIN's brigade of this division, which had been protecting the wagon trains of the army, joined GREGG's division, and was posted at the Wilderness. The First Brigade moved to Parker's Store.

Meanwhile, the Third Cavalry Division, under CUSTER, had, on the 26th instant, left camp near Stevensburg, and moved to the Rapidan River, DAVIES' brigade taking position near Raccoon Ford, and TOWN's brigade at Morton's Ford. The First West Virginia Cavalry was sent to guard the fords between Germanna and Morton's; and the Sixth Michigan to Somerville Ford, to patrol that and adjacent fords. CUSTER's instructions required him to make demonstrations as if to cross from Morton's Ford upwards, the moment he heard cannonading below. This he did, as soon as he heard the artillery, and succeeded in drawing the fire of thirty of the enemy's guns upon his force, accompanied by the moving forward of a large body of the enemy's infantry. The demonstration was highly successful, and kept two entire divisions (RODE's and EARLY's) of EWELL's corps, standing to arms all night. But in the morning of the 27th, having discovered the intentions of the Fed-

*In November General BUFORD was permitted to go to Washington for surgical treatment, and during the Mine Run campaign, General WESLEY MERRITT commanded the First Cavalry Division, and Colonel ALFRED GIBBS, the Reserve Brigade. General BUFORD had been wounded, and his constant work in the field had told severely upon his constitution. In Washington he gradually grew worse, and on December 16, 1863, the very day that the President signed his commission as Major-General, he died—the beau ideal of a cavalry officer, on the threshold of a still more brilliant career.

eral army, the Confederate infantry and artillery between Morton's and Raccoon Fords was withdrawn.

The Second Brigade of this cavalry division accordingly crossed the river, and, occupying the enemy's intrenchments, drove their cavalry back several miles. During the remainder of the day and the following day, skirmishing occurred with the enemy's cavalry, and during the next five days the command merely watched the fords.

The campaign was a failure, so far as flanking the enemy's position was concerned, General MEADE attributing it to the fact that the Third Corps (FRENCH's) through taking the wrong road, was so slow moving out to Robertson's Tavern on the 27th inst. that the other corps became engaged before the Third was within supporting distance. The enemy was so strongly intrenched that, rather than risk an assault on their works, it was decided to again fall back behind the Rapidan.

This was accomplished on the night of December 1st, the army's movements being covered by the Second Cavalry Division, DEVIN's brigade of the First Division, and two brigades of infantry from the Third Army Corps, the whole under the command of General GREGG.

Again had the Army of the Potomac retired without effecting its object. Winter was at hand, and the troops went into winter quarters. Early in January the government offered a furlough and agreed to pay a bounty to soldiers who would reënlist for three years. A large number of cavalrymen did so, and were sent home on furlough.

The cavalry troops in winter quarters made themselves as comfortable as their surroundings permitted, but their anticipated rest from active duty hardly materialized. In addition to the fatiguing picket and outpost duty, there were continual scouts, reconnaissances, and several raids, to keep the cavalry busy, while the infantry was recuperating for the spring campaign.

And here it may be proper to say that General HOOKER's original plan of consolidating the cavalry and giving its leader independence of action had not been completely realized. The ever present outpost duty still continued, and this, with continual detached service on minor reconnaissances, guarding wagon trains, could not but result in a lack of unity in the cavalry corps.

Late in December the Second, Eighth and Sixteenth Pennsylvania and First Maine Cavalry regiments, under the command of Colonel CHARLES H. SMITH, marched from Bealeton to Luray, Virginia, surprising a number of small detachments of the enemy and capturing a number of prisoners. At Luray they destroyed a large amount of property useful to the Confederate government, and returned in safety, having marched one hundred miles without a single casualty.

Early in January FITZHUGH LEE, with a large cavalry command, invaded Hampshire and Hardy Counties, West Virginia. General KELLY, commanding the Department of West Virginia, confronted the enemy with all his available force; after destroying a number of wagons and securing such supplies as he could find, LEE's command withdrew, having suffered severely from the intensely cold weather. Later in the month these same counties were subject to another raid by General EARLY, in which the cavalry forces of West Virginia, the First New York, the Fifteenth New York, the Twenty-first New York, COLE's (Maryland) Cavalry, and detachments of the Second Maryland, Sixth Michigan and First Connecticut Cavalry were engaged. The main object of the enemy, the capture of the garrison at Petersburg and the destruction of the Baltimore and Ohio Railroad, was unsuccessful; but the Confederate General ROSSER succeeded in capturing a large wagon train. The hampering of the cavalry by orders from the infantry officer commanding the infantry supports and the great difficulty of successfully concentrating troops in so rough a country, contributed to the safe withdrawal of the enemy's forces.

Although a number of minor engagements occurred during the month of January, nothing of great importance took place until February 6th, when a demonstration was made along the Rapidan, participated in by the First and Second Army Corps, and the First and Third Cavalry Divisions.

While the infantry was engaging the enemy at Morton's and Raccoon Fords, the First Cavalry Division (MERRITT's) crossed the Robertson River in two columns, at Smoot's and Ayler's Fords; and the Third Cavalry Division (KILPATRICK's) crossed at Culpeper, Ely's, and Germanna Fords.

On the 7th the First Cavalry Division moved to Barnett's Ford, and brisk skirmishing ensued. The demonstration on this ford continued until about 1 o'clock P. M., resulting in the deployment of a Confederate infantry brigade. The Third Cavalry Division reconnoitered in all directions, after crossing the Rapidan, finding the enemy in much the same position as during the preceding November.

During this month the cavalry was greatly annoyed by guerrillas, a large number of small detachments being ambushed and either shot down or captured. So serious did these losses become, that a general order was issued, threatening with court-martial officers and men who allowed themselves to be surprised and captured while on duty. West Virginia and western Virginia suffered greatly from these irregular marauding forces, and on February 11th GILMORE'S guerrillas threw a Baltimore and Ohio express train from the track at Kearneysville and robbed the passengers. And on February 20th, in an attempt to capture the noted Major MOSBY at Upperville and Front Royal, a severe skirmish took place between MOSBY'S command and a portion of the cavalry brigade of the Department of West Virginia.

On the 28th of February CUSTER'S cavalry division undertook a raid into Albemarle County, Virginia. The command marched by way of Madison Court House and Standardsville without opposition and took the road to Charlottesville, where FITZHUGH LEE'S force was in camp. The division approached within three miles of the place, when, finding the enemy in superior numbers, CUSTER withdrew, burning the bridges over the Rivanna River and destroying much property. Near Standardsville his force having been reduced to 1,000 men through a misunderstanding, by which a portion of the command had marched beyond the Rapidan, he was charged by the First and Fifth Virginia Cavalry, led by General STUART in person. The charge threw the advance guard—one squadron of the Fifth United States Cavalry—back upon the main body; but the entire regiment charging forward, drove the enemy back in great disorder. CUSTER pursued with his whole command to Bank's Ford, and then wheeling about, eluded the enemy, who had concentrated here, by moving rapidly to the ford and crossing. The command marched one hundred and fifty miles, captured one battle-standard, fifty prisoners, five hundred horses, and six caissons, and destroyed an immense amount of property.

This raid was made to distract attention from another raid of greater proportions, begun the same day by General KILPATRICK, and having as its object the taking of the City of Richmond and the liberation of the Union prisoners confined there. Incidentally, the President's proclamation of amnesty was to be distributed throughout the hostile territory.

It had been learned that Richmond was, about this time, comparatively defenseless, and it was thought that, by a rapid and secret march, the city might be captured and the prisoners released

before reinforcements from either Petersburg or LEE'S army could reach there.

General KILPATRICK left his camp at Stevensburg at 7 o'clock P. M. February 28th, with 3,595 picked men and RANSOM'S horse battery. The advance, consisting of 460 men under Colonel ULRIC DAHLGREN, crossed at Ely's Ford, capturing the enemy's picket. Then, leaving the main body, it proceeded through Spottsylvania Court House to Frederickshall, where it captured a Confederate general court-martial, consisting of thirteen officers. It then proceeded through dense woods and swamps to the James River, which it reached about 7 A. M. on March 2d, having destroyed considerable Confederate property en route. But, through the alleged treachery of a guide, the little command had been led out of its course, and instead of being near Richmond, the latter was still eighteen miles away. However, DAHLGREN continued his march and even passed the outer line of the city's works, when he was attacked from both sides of the road and from the front. A desperate fight followed. Colonel DAHLGREN with about 150 men pushed on, hoping to get through the Confederate lines by way of the James River; but about midnight the command fell into an ambuscade, DAHLGREN was killed, together with a number of his men, and the remainder captured. The other part of DAHLGREN'S force under Captain MITCHELL, Second New York Cavalry, succeeded finally in joining KILPATRICK at Tunstall's Station, with forty-four casualties.

Meanwhile KILPATRICK, after passing through Spottsylvania Court House, had taken a southeasterly course, crossed the South Anna at Ground Squirrel Bridge, and reached the outer line of works about Richmond without serious opposition. The first line of defense was successfully passed, and preparations were made to assault the main works; but nothing having been heard from DAHLGREN'S party which was to have made a simultaneous attack from the other side, and the enemy being heavily reinforced, KILPATRICK deemed it prudent to retire.

KILPATRICK'S attack was made some three hours earlier than DAHLGREN'S, owing to the latter's delay in reaching Richmond, and thus the Confederates were prepared to meet DAHLGREN when he finally reached their works.

KILPATRICK withdrew across the Chickahominy and succeeded in reaching General BUTLER'S lines on the Peninsula March 3d.

As its commander afterwards reported: "The expedition failed in its great object, but through no fault of the officers and men accompanying it. All did their duty bravely, promptly, and well,

for which they deserve the highest praise. Considerable property was destroyed, and several thousand of the President's proclamations scattered through the country. If Colonel DAHLGREN had not failed in crossing the river, which he did either through the ignorance or treachery of his guide, or had the enemy at Bottom's Bridge been forced to remain at that point by a threatened attack from the direction of Yorktown, I should have entered the rebel capital and released our prisoners."

Confirmatory of this opinion, a letter written by General WADE HAMPTON to General STUART March 6th, contained the following: "My observations convinced me that the enemy could have taken Richmond, and in all probability would have done so but for the fact that Colonel JOHNSON intercepted a dispatch from DAHLGREN to KILPATRICK, asking what hour the latter had fixed for an attack on the city, so that both attacks might be simultaneous."

As part reprisal for the killing of DAHLGREN, General BUTLER on March 9th sent an expedition consisting of a brigade of infantry and about 700 of KILPATRICK's cavalry to King and Queen Counties. There they drove the Fifth and Ninth Virginia Cavalry from their camp, burned the latter with much Confederate property, and took a number of prisoners.

XV.

During the winter many changes important to the cavalry as well as to the entire army had taken place.

On the 12th of March Lieutenant-General ULYSSES S. GRANT had been assigned to command the armies of the United States, with General HALLECK as chief-of staff in Washington. And on the 25th of the same month General PLEASANTON was relieved from command of the cavalry corps, General GREGG taking temporary command, and was superceded on April 4th by Major-General PHILIP H. SHERIDAN.

General A. T. A. TORBERT was placed in command of the First Cavalry Division, his brigade commanders being CUSTER and DEVIN, with MERRITT in command of the Reserve Brigade. The Second Cavalry Division remained in command of General GREGG, with DAVIES and IRVIN GREGG as brigade commanders. The Third Cavalry Division was assigned to General JAMES H. WILSON, with Colonels BRYAN and CHAPMAN as brigade commanders.

SHERIDAN found the horses of the cavalry corps much run down, and one of the first and most important things that he did was to

impress upon General MEADE the wastefulness of rendering unserviceable *so many thousand* horses by *unnecessary* picket duty, "covering a distance on a continuous line of nearly sixty miles, with hardly a mounted Confederate confronting it at any point." SHERIDAN also insisted that the cavalry should be concentrated *to fight the enemy's cavalry*. MEADE expressed the traditional views of army commanders, when, in reply, he failed to see who would protect the flanks of the army, the fronts of moving infantry columns, and the wagon trains, if the cavalry were concentrated.

Although MEADE promptly relieved the cavalry from much of the arduous picket duty it was performing, he gave little encouragement at the time to SHERIDAN's plans for an independent cavalry corps—a corps in fact as well as in name. But the corps commander bided his time, confident that an opportunity would at length come for the realization of his views. The opportunity came quickly enough.

On May 4th the Army of the Potomac again moved against the Army of Northern Virginia, then occupying an entrenched position south of the Rapidan. General GRANT planned by moving by the left flank, to compel LEE to come out from his intrenchments along Mine Run; and although a serious consideration was the wooded country of the Wilderness, through which he must pass, the maneuver had the advantages of using Brandy Station as a base of supplies, and at the same time of covering Washington.

SHERIDAN had in the neighborhood of 10,000 cavalry.* GREGG's and WILSON's divisions took the advance by way of Ely's and Germanna Fords, preceding the Second and Fifth Army Corps respectively, while TORBERT's division remained in rear to cover the trains and reserve artillery.

On the 5th WILSON's division advanced from Parker's Store to Craig's Meeting House where he met the enemy's advance, and although at first successful he finally withdrew, for lack of ammunition, to Todd's Tavern, where he formed a junction with GREGG's division. The combined cavalry then drove the enemy back to Shady Grove Church, and SHERIDAN so disposed the force as to hold the Brock Road beyond the Furnaces and around through Todd's Tavern to Piney Branch Church.

But on the 6th, although CUSTER had defeated the enemy at the Furnaces, MEADE became alarmed for the safety of his left flank and ordered SHERIDAN to withdraw the advanced cavalry towards Chan-

* For the organization of the cavalry May 5th, see Appendix 12.

cellorsville, abandoning a position that was to be regained later at heavy cost to both infantry and cavalry.

That SHERIDAN chafed under this order is seen from his letter to General HUMPHREYS of May 5th: "Why cannot infantry," he says, "be sent to guard the trains, and let me take the offensive?"

On the 7th the army advanced with a view to taking Spottsylvania Court House, and the trains were moved towards Piney Branch Church, now, unknown to MEADE, held by the enemy. This led to the battle of Todd's Tavern between HAMPTON'S and FITZHUGH LEE'S commands of STUART'S cavalry (about 8,000 men) and GREGG'S division, assisted by two brigades of TORBERT'S division.* IRVIN GREGG'S brigade attacked the enemy on the Catharpen Road, MERRITT'S Reserve Brigade on the Spottsylvania Road, and DAVIES' brigade on the Piney Branch Road, uniting with MERRITT'S left. After severe fighting, in which the enemy showed the greatest resistance in MERRITT'S front, the Confederates gave way and were pursued almost to Spottsylvania Court House.

In keeping with GRANT'S purpose of threatening LEE'S communications by moving the army to Spottsylvania Court House, SHERIDAN directed GREGG and MERRITT to gain possession of SNELL'S Bridge over the Potomac River, early on the 8th, while WILSON was ordered to take possession of Spottsylvania Court House and actually reached and held that place till directed to fall back from it. MEADE had so amended SHERIDAN'S orders as to direct GREGG to simply hold the Corbin Bridge, and MERRITT to act as advance guard for the advancing column of infantry. Had SHERIDAN'S orders not been thus modified, it is quite probable that the cavalry would have so delayed the march of the Confederates, who held on to Spottsylvania Court House, till the Federal infantry had advanced and made good their possession of that place. As it was, the enemy had time to fortify the latter place, and the bloody battle of Spottsylvania Court House was fought while the work of the cavalry was practically ineffective.

SHERIDAN'S unwillingness to use his cavalry in this disjointed manner, coupled with additional distaste that MERRITT'S division should have been accused of delaying the march of the Fifth Army Corps, led to that famous interview between MEADE and SHERIDAN, in which the latter told his senior that he could whip STUART if allowed to do so, and that henceforth MEADE could command the

*TORBERT was taken ill on the 6th instant, and the command of his division devolved on General MERRITT the following day.

cavalry corps himself, as he (SHERIDAN) would not give it another order.

General GRANT determined that SHERIDAN should be granted his opportunity to "whip STUART," and that very day MEADE directed that the cavalry be concentrated immediately, and that SHERIDAN proceed against the enemy's cavalry. When his supplies were exhausted, he was to proceed to Haxall's Landing on the James River, communicating with General BUTLER.

The country between Spottsylvania and Richmond had been stripped of supplies of all kinds. For this reason, and in order to obtain greater room for cavalry operations, secure from interference from the enemy's infantry, SHERIDAN decided to march his command south of the North Anna before offering battle.

Mobilized at Aldrich's, the expedition started on the morning of May 9th, and with a column thirteen miles long, SHERIDAN succeeded in passing at a walk around the right of LEE'S army without discovery. The Ny, Po, and Ta Rivers were safely passed, and the North Anna reached on the same day. STUART'S cavalry, which followed, being repeatedly held in check by DAVIES' brigade, which acted as rear guard. CUSTER'S brigade pushed on to Beaver Dam Station to cut the Virginia Central Railroad.

On the day following, the 10th, GREGG'S and WILSON'S divisions crossed the North Anna, covered while crossing by MERRITT'S division, which had crossed the preceding day. The calvary corps then proceeded leisurely by the Negro foot Road towards Richmond, STUART meanwhile urging his forces forward, in an endeavor to interpose between the Federal cavalry and the capital of the Confederacy. On the 11th instant STUART held Yellow Tavern on the Brook Turnpike.

Early in the morning of this day DAVIES proceeded to Ashland and cut the Fredericksburg Railroad, which so deceived STUART as to SHERIDAN'S future movements that he divided his forces, GORDON'S brigade following the Federal troops and the remainder marching to Yellow Tavern. But MERRITT'S brigade having entered the place, drove the enemy back and secured possession of the turnpike. The other Federal divisions being brought up, CUSTER, with his own brigade, supported by CHAPMAN'S brigade of WILSON'S division, made a mounted charge on the enemy's left, capturing two guns, and breaking their line. Then, while GIBBS and DEVIN forced the enemy's center and right, GREGG charged in rear and the battle was won.

This engagement gave SHERIDAN complete control of the road to Richmond. The casualties on both sides were quite severe, but the Confederate loss included Generals STUART and JAMES B. GORDON.

Finding the road planted with topedoes, and there being no road between the enemy's works and the Chickahominy, SHERIDAN gave up the attempt and crossed to the north side of that river by the Meadow Bridge. This bridge was repaired, under severe fire, by MERRITT's brigade, which afterwards pursued the enemy to Gaines's Mill. But while the bridge was being repaired, the Confederates advanced from their intrenchments with a brigade of infantry and large numbers of dismounted cavalry, while GORDON's cavalry threatened SHERIDAN along the Brook Road. After a severe contest the enemy was repulsed and the infantry driven within the works.

On the afternoon of the 12th the Cavalry Corps encamped at Walnut Grove and Gaines's Mill; on the 13th at Bottom's Ridge; on the 14th it passed through White Oak Swamp and encamped between Maxall's Landing and Shirley on the James River, resting there until the 17th, the return march was begun. Proceeding by way of Baltimore Cross Roads, SHERIDAN crossed the Pamunkey at White House, repairing the partly destroyed railroad bridge; and then by way of Aylett's, he rejoined the Army of the Potomac near Chesterfield on the 24th instant.

The raid had accomplished important results. It had materially affected LEE's retrograde movements, had drawn off STUART's cavalry and thus increased the ease of movement of the immense trains of the Army of the Potomac; had brought signal defeat to the Confederate cavalry; had seriously threatened Richmond and might have taken it; had cut the railroads which connected LEE with Richmond, and had destroyed immense quantities of stores which, with the strained resources of the Confederacy at this time, must, no doubt, have exerted a powerful influence on the result of the war.

XVI.

Spottsylvania's battles had been fought when SHERIDAN returned, and the Army of the Potomac was maneuvering to cross the North Anna.

On the 25th instant WILSON's cavalry division was ordered to make a reconnaissance across this river as far as Little River; and from the 26th to the 30th the division was engaged in this duty, at the same time covering the right flank of the army. On the 31st

WILSON crossed the south side of the Pamunkey, defeating a division of the enemy's cavalry under W. H. F. LEE. Pushing on the same day, in accordance with an order from General MEADE, WILSON occupied Hanover Court House, after a sharp fight, in which the Confederate General P. M. B. YOUNG was wounded, and on the following day, June 1st, destroyed the bridges over the South Anna. Simultaneously therewith he had a sharp engagement with the Confederate cavalry, but the latter being reinforced by infantry, and WILSON having accomplished the object of his movement, he withdrew by the head of the Totopotomy to Hawes's Shop, where he again came within supporting distance of the army.

Meanwhile GREGG's and TORBERT's divisions, supported by RUSSELL's division of the Sixth Corps, were covering the crossing of the army over the Pamunkey. In effecting this crossing, GREGG made a feint of crossing at Littlepage's, and TORBERT at Taylor's Ford. Both then, after dark, discreetly retired, and successfully crossed at Hanovertown Ford on the 27th, CUSTER's brigade in the lead. Pushing rapidly on to Hanovertown, TORBERT's division encountered GORDON's brigade of Confederate cavalry, and drove it in confusion in the direction of Hanover Court House. GREGG's division moved up to this line; RUSSELL's division of infantry encamped near the river crossing, in support, and behind the screen thus formed the Army of the Potomac crossed the river on the 28th instant unimpeded.

As General GRANT was now uncertain of LEE's exact position, GREGG was ordered to reconnoiter towards Mechanicsville. At Hawes's Shop he found confronting him HAMPTON's and FITZHUGH LEE's cavalry divisions,* supported by BUTLER's cavalry brigade, and he attacked them dismounted at once. The fight which followed was very severe, and continued late into the evening, as the position contended for was one of great strategic importance to both armies. CUSTER's brigade, which had reinforced GREGG, was finally dismounted, and assaulting through an opening near the center of the line, the temporary works were carried by the entire Union line, and the position was won. Although the battle took place immediately in front of the Federal infantry, General MEADE declined to put the latter into action, and the battle was won by the cavalry alone. The result gave possession of the cross roads, and showed GRANT that LEE's army was retiring by the right flank.

*After STUART's death the Confederate cavalry was reorganized in three divisions under HAMPTON, FITZHUGH LEE and W. H. F. LEE, due to reinforcement by BUTLER's cavalry brigade from South Carolina.

The night following the battle SHERIDAN withdrew the two cavalry divisions to the left rear of the army, and, marching to Old Church, threw out pickets towards Cold Harbor, the possession of which was necessary to secure White House as a base. The enemy realized this too, and a fierce fight ensued at Matadequin Creek, in which the Confederate force was finally driven to Cold Harbor, that town being taken the following day (May 31st) after a hard fought battle.

The cavalry at Cold Harbor was now so isolated, being nine miles from the nearest infantry, that SHERIDAN was making preparations to withdraw, when he received word from MEADE to hold the town at all hazards. Its capture by the cavalry had not been anticipated by GRANT.

Accordingly SHERIDAN made every preparation during the night to hold the town; and on the following day, behind his temporary breastworks, successfully met and repulsed the Confederate infantry under KERSHAW. About 10 o'clock A. M. the cavalry was relieved by the Sixth Army Corps, and was moved to a position at Bottom's Bridge, on the north side of the Chickahominy, where it rested in camp until June 6th.

WILSON, having meanwhile driven the enemy out of Hawes's Shop and passed so far around LEE's left flank as to deceive him into the belief that he was threatened by a large force, after taking a number of prisoners, fell back the next day and quietly went into camp at New Castle Ferry.

GRANT's unsuccessful attack upon the enemy's strong position at Cold Harbor made him decide to again move his army forward by the left flank. To draw off the enemy's cavalry during this dangerous maneuver, SHERIDAN received instructions on June 6th to proceed with two cavalry divisions via Charlottesville to break up the Virginia Central Railroad, and afterwards to unite, if possible, with the army advancing through West Virginia under General HUNTER towards Lynchburg.

WILSON's division was directed to remain with the Army of the Potomac, receiving its instructions direct from army headquarters. TORBERT's and GREGG's divisions accordingly started on the 7th of June, taking with them three days' rations in haversacks to last for five days, two days' forage on the pommels of saddles, and 100 rounds of ammunition to each man.

The line of march carried the command through New Castle and Polecat Station along the north bank of the North Anna.

through Twyman's Store, and across the Anna on the 10th instant, and in the vicinity of Trevilian Station on the 11th.

Here TORBERT's division, pressing back the enemy's pickets, found the enemy in force about three miles from Trevilian, posted behind heavy timber. At the same time, CUSTER was sent by a wood road to destroy Trevilian Station. In doing this CUSTER passed between FITZHUGH LEE's and HAMPTON's divisions, and soon had possession of the station, as well as the Confederate wagons, caissons, and led horses, causing HAMPTON to detach ROSSER's brigade.

Assured of CUSTER's position, SHERIDAN dismounted TORBERT's two remaining brigades, and, aided by one of GREGG's brigades, carried the enemy's works, driving HAMPTON's division pell-mell back on CUSTER, and even through his lines. GREGG's remaining brigade had meanwhile attacked FITZHUGH LEE successfully, and pursued him until almost dark as far as Louisa Court House. HAMPTON's scattered forces retreated towards Gordonsville and were joined by FITZHUGH LEE's command during the night.

The cavalry corps encamped that night at Trevilian, and here SHERIDAN received information which showed that General HUNTER was marching away from, instead of towards, Charlottesville. He therefore decided to give up attempting to join HUNTER, and made immediate preparations to return to the Army of the Potomac. The wounded and prisoners greatly impeded his movements, and his supply of ammunition was not sufficiently large for more than one general engagement.

On the morning of June 12th GREGG's division proceeded to destroy the railroad towards Louisa Court House, while TORBERT made a reconnaissance towards Gordonsville. The latter became heavily engaged with HAMPTON's and FITZHUGH LEE's cavalry at Mallory's Cross Roads, about two miles beyond Trevilian, the battle continuing until dark.

Although the fighting in this series of engagements was in favor of SHERIDAN, the general result prevented a return by way of Mallory's Ford, as had been planned, and SHERIDAN decided forthwith to return by the same road on which he had come. But for reasons which are not clear he marched northeast, reaching Catharpen Road, in the Wilderness, on the 14th; on the 15th, the Ta River; on the 16th, it passed through Bowling Green to the Mattapony River; on the 17th, it reached Walkerton, and on the 18th, the vicinity of King and Queen County. On the 19th instant the wounded, the prisoners

and about 2,000 contrabands were sent to White House, while the corps marched to Dunkirk, reaching White House on the 20th of June.

At the latter place SHERIDAN found orders directing him to break up the supply station there, and conduct the 900 wagons to Petersburg. This was successfully accomplished, but not without several severe engagements with the Confederate cavalry, which had again got across his line of march. GREGG's division had a severe engagement at St. Mary's Church, particularly creditable to the cavalry.

In combination with the operations of the Army of the Potomac, the Army of the James, under General BUTLER, had meanwhile moved up the Peninsula; and on May 5th General KAUTZ, with a cavalry force of nearly 3,000 men,* had been detached for a raid against the Petersburg and Weldon Railroad. KAUTZ forced the Blackwater, burned the railroad bridge at Stoney Creek below Petersburg, cut the Danville Railroad at three points, cut the Petersburg and Lynchburg railroad at three points, cut the Petersburg and Weldon Railroad, and destroyed property of immense value. The command reached City Point in safety on May 17th, having marched from thirty to forty miles a day for six days.

On June 9th General KAUTZ, with 1,300 cavalry, took active part in the movement which General BUTLER had planned for the capture of Petersburg, then defended by a force of about 1,200 militia. It was arranged that KAUTZ should make a detour to the left, attacking the city from the Jerusalem Road, while the infantry forces under General GILLMORE, should coöperate on the Jordan's Point and City Point Roads. KAUTZ's cavalry—a portion mounted and the remainder dismounted—gallantly charged the enemy's intrenchments, capturing the works and approaching very near the city, but owing to lack of support from the infantry the cavalry was obliged to fall back.†

WILSON's division, augmented to 5,500 men by the addition of the cavalry from the Army of the James, had, during the absence of the other divisions of the Cavalry Corps at Trevilian Station, made a raid (July 22d) south of Petersburg, destroying the Petersburg and Lynchburg, and Richmond and Danville Railroads. Upon reaching the left of the army on his return, WILSON was attacked in front by a large force of Confederate infantry under General

*First Brigade: Third New York Cavalry, First District of Columbia Cavalry. Second Brigade: Fifth Pennsylvania Cavalry, Eleventh Pennsylvania Cavalry, section of Eighth New York Artillery. Total, 2,536 men for duty, equipped.

†General GILLMORE's alleged bad management of this attack led to charges against him by General BUTLER, and his subsequent relief from command at his own request.

MAHONE, sent down from Petersburg on the Weldon Railroad, and on the flank by the Confederate cavalry, which had dropped SHERIDAN and marched rapidly to this point. The impossibility of breaking the infantry line which confronted it, caused the division to fall back across the Nottoway and Meherrin Rivers, and swing east across the Blackwater, losing in the retreat a great number of horses through heat and fatigue. WILSON had previously expressed his doubts of being able to return safely, unless the enemy's cavalry and infantry were kept engaged by General SHERIDAN and the Army of the Potomac respectively. But the destruction of the railroads on this raid was considered by General GRANT to have more than compensated for the severe losses which the cavalry division sustained. Had infantry been promptly sent, as requested, to meet WILSON at Ream's Station, only four miles from MEADE's headquarters, and open the door for his return, he could have safely withdrawn his command and rejoined the army without material loss.

From the 2d to the 26th of July SHERIDAN was at Light House Point recuperating his hard worked command. Here 1,500 horses were received in addition to the 400 received at White House. That the Union cavalry had learned to take better care of its horseflesh is shown from the fact that these 1,900 remounts were all that the Cavalry Corps received from the Quartermaster's Department of the army while SHERIDAN had personal command, that is, from April 6th to August 1st.

The misfortunes of the national cavalry during this period was due to its division into two parts, and although it had been roughly handled, it was soon ready for active operations. On the afternoon of July 26th the First and Second Cavalry Divisions moved north of the James, the Second Army Corps cooperating, with orders to raid, if opportunity offered, the Virginia Central Railroad, and destroy the bridges over the North and South Anna Rivers. The Appomattox was crossed at Broadway Landing, and at Deep Bottom KAUTZ's small cavalry division joined the raiding force, the Second Army Corps taking the advance.

A portion of HANCOCK's corps soon became engaged, and SHERIDAN with two divisions of the cavalry accordingly moved to the right upon the strongly fortified New Market and Central Roads, leading to Richmond. In advance of Ruffin's House on the New Market Road, the First and Second Cavalry Divisions formed line of battle, but were driven back over the high ground by the Confederate infantry divisions of KERSHAW, WILCOX and HEATH. Reach-

ing the eastern extremity of a ridge, the cavalry were quickly dismounted and directed to lie down about fifteen yards from the crest. When the enemy's infantry arrived, such a galling fire was delivered from the cavalry's repeating carbines that the Confederate divisions gave way in disorder. The Federal cavalry quickly followed, capturing 250 prisoners and two battle-flags. This adaptability to fight mounted or dismounted had now become a marked characteristic of the Union cavalry.

The long line presented by the cavalry and the Second Army Corps deceived General LEE into the belief that GRANT had transferred a large part of his force to the north side of the James. LEE accordingly moved a large body of his troops from Petersburg to the vicinity of New Market. This was one of the very objects which GRANT wished to obtain by this demonstration north of the James, as the explosion of the mine at Petersburg was nearing consummation, by means of which he hoped to gain possession of the city.

Giving up all idea then of the original objects of the expedition, HANCOCK and SHERIDAN bent all their resources towards keeping up the deception without giving battle. This was accomplished until the 29th instant, when the Second Corps was withdrawn to take part in the assault on Petersburg the following day.

This withdrawal of the infantry left the cavalry corps in a position where it could have been annihilated had the enemy seen fit to attack. But shortly after daylight on the 30th the cavalry safely followed the infantry, and moved with a view to operating on the enemy's left flank, should the mine explosion be successful. The failure, however, of the latter caused this movement of the cavalry to be at once arrested. On August 1st, two days after the mine explosion, General SHERIDAN was relieved from personal command of the Cavalry Corps, and was ordered to the Shenandoah Valley.

The results thus far accomplished by the cavalry under SHERIDAN had been most distinguished. With the idea ever held in view that the Cavalry Corps should be organized and used to fight the enemy's cavalry, he had succeeded in almost annihilating what had heretofore been the most uniformly successful arm of the Confederate army. Besides accomplishing the destruction of millions of dollars worth of property, the Cavalry Corps had, in all important movements, acted as a screen to the main army, and by its hostile demonstrations had time after time forced the Confederate commander-in-chief, much against his will, to detach much needed troops from his already hard pressed army. Had it been kept

united in its more important operations of breaking up the enemy's communications it would have escaped all defeat, and would have been much more successful.

XVII.

The Federal government had, with an inconsiderable force, been able to hold the State of West Virginia, subject though it was at all times to guerrilla operations and to bold raids of the enemy's cavalry. Aside from the moral effect of keeping the State within the Union, the Baltimore and Ohio Railroad in the northern part,—main line between the East and West, the Virginia Central Railroad, penetrating the Blue Ridge at Rockfish Gap, and the Virginia and Tennessee Railroad, just beyond West Virginia's southern boundary, were all of immense strategic importance.

But although the State had by extraordinary exertions been held, the operations of the cavalry had been inconspicuous. With the advent of GRANT's control of the Federal armies, the cavalry of the Army of West Virginia came into more prominence.

In the spring of 1864 the Department of West Virginia, which included the Shenandoah Valley, was in command of General SIGEL who, under orders from GRANT, despatched an expedition under General CROOK to cut the Virginia and Tennessee Railroad at New River Bridge, and destroy the salt works at Saltville. As a diversion SIGEL proposed to menace the Virginia Central Railroad at Staunton.

CROOK entrusted the destruction of the works at Saltville to General AVERELL's cavalry division, while he himself marched against New River Bridge. It is with the cavalry command that we are chiefly interested.

AVERELL was at Charleston, W. Va., with 2,479 officers and men* when CROOK's orders reached him. Marching on May 1st over pathless mountains AVERELL found Saltville too strongly guarded to be taken without infantry and artillery. Approaching Wytheville on the 10th, he was confronted by 5,000 of the enemy under Generals MORGAN and JONES, whom he successfully attacked and held at bay for the purpose of preventing their concentration on General CROOK's column. Proceeding to New River, AVERELL crossed at an opportune time, the river rising in time to check MORGAN's pursuing force. At Christianburg AVERELL took two 3-inch guns and destroyed the railroad to a point four miles east of the town. On the 15th instant, the little command rejoined General

*AVERELL's brigade commanders were General DUFFIÉ and Colonel SCHOONMAKER.

CROOK at Union, having marched with uncomplaining fortitude 350 miles through an almost impassable region destitute of supplies, thirty miles of the journey being in single file, on foot, over untrequented paths.

While this campaign of the Kanawha was taking place, SIGEL had, with 6,000 men, of which 1,000 were cavalry under General STAHEL (an officer of foreign birth), begun operations in the Shenandoah Valley. He reports: "The few troops I have here (at Winchester) are excellent, with the exception of the cavalry."

On May 15th he met the Confederate force under BRECKENRIDGE, at New Market,* and the Federal cavalry, posted on the left of the line, were routed early in the action. Although the remainder of the Union troops contested the ground bravely, they finally gave way. SIGEL was signally defeated, and was accordingly relieved from command of the Department of West Virginia, being succeeded on May 21st by General HUNTER.

On May 26th HUNTER began from Cedar Creek the campaign which had for its object the occupation of Lynchburg. His two cavalry divisions were under command of DUFFIÉ (also a foreigner) and AVERELL.

The Federal command encountered no opposition until it reached Harrisonburg, where IMBODEN was found occupying a strong position. The Federal cavalry succeeded in capturing a large supply train at this point. On the 5th of June WYNCOOP's cavalry brigade took an active and important part in the battle of Piedmont, by which the Confederate General JONES was defeated; on the 6th HUNTER occupied Staunton, and on the 8th he was reinforced by the infantry under CROOK and the cavalry under AVERELL.

In setting out from Staunton, DUFFIÉ's cavalry division was ordered to demonstrate against the enemy at Waynesborough, but finding the Confederate force very strong, he crossed the Blue Ridge and cut the Charlottesville and Lynchburg Railroad at Arlington Station. IMBODEN followed him, but was repulsed with loss, DUFFIÉ capturing one hundred prisoners, including seventeen officers. While these operations were highly successful, DUFFIÉ's failure to return to the main command caused HUNTER a long delay at Staunton, and the main objective, Lynchburg, was reinforced before the Federal troops arrived.

On the 17th AVERELL, supported by DUFFIÉ, came upon the enemy at Quaker Church, five miles from Lynchburg, and, aided by

*BRECKENRIDGE had 5,500 men, his 800 cavalry being commanded by IMBODEN. The corps of cadets of the Virginia Military Institute, under Colonel SHIPP, took part in this battle.

CROOK's infantry, charged their intrenchments and carried the works. But finding Lynchburg heavily reinforced, HUNTER decided to withdraw toward his base by way of Buford's Pass. This he accomplished successfully, EARLY following, and repulsed the enemy whenever attacked. He reached Salem on the 21st instant, where the enemy abandoned the pursuit, and arrived, half-starved, at Granley's Bridge on the 27th.

HUNTER's campaign had the effect of drawing off a portion of LEE's force to reinforce Lynchburg, and caused a great loss of property to the Confederate government. In these successes, the cavalry divisions of Generals AVERELL and DUFFIÉ took a prominent part.

But EARLY did not long remain idle. After forcing HUNTER into the Shenandoah—a maneuver which freed Lynchburg and left the lower Shenandoah open—he united General BRECKENRIDGE's infantry division and the cavalry of General ROBERT RANSOM, Jr., to his own corps and moved down the valley. Reaching Winchester on July 2d, and Martinsburg two days later, he brushed SIGEL's and WALLACE's troops aside, crossed the Potomac, and threatened Washington. This movement so alarmed the Federal authorities that the Sixth and Nineteenth Army Corps were rapidly transferred from the Army of the Potomac to Washington, resulting in EARLY's retiring through Leesburg, Winchester and Strasburg. During this retreat EARLY was continually harassed by DUFFIÉ's cavalry division, which attacked his trains and engaged in several severe skirmishes.

On the 24th of July EARLY turned at Kernstown on CROOK's command, which was following him, and handled it so severely that CROOK was obliged to retire to Harper's Ferry. In this battle both DUFFIÉ's and AVERELL's cavalry saw severe service, but that their efficiency was not what it should have been is shown by HUNTER's letter to HALLECK, written about this time. "The cavalry and the dismounted men in the late fights behaved in the most disgraceful manner, their officers in many instances leading them off and starting all kinds of lying reports tending to demoralize the whole command." Although applicable to the dismounted men, who were the odds and ends of various regiments about Washington, this statement was unjust to the main cavalry force, which with few exceptions, fought gallantly.

The way was again open for EARLY, and advancing into Maryland he detached MCCAUSLAND to Chambersburg, Penna., laid that town in ashes, and fell back towards Strasburg.

XVIII.

EARLY's second raid caused such consternation in the North that GRANT determined to not only crush EARLY's command, but by devastating the fertile valley of the Shenandoah, to prevent its being used in future as a base of supplies for the Confederate armies. General SHERIDAN was selected to carry out this difficult task, in a region where many generals had already failed.

When SHERIDAN assumed command of the Army of the Shenandoah, its strength comprised the Sixth Army Corps, one division of the Nineteenth Army Corps, two divisions of infantry from West Virginia, and TORBERT's division of cavalry. In the expectation that AVERELL's cavalry division would soon join him, SHERIDAN appointed TORBERT chief of cavalry, and assigned MERRITT to the command of TORBERT's old division.

SHERIDAN's instructions directed him to mass his troops at Harper's Ferry, and follow and attack the raiding force wherever found. And, although protecting all buildings, to take and destroy all forage and stock in the valley which might invite the enemy's return.

The first five weeks of SHERIDAN's valley campaign were spent in maneuverings, offensive and defensive, which, though enlivened by numerous severe cavalry skirmishes, brought on no general action.

The Federal army set out from Harper's Ferry on August 10th, and between that date and the 13th moved with strategical precision to Strasburg. Here SHERIDAN received a delayed letter from GRANT to HALLECK, informing him that EARLY had been reinforced by infantry and artillery from the Confederate army at Petersburg, and directing SHERIDAN to act on the defensive. The latter accordingly retraced his forward movement with the same precision which had marked his advance, and left in his wake a devastated valley. By August 18th he was again in the vicinity of Charlestown, closely followed by EARLY; but towards the end of the month the Confederate general fell back towards Brucetown and Bunker Hill, and later to the vicinity of Stephenson's Depot, near Winchester. No engagement of importance occurred,* SHERIDAN standing strictly on the defensive, as his orders required, in spite of great political pressure employed to force him into aggressive action. But the time was well employed. As SHERIDAN reports: "The cavalry was

* On September 13th McINTOSH's brigade of WILSON's division (Second Ohio, Third New Jersey, Fifth New York, Second New York, and First Connecticut) captured the Eighth South Carolina Infantry, with its colonel and battle flag, at Abraham's Creek.

employed every day in harassing the enemy, its opponents being principally infantry. In these skirmishes the cavalry was becoming educated to attack infantry lines."

September 16th SHERIDAN learned through spies that KERSHAW's division had returned to the Army of Northern Virginia, and he decided that the time for active operations had at length come.

His original plan of action contemplated throwing his army across the Valley Pike at Newtown, south of Winchester, but hearing from AVERELL that, on the 17th, EARLY had attacked him at Bunker Hill with two infantry divisions, and had afterwards proceeded towards Martinsburg, he determined to attack the two remaining Confederate divisions at Stephenson's Depot, and then turn, in time to meet those at Bunker Hill and Martinsburg.

But EARLY, suspecting that SHERIDAN was about to move, promptly withdrew these divisions, so that on the 18th instant GORDON's division was at Bunker Hill, RAMSEUR's two miles east of Winchester across the Berryville Pike, WHARTON's at Stephenson's, and RODES's division near there. The cavalry of LOMAX, JACKSON and JOHNSON was to the right of RAMSEUR, while FITZHUGH LEE covered Stephenson's Depot, westward.

On the 19th of September SHERIDAN's army was up and moving at 3 o'clock in the morning. WILSON's division crossed the Opequon at the Berryville crossing, and charging up the cañon through which the Berryville-Winchester turnpike runs, captured a small work on the open ground at its mouth before the Confederates could recover from their astonishment. All efforts to dislodge WILSON proved fruitless, and he held it until the arrival of the Sixth Army Corps. This corps and the Nineteenth, which were following WILSON, were so long passing the defile already referred to, that it was late in the forenoon before they were able to form line of battle; and in the meanwhile EARLY had time to bring RODES's and GORDON's infantry divisions down from Stephenson's, and from the high ground in front was able to enfilade the Union troops as they advanced. With the arrival of the infantry, WILSON moved to the left from his perilous position in front and took position along the south bank of Abraham Creek, covering the Union left.

Line of battle formed, the Union infantry advanced—GETTY's division of the Sixth Corps to the left, and RICKETT's division to the right of the Berryville-Winchester Pike; GROVER's division of the Nineteenth Corps to the right of RICKETT's, with RUSSELL's and DWIGHT's divisions in reserve, in rear of their respective corps. The advance was successfully accomplished on the left, but retarded on

the right; and as GETTY and RICKETT gained ground to the left, a serious break occurred at the center of the line, which was opportunely filled by RUSSELL'S reserve division.

Meanwhile AVERELL had advanced from Darksville southward; CUSTER had crossed the Opequon at Lock's Ford, while LOWELL and DEVIN had crossed at Ridgway's Ford, all three commands pressing forward towards Stephenson's Depot.

To confront this force, the Confederates had PATTON'S brigade of infantry and some of FITZHUGH LEE'S cavalry, but with AVERELL'S division on the west of the Valley Pike, and MERRITT'S on the east, TORBERT easily drove this force towards Winchester. The ground in front of the Federal cavalry was well adapted for a charge, and while AVERELL pressed rapidly towards the Confederate rear, MERRITT'S division charged forward with such success as to break the Confederate left and capture a battery of five guns and 1,200 prisoners.

Almost simultaneous with this, CROOK'S divisions, which had been massed at the Berryville crossing of the Opequon, were hurled against the Confederate left, on the right of the Nineteenth Army Corps. This, together with the brilliant success of TORBERT'S cavalry along the Valley Pike, stampeded the whole Confederate line, which fell back in confusion towards Winchester in spite of the repeated efforts of its commanders to rally their demoralized units.

SHERIDAN had hoped to retain CROOK'S divisions in reserve, until an opportunity would occur to use them in taking possession of the Valley Pike, southward, thus cutting off the enemy's retreat. But under the circumstances it had seemed best to place CROOK'S command in the main line of battle to the right. Accordingly WILSON was directed to perform alone, as well as he was able, what had been intended for CROOK'S entire command—to prevent the retreat of the Confederate army along the Valley Pike towards Strasburg.

WILSON'S demonstrations on the extreme Confederate right had, earlier in the battle, caused EARLY to weaken FITZHUGH LEE'S cavalry division on the left by detaching WICKHAM'S brigade for the purpose of securing a route for retreat; but this brigade was later sent back to the Confederate left to confront AVERELL, so that WILSON advanced without difficulty, scattering WICKHAM'S brigade and continuing his advance till after night.

When the Confederate line fell back panic-stricken, SHERIDAN caused the Sixth and Nineteenth Army Corps to move towards the left to assist WILSON in taking possession of the Valley Pike. But

RAMSEUR'S Confederate division, which still retained its morale, was in position to delay movements in this direction till the Confederates had swept by the point of danger and darkness had put an end to hostile operations.

The Union loss in this battle of the Opequon was from 4,500 to 5,000 men, of which the cavalry lost but 441. The Confederate loss amounted to about 4,000, of which nearly 2,000 were prisoners. The Army of the Shenandoah also captured five pieces of artillery and nine battle-flags.

The victory came at a time when its moral effect was most needed, and crowned with success a long series of misfortunes to the Federal arms in the Shenandoah Valley. It restored the lower valley to Federal control, and relieved Maryland, Pennsylvania and the national capital from further fears of invasion, and it is safe to say could not have been gained but for the part taken by the cavalry both in securing and driving the enemy from it.

XIX.

"We have just sent them whirling through Winchester, and we are after them to-morrow," wired SHERIDAN, and his words sent a thrill of joy through the Northern States.

In obedience to SHERIDAN'S orders the cavalry corps was after the retreating Confederates at daybreak, September 20th — MERRITT straight down the Valley Road towards Strasburg; WILSON to Front Royal by way of Stevensburg; and AVERELL along the Back Road, skirting the edge of the mountain range to the west, towards Cedar Creek. The infantry followed, the Nineteenth Corps on the right of the pike, the Sixth on the left, and the Eighth Corps in the rear. EARLY had taken his stand at Fisher's Hill, two miles south of Strasburg and beyond a little stream called Tumbling Run. No effort was for the present made to dislodge him, for his position was probably the strongest that he could have selected.

At Strasburg the valley is divided longitudinally by the Massanutten Range, and between this range and the Little North Mountains to the west is barely four miles. With his right resting on the Massanutten spurs and the north fork of the Shenandoah, his infantry line of battle extended across the valley, and was prolonged on the left by LOMAX'S cavalry, dismounted. The whole Confederate line was intrenched, and so sure was EARLY of the strength of his position that the ammunition chests were lifted from the caissons and placed behind the works.

As the Union troops arrived on the evening of the 20th, WRIGHT and EMORY went into position on the heights of Strasburg, CROOK north of Cedar Creek, and the cavalry to the right and rear of WRIGHT and EMORY, extending to the Back Road.

A reconnaissance satisfied SHERIDAN that the enemy's right was impregnable, and he determined to use the same turning tactics he had used at Opequon.

On the 21st SHERIDAN pushed the enemy's skirmishers back towards Fisher's Hill, and after a severe engagement of the infantry, secured an advantageous position on the right. The night of the 21st CROOK was concealed in the timber near Strasburg. The same day TORBERT, with WILSON'S and MERRITT'S cavalry divisions, was dispatched up the Luray Valley with orders to defeat the enemy's cavalry, cross over the Massamitten Range to New Market, and thus gain the enemy's rear, should SHERIDAN drive him south from Fisher's Hill.

On the 22d CROOK moved secretly to a position in the timber near Little North Mountain, and the Sixth and Nineteenth Corps were massed opposite the right center of the enemy's line, RICKETT'S division opposite the left center, and AVERELL'S cavalry on RICKETT'S right.

The maneuver of CROOK was eminently successful. Moving out from the timber late in the afternoon of September 22d, he struck the enemy's left and rear with unexpected and irresistible force; the infantry in the main line of battle swung into the turning movement at the proper time, and the rout of EARLY'S army was complete.

All during the night of the 22d the Federal infantry with DEVIN'S brigade of cavalry pushed on in pursuit of the demoralized enemy. DEVIN struck the enemy north of Mount Jackson, and had he been properly supported by AVERELL, would doubtless have taken thousands of prisoners. But for some unaccountable reason AVERELL had gone into camp immediately after the battle of Fisher's Hill, leaving the infantry and DEVIN'S small cavalry brigade to make the all-night pursuit. He reinforced DEVIN about 3 P. M on the 23d at Mount Jackson, but his attack was indifferently made, and he soon afterwards withdrew into camp near Hawkinsburg.

Meanwhile TORBERT with his cavalry had passed up the Luray Valley to Milford, and finding this place in possession of the Confederate cavalry under WICKHAM, the bridges destroyed and the country impracticable for cavalry off the turnpike, it was impossible to dislodge the enemy or to pass beyond the defile opposite New Market. "Not knowing these facts I was astonished and chagrined," writes SHERIDAN, "on the morning of the 23d at Woodstock, to receive the intelligence that he (TORBERT) had fallen back to Front Royal and Buckton Ford."

Had TORBERT succeeded in forcing the pass and reaching New Market, as SHERIDAN contemplated, EARLY'S army must have been captured bodily. As it was, SHERIDAN'S loss was only about 400, while EARLY'S was between 1,300 and 1,400. EARLY abandoned most of his artillery, and such property as was within his field works.

Excepting DEVIN'S energetic pursuit, it must be confessed that the cavalry contributed very little to the success of the battle of Fisher's Hill, but candor compels the statement that the valleys were too narrow for cavalry operations. AVERELL was immediately relieved from his command, SHERIDAN attributing his apparent apathy to dissatisfaction at TORBERT'S appointment as chief of cavalry, which had repeatedly manifested itself, except when AVERELL was conducting independent expeditions. Colonel WILLIAM H POWELL succeeded to the command of AVERELL'S division.

The enemy which had concentrated south of Mount Jackson, was driven thirteen miles southward on the 24th, through New Market and Keezletown, reaching Port Republic during the night, and moving from thence to Brown's Gap in the Blue Ridge. Below Port Republic EARLY had been joined by LOMAX'S, WICKHAM'S and PAYNE'S brigades of cavalry, and KERSHAW'S infantry division, while CUTSHAW'S artillery was en route to join him.

On the 25th the Sixth and Nineteenth Army Corps reached Harrisonburg, where they were ordered for the present to remain, and during the next few days the cavalry, all of which had rejoined SHERIDAN by the 26th, was employed in laying waste the upper valley, and in skirmishing with the enemy as far south as Stanton and Brown's Gap, the general line of the Federal army being until October 6th from Port Republic along North River by Mount Crawford to the Back Road near the mouth of Briery Branch Gap.

During this time SHERIDAN advised that the Valley campaign be here terminated, and that a portion at least of the troops be withdrawn for other purposes. GRANT'S consent to SHERIDAN'S plans reached the latter October 5th, and on the following day the movement down the valley was begun, the infantry preceding the cavalry, and the latter in a line stretching completely across the valley destroying or taking all available supplies.

The enemy's cavalry, now under General ROSSER,* became exceedingly annoying to the rear guard during the next few days, and, on October 8th, TORBERT was directed by SHERIDAN "to give ROSSER a drubbing next morning or get whipped himself." At this time MERRITT was in camp near Round Top, north of Tom's Brook, and CUSTER some six miles northwest, near Tumbling Run.

During the night CUSTER was ordered to retrace his steps by the Back Road, joining his line of battle with MERRITT, who was to attack along the Valley Pike, only about three miles separating these parallel roads.

About 7 A. M. October 9th, CUSTER encountered ROSSER with three brigades near Tom's Brook Crossing, and soon after MERRITT struck LOMAX and JOHNSON on the Valley Pike, the Federal line of battle extending across the valley.

The fighting was desperate on both sides. On the Federal side there was a determination to maintain the prestige of the cavalry in the valley, and to make up for TORBERT's failure to punish these same Confederate divisions at Milford a few weeks before. On the Confederate side it was hoped that ROSSER, whose previous efforts had been successful, would reëstablish the supremacy of the Confederate cavalry, and the sight of the devastated valley by men, many of whom were from this region, spurred them to stubborn resistance.

The fight was essentially a saber contest. Again and again were charges given and received on both sides, and for two hours the honors were almost equally divided, the Confederates holding the center with success, while the Federal cavalry pushed back the flanks. This finally proved too much for the enemy, and as both Confederate flanks gave way, MERRITT and CUSTER ordered a charge along the whole line. The retreat of the Confederates which immediately followed, degenerated into a panic-stricken rout, which continued for twenty-six miles up the valley, through Mount Jackson and Columbia Furnaces. Eleven pieces of artillery, 330 prisoners, ambulances, caissons, and even the headquarters wagons of the Confederate commanders, were captured.

TORBERT has stated that of all the cavalry victories, that of Tom's Brook "was the most brilliant one of them all, and the most decisive the country has ever witnessed."

Of this reverse to the Confederate arms EARLY wrote to LEE, October 9th: " * * * God knows I have done all in my power

*ROSSER had joined EARLY on October 5th, with a cavalry brigade from Richmond, and was boastfully proclaimed "the savior of the valley."

to avert the disasters which have befallen the command, but the fact is, the enemy's cavalry is so much superior to ours, both in numbers and equipment, and the country is so favorable to the operations of cavalry that it is impossible for ours to compete with his. LOMAX's cavalry are armed entirely with rifles, and have no sabers, and the consequence is that they cannot fight on horseback, and in the open country they cannot successfully fight on foot against large bodies of cavalry. It would be better if they could all be put in the infantry, but if that were tried, I am afraid they would all run off."*

SHERIDAN had specially halted the Union infantry one day in order to have the battle of Tom's Brook fought. On the following day he again moved forward across Cedar Creek and occupied the heights, the cavalry on the flanks, and the Sixth Corps continuing its march to Front Royal, with a view of joining the Army of the Potomac. On the 13th, however, it was recalled in consequence of the enemy's arrival at Fisher's Hill. It was SHERIDAN's intention at the time to send all the cavalry on a raid through Chester Gap to the Virginia Central Railroad at Charlottesville, and it had actually proceeded as far as Front Royal, but in consequence of unconfirmed information that LONGSTREET was about to join EARLY, the expedition was given up. The cavalry was accordingly ordered back to Cedar Creek, and General WRIGHT was directed to make his position strong and be well prepared for any advance of the enemy. This done, SHERIDAN proceeded to Washington to consult with the Secretary of War in regard to future operations.

XX.

Nothing suspicious was seen or heard by the Federal army at Cedar Creek to indicate a further advance by EARLY. In fact, a reconnaissance on October 18th reported the enemy as having retreated up the valley. But it is to be observed that no cavalry scouts or pickets were kept in advance to observe the enemy's movements.

On the night of the 18th the Army of the Shenandoah was encamped on the bluffs along the north bank of Cedar Creek, as follows: CROOK's Army of West Virginia was on the extreme left, his two divisions on each side of the pike; on his right was the Nineteenth Corps, separated from the Sixth Corps further to the right by a rivulet — Meadow Brook; MERRITT's cavalry division was on

* Rebellion Records, page 558, Vol. XLIII, Part I.

the right of the Sixth Corps at Middle Marsh Brook, and CUSTER's a mile and a half beyond MERRITT, watching the fords of the Back and Mine Bank Roads; POWELL's First Brigade was out on the Front Royal Pike, and his Second Brigade was guarding Burton's Ford on the Shenandoah.

The enemy attacked the left of the line, in a heavy fog before daylight, October 19th, and with a turning movement which was very effective, drove the infantry back from position to position.

The cavalry was in the saddle at the first alarm, and was put in position on the right of the infantry. The First Brigade, Second Division, being at Burton's Ford, was cut off by the enemy's attack, but passing completely about the Confederate flank, joined the left of the army at Middletown. The second brigade of this division moved slowly backward on the Front Royal Winchester Pike, and succeeded admirably in engaging LOMAX's cavalry and in preventing him, throughout the day, from attacking the Federal rear. The value of this stubborn resistance can best be estimated by thinking of the consternation that would have followed an attack on the rear, in addition to the confusion in front.

Of MERRITT's division, the Reserve Brigade, having received orders for a reconnaissance the night before, had already advanced to the line of pickets, when the latter were attacked, but subsequently fell back, and gave way to the First Brigade. CUSTER's division, which had at daylight been feebly attacked by ROSSER at Copp's Ford, was with MERRITT's division, deployed in line of battle on the right of the infantry. The infantry lines soon after gave way in confusion, and the Fifth United States Cavalry was deployed across the fields in the almost useless attempt to stop stragglers and form a line. DEVIN's brigade was sent to the left of the line, with orders to hold the pike, and about 10 o'clock the First and Third Divisions* were transferred to the left of the line, across the pike just north of Middletown, the First Division being so disposed as to connect with the line of the infantry. The First Brigade, Second Division, was on the left of the Third Division, and the Third Division was on the left of the First.

The cavalry fought gallantly. Even at times, when, by backward movements of the infantry line on the right, the First Cavalry Division was subjected to a galling cross-fire, the division stood firm, and both divisions suffered greatly from a murderous artillery fire.

*Three regiments of the Third Division were left on the right of the line, and for five hours gallantly stemmed the tide of thousands of stragglers who were moving to the rear.

But for the services of the cavalry at this time on the left flank, the enemy must surely have penetrated to the rear of the Federal army. The cavalry not only held its own on the left, but at one time so threatened to envelop EARLY's right that he was forced to crowd his troops farther east.

Finding his efforts of little avail against the solid front presented by the Sixth Army Corps and the cavalry, EARLY determined to try and force the Union flank. But to his surprise and consternation, he found his own troops in no condition for such an attack. EARLY himself states: "So many of our men had stopped in the camp to plunder (in which I am sorry to say that officers participated), the country was so open, and the enemy's cavalry so strong, that I did not deem it prudent to press further, especially as LOMAX had not come up."*

Affairs were at this stage when SHERIDAN, having made his historic ride, arrived on the field. He says: "On arriving at the front I found MERRITT's and CUSTER's divisions of cavalry under FORBERT, and General GETTY's division of the Sixth Corps, opposing the enemy."

CUSTER's division was at once (11 A. M.) ordered to the right, and in a charge drove back the enemy's cavalry for a mile, behind their infantry supports. The Nineteenth Corps and two remaining divisions of the Sixth Corps were also ordered to the front, and SHERIDAN personally supervised the formation of the line of battle in prolongation of GETTY's line.

At 4 P. M. a general advance of the Federal lines was ordered, and as the enemy's line overlapped a portion of the Union right, MCMILLAN's brigade cut off the Confederate flanking force. This done, CUSTER's division was ordered to charge. Leaving but three regiments to hold the Confederate cavalry in his front, CUSTER moved to the left, dividing the enemy's cavalry from his infantry, and charging across an open plain on the enemy's exposed flank. The effect was apparent before the charge was completed, thousands of the enemy throwing away their arms and crowding across Cedar Creek, a demoralized mob.

Meanwhile MERRITT's division, on the extreme right of the line, had also gallantly moved forward in the general advance of the line. "The Reserve and Second Brigades charged into a living wall of the enemy, which, receiving the shock, emitted a leaden sheet of fire upon their devoted ranks;" while the First Brigade, in column of regiments in line, overwhelmed a battery and its sup-

*EARLY to LEE, the day after the battle.

ports, amid a perfect tempest of fire at close range. In this charge the fearless and chivalric LOWELL received a mortal wound.

The cavalry on both flanks continued the pursuit across Cedar Creek, and even after dark charged and broke the last line the disorganized Confederates attempted to form. Darkness alone saved the greater part of EARLY's army from capture.

The cavalry alone captured forty-five pieces of artillery, thirty-two caissons, forty-six army wagons, 672 prisoners—more than half the total number captured—and a great deal of other property.

The services of the cavalry during the entire day were most distinguished and valuable, and in decided contrast to those of the Confederate cavalry. Neither ROSSER nor LOMAX, although striking for the Union lines at a time when the Federal infantry was most demoralized, were able to reach the Pike; the former being easily repulsed by CUSTER, and the latter held at bay during the entire day by POWELL. The fact that two of the cavalry divisions were about to depart upon a raid to the Virginia Central Railroad, and that their orders were countermanded at the last moment by SHERIDAN at Front Royal, shows how the smallest happenings may affect the fate of the greatest battles.*

EARLY's disorganized army reassembled at New Market, while SHERIDAN proceeded to Kernstown. From Stephenson's Depot to Harper's Ferry the railroad was reconstructed and arrangements made to detach troops to General GRANT. On the night of November 11th General EARLY made a reconnaissance north of Cedar Creek, but hastily retired on the night of the following day, before troops could be sent against him. His cavalry, however, were not so fortunate. On the day following this reconnaissance General POWELL's cavalry division attacked LOMAX's cavalry at Ninevah, routing them, pursuing them two miles south of Front Royal and capturing all their artillery (two guns), their ordnance train and 180 prisoners. On the same day General CUSTER, moving on the Middle and Back Roads, engaged ROSSER's cavalry division north of Cedar Creek, routing it, driving it across Cedar Creek and capturing sixteen prisoners. The enemy's infantry was also successfully engaged on the Valley Pike by a portion of the First Cavalry Division under General MERRITT.

Late in November (November 28th to December 3d) General MERRITT was sent with two brigades on an expedition into the Luray

* During the Shenandoah campaign the cavalry alone captured 2,556 prisoners, 71 guns, 29 battle-flags, 32 caissons, 105 army wagons, 2,567 horses, 1,000 horse equipments, and 7,152 head of cattle. It destroyed, among other things, 420,742 bushels of wheat, 780 barns, and 700 rounds of ammunition

Valley for the purpose of operating against MOSBY, and of rendering the valley useless as a base of supplies for the guerrillas in the future.

The division passed through Ashby's Gap of the Blue Ridge, and raiding columns were then detached which devastated the country on each side of the general line of march. The guerrillas kept safely at a distance and avoided capture, but the destruction of property was enormous—that destroyed by the Reserve Brigade alone aggregating $411,620.

In spite of the bitter cold weather the cavalry was kept moving during December. On the 19th TORBERT, with MERRITT's and POWELL's divisions, marched through Chester Gap for the purpose of striking the Virginia Central Railroad at Gordonsville, while CUSTER, as a diversion, proceeded up the valley. TORBERT drove JACKSON's cavalry division out of Madison Court House, and the latter formed a junction with MCCAUSELAND's division at Liberty Mills; but the combined force, General LOMAX commanding, was signally defeated by TORBERT and driven across the Rapidan. The bridge had been mined, and was blown up while the Federal cavalry were crossing in pursuit; but by crossing by fords above and below TORBERT captured two pieces of artillery. He then proceeded towards Gordonsville, but found the enemy's infantry in such force that he returned. CUSTER had meanwhile been surprised in his camp at Lacy's Springs, both ROSSER's and PAYNE's forces attacking him at daylight, and he was obliged to retire.

The weather was so intensely cold during these operations that horses and men suffered severely, and many men were badly frost-bitten. The expeditions practically closed the operations of the winter, and SHERIDAN's troops went into cantonment near Winchester. The Sixth Corps had been sent to Petersburg early in December, one division of CROOK's corps to West Virginia, and the remainder to City Point, leaving SHERIDAN with but one division of the Nineteenth Army Corps and the cavalry.

XXI.

While these stirring events had been taking place in the Shenandoah Valley, GREGG's cavalry division (still known as the Second Cavalry Division) on duty with the Army of the Potomac, had not been idle. Indeed, in consequence of the withdrawal of the other cavalry divisions to the Shenandoah Valley, it had rather more than its share of cavalry duty to perform.

When KERSHAW's division of LEE's army was withdrawn to reinforce EARLY, the Second Cavalry Division, with the Second Army Corps (HANCOCK's) crossed the James at Deep Bottom August 14th. On the 16th the Federal cavalry met the enemy's cavalry on the Charles City Road, and drove them as far as White's Tavern. In these engagements Generals CHAMBLISS and GIBARDEY, of the Confederate army, were killed.

During the destruction of the Weldon Railroad which followed, the cavalry was on picket duty, but a portion of it, dismounted, took active part in the engagement at Ream's Station on August 25th, which resulted in the breaking of HANCOCK's line and the capture of five pieces of his artillery.*

No movements of consequence, except reconnaissances, now occurred until September 30th, when a demonstration was ordered on the left of the line, to prevent the enemy detaching troops to the north side of the James. In this movement two divisions of the Fifth Army Corps under General WARREN, and two of the Ninth Army Corps under General PARKE, moved from the left towards Poplar Spring Church and Peeble's Farm; the cavalry division at the same time moved to the left and rear. On October 1st GREGG was attacked by a large force of the enemy on the Duncan Road, where he was guarding the rear and left of the movement, but he repulsed the attack with great loss, General DUNOVANT being among the Confederates killed. For some weeks the troops were employed in holding and fortifying the position thus gained.

On October 27th the cavalry division was placed under the orders of General HANCOCK, and together with part of the Ninth, Fifth and Second Corps, moved towards the left in reconnaissance. The Second Corps and the cavalry crossed Hatcher's Run on the Vaughan Road, with slight opposition from the enemy's cavalry. On arriving at Gravelly Run the enemy was found posted on the west side in a position of great natural strength. The First Maine and Sixth Ohio were dismounted and, assisted by the Twenty-first Pennsylvania, mounted, drove the enemy's line back beyond the heights, the enemy breaking in confusion at the advance of the Second Corps. In the subsequent operations on the Boydton Plank Road the cavalry was on the left of the Second Army Corps, and with almost the entire division dismounted, repeatedly held the line against superior numbers of the enemy until he retired. On October 28th the troops were again withdrawn to the lines of intrenchments.

* For the organization of the cavalry, see Appendix 13.

During November the division was employed on picket and reconnaissance; and on December 7th, numbering 4,200 effective men, it was sent, under General WARREN, with three divisions of the Fifth Corps, MOTT's division of the Second Corps, and four batteries of artillery, to destroy the Weldon Railroad and interrupt the enemy's communications.

As the command reached the vicinity of the railroad General GREGG detached a force to destroy the railroad bridge over the Nottoway, and the cavalry continued the partial destruction of the railroad as far as Jarratt's Station. On December 9th the work of destruction continued, the cavalry clearing the enemy out of the way southward, and picketing the country north and east. At Three Creeks the Confederates had posted on the south bank two small field guns and two hundred cavalry, the bridges having been destroyed, and the fords obstructed; but dismounted men crossed and drove the enemy away. The railroad was destroyed for seventeen or eighteen miles when, the command's supplies not justifying further operations, it returned to camp on December 12th.

Early in February the Second Cavalry Division proceeded via Ream's Station to Dinwiddie Court House without finding the enemy in any considerable force. On the following day, however, the division formed a junction with General WARREN at Gravelly Run, and covered his movements to Hatcher's Run, the enemy following. With the First and Third Brigades dismounted and the Second Brigade mounted, the enemy was driven across the run, and the command bivouacked on the field of battle.

On February 9th General DAVID MCM. GREGG, who had for so long a time been so prominently and illustriously identified with the cavalry of the Army of the Potomac, was relieved from command, through the acceptance of his resignation, and General JOHN I. GREGG assumed temporary command. General DAVIES, returning from leave later in the month, assumed command, and on March 27th he in turn was relieved by General CROOK, who retained permanent command of the division.* During this period little of importance occurred, the division reporting on the 27th to General SHERIDAN for duty with the First and Third Cavalry Divisions, which had again joined the Army of the Potomac.†

The latter divisions had meanwhile, on February 27th, entered upon the final campaign which was to clear the valley once for all of organized Confederate troops.

*WILSON meanwhile having been ordered west to reorganise and command SHERMAN's cavalry.

† For the effective force of First and Third Divisions, February 28th, see Appendix 14.

General MERRITT, who had performed such distinguished services as a division commander, succeeded General TORBERT as chief of cavalry. TORBERT had disappointed SHERIDAN during the battle of Fisher's Hill, and in the later expedition to Gordonsville. He seemed to lack self-reliance at critical times, and one of SHERIDAN's traits of character was *that he took no chances*. SHERIDAN's original plans, as directed by GRANT, contemplated the destruction of the Virginia Central Railroad, the capture of Lynchburg if practicable, and a junction with SHERMAN's victorious army in North Carolina.

A small force of ROSSER's cavalry was encountered March 1st at Mount Crawford, but was easily driven to Kline's Mills. At this time EARLY was at Staunton, but as SHERIDAN's command approached that place he retired to Waynesboro, where he occupied a line of breastworks along a ridge west of the town. CUSTER was dispatched towards Waynesboro, closely followed by DEVIN, and finding the Confederate left somewhat exposed, he sent dismounted regiments around this flank, while he, with two brigades, part mounted and part dismounted, assaulted in front.

The flanking movement was successful, and enabled CUSTER's line of battle to carry the breastworks. The Eighth New York and First Connecticut charged in column through the enemy's line, and the town of Waynesboro, and held the east bank of the South River, thus cutting off the enemy's line of retreat. All the Confederates surrendered except ROSSER's command and a few general officers, the cavalry capturing seventeen battle flags, 1,600 prisoners and eleven pieces of artillery.

Continuing the march CUSTER's division reached Charlottesville on the 3d instant, but the muddy roads delayed the wagon train until the 5th. On the 8th CUSTER destroyed the railroad as far as Amherst Court House, sixteen miles from Lynchburg, while DEVIN, who had proceeded along the James, destroyed the canal.

The Confederates had meanwhile destroyed the bridges over the James, and, the river being so swollen as to be unfordable, SHERIDAN deemed a junction with SHERMAN impracticable. He therefore decided to still further destroy the Virginia Central Railroad and James River Canal, and then join the Army of the Potomac in front of Petersburg.

Columbia was reached on the 10th of March, where a halt of a day was made to allow the trains to catch up. From this point MERRITT, with CUSTER's division, proceeded to Louisa Court House, destroying the Virginia Central as far as Frederick's Hall, while CUSTER destroyed it from the latter place to Beaver Dam Station.

Receiving word that PICKETT's Confederate division with FITZHUGH LEE's cavalry, were moving east from Lynchburg, and that LONGSTREET was assembling a force at Richmond to cut off SHERIDAN's junction with GRANT, the raiding force now pushed on to Ashland, MERRITT having marched from Frederick's Hall through Hanover Court House, and CUSTER crossing the South Anna on the Ground Squirrel Bridge.

The command reached White House via King William Court House on March 18th, where supplies were found which SHERIDAN had requested to have ready.

The expedition had caused an immense amount of damage to the Confederate cause, with but slight loss to SHERIDAN's command. But owing to the incessant rains which lasted for sixteen days and nights, the almost impassable roads and the high water in the streams, the march was one of the greatest hardship

At White House the command rested for five days, and shod the horses. But the march from Winchester had been so severe upon the latter that there was not a sufficient number of remounts at White House to replace those disabled, so that the dismounted men were sent into camp near City Point.*

XXII.

On March 24th General SHERIDAN moved from White House, crossed the James River at Jones Landing, and joined the Army of the Potomac in front of Petersburg on the 27th instant. But his force was still regarded as a separate army, and he received his orders direct from General GRANT.

The effective force of the three divisions of cavalry aggregated 9,000 men.† SHERIDAN's general instructions from GRANT were to move near or through Dinwiddie, reaching the right and rear of the Confederate army as soon as possible, but with no intention of attacking the enemy in his intrenched position. Should he remain intrenched, SHERIDAN was to cut loose and destroy the Danville and South Side Railroads — the only avenues of supply to LEE's army, and then either return to the Army of the Potomac, or join SHERMAN's army in North Carolina.

The general movement against the Confederate army began March 29th. The evening of that day the cavalry had reached Dinwiddie Court House, on the extreme left of the line, the nearest ex-

* For abstract of returns of the cavalry for March 1865, see Appendix 15.
† For organization, March 29th to April 9th, see Appendix 16.

tremity of the infantry line being near the intersection of the Quaker Road with the Boydton Plank Road. The First and Second Divisions went into camp, covering the Vaughan, Flatfoot, Boydton Plank and Five Fork Roads,—all intersecting at Dinwiddie—CUSTER's division remaining at Malone's Crossing to guard the trains.

The next day DEVIN's division was sent by General MERRITT to get possession of Five Forks, DAVIES' brigade of CROOK's division in support. The reconnaissance showed the enemy to be in force at Five Forks on the White Oak Road, and there was severe skirmishing. On the following day, March 31st, MERRITT, with the First Division and DAVIES' brigade of the Third Division, again advanced on Five Forks, while CROOK, with his two other brigades, moved to the left and encountered the enemy at Chamberlain's Creek. But in the meantime WARREN's army corps, which was next on the right of the cavalry, was driven back, leaving the cavalry at Five Forks to bear the brunt of the attack. In the very obstinate battle which ensued, the enemy was unable, with two divisions of infantry and all his cavalry, to push back the five cavalry brigades, which were dismounted on the open plain in front of Dinwiddie. The fighting continued until after dark, and the opposing lines of bivouac that night were not separated by more than a hundred yards.

Of this day's battle General GRANT says: "Here SHERIDAN displayed great generalship. Instead of retreating with his whole command on the main army, to tell the story of superior forces encountered, he deployed his cavalry on foot, leaving only mounted men enough to take charge of the horses. This compelled the enemy to deploy over a vast extent of wooded and broken country, and made his progress slow."

On the morning of the 1st of April SHERIDAN, reinforced by the Fifth Corps and later by MACKENZIE's cavalry division* (1,000 effective men) from the Army of the James, advanced again against Five Forks.

His plan of attack was to make a feint with the cavalry, to turn the enemy's right, but meantime bringing up the entire Fifth Corps to strike the enemy's left flank and crush the whole force if possible. The movement was hastened by the fact that two divisions of the Fifth Corps were at the time in rear of the enemy. The enemy's infantry had, in the hot pursuit of SHERIDAN to Dinwiddie, isolated itself, and was moreover outside the Confederate line of works.

*On March 29th General KAUTZ was relieved from command of this cavalry division, and was succeeded by General R. S. MACKENZIE, a young officer of engineers, not long out of West Point.

WARREN's corps was slow getting up, but nevertheless DEVIN's and CUSTER's divisions were all the morning, under MERRITT's direction, pressing the enemy steadily backward, until at 2 o'clock the Confederates were driven behind the works on the White Oak Road.

In furtherance of the plan of attack MERRITT closely engaged the enemy, and WARREN's corps was ordered up on the Gravelly Church Road, oblique to the White Oak Road and about one mile from Five Forks. But WARREN was again slow in getting into position.

About 4 o'clock WARREN began the infantry attack, his right flank covered by MACKENZIE's cavalry, and at the same time General MERRITT made a lively demonstration against the enemy's right. Although the two leading infantry divisions barely escaped disaster through getting separated, the error was rectified in time, and as the infantry swarmed over the left and rear of the enemy's works, doubling up the Confederate line in confusion, DEVIN's cavalry division went over the works in front.* The hostile artillery was captured and was quickly turned on the demoralized enemy. At the same time CUSTER was having an obstinate battle on the left with CORSE's and TERRY's infantry and W. H. F. LEE's cavalry.

After the first line was carried the enemy made no serious stand, and the spoils of the battle were six guns, thirteen battle-flags, and nearly six thousand prisoners.

Fearing LEE would escape, GRANT ordered a general assault on the enemy's works the next day and the intrenchments were carried at several points. MERRITT on the same day was moving westward, and drove a considerable force of the enemy's cavalry from a point north of Hatcher's Run to Scott's Corners.

During the night of the 2d General LEE evacuated Richmond and Petersburg and moved towards Danville.

On the 3d the cavalry resumed their pursuit, the Fifth Corps in support, and five pieces of artillery and hundreds of prisoners were taken. The enemy's infantry rear guard was overtaken at Deep Creek, where a severe fight took place, and MERRITT was directed to await CROOK's arrival and that of a division of the Fifth Corps.

*"The dismounted cavalry had assaulted as soon as they heard the infantry fire open. The natty cavalrymen with their tight-fitting jackets and short carbines, swarmed through the pine thickets and dense undergrowth, looking as if they had been especially built for crawling through knot-holes." (General HORACE PORTER's "Campaigning With Grant," in the Century Magazine.)

As LEE seemed to be heading for Amelia Court House, CROOK was ordered on the 4th to push ahead and strike the Danville Railroad, which he did near Jetersville; and the Fifth Corps following close behind, intrenched itself at that point.

While at Jetersville, a telegram from LEE's Commissary General to the supply departments at Danville and Lynchburg was intercepted, ordering 3,000,000 rations sent to Burkeville. The telegram was re-transmitted by SHERIDAN who determined forthwith to secure the rations for his own army.

On the morning of the 5th General DAVIES made a reconnaissance towards Payne's Cross Roads and discovered that LEE's army was attempting to escape in that direction. DAVIES succeeded in burning nearly two hundred of the enemy's wagons, and rejoined the supporting brigades of SMITH and GREGG near Flat Creek, eluding a strong force of Confederate infantry, which had been sent out to cut off his retreat.

It became apparent to SHERIDAN on the following day that the entire mass of LEE's army was attempting to escape. His trains, heavily escorted, were found moving towards Burkeville, and there were other evidences of a general retreat. At this time, MEADE's plan of attack was to advance his right flank to Amelia Court House, but after carrying out this maneuver he found LEE gone, just as SHERIDAN had predicted, when, on April 4th and 5th, the cavalry leader wished to attack LEE with his cavalry and the Second Army Corps.

CROOK was sent against LEE's train on the Deatonsville Road, but found them strongly guarded. So SHERIDAN shifted the cavalry across country, parallel to LEE's line of march, hoping to find a weak point in his column. To prevent the detaching of any of the enemy's forces, the Michigan brigade (STAGG's) of the First Division, with MILLER's battery, remained a few miles south of Deatonsville and made a strong demonstration. This gained time for the arrival of the Sixth Army Corps, then marching to join SHERIDAN.

A favorable opportunity for the attack of the long Confederate column occurred at Sailor's Creek, where CUSTER, with the Third Cavalry Division, charged the force guarding the trains, routed it and captured over three hundred wagons. While CUSTER was thus engaged, the Confederates were reinforced by KERSHAW's and CURTIS LEE's infantry divisions under EWELL. The First Cavalry Division was pushed forward by MERRITT to CUSTER's assistance, and as STAGG's brigade of this division moved up on the left of the Third Division, it made a brilliant charge, which resulted in the capture

of three hundred prisoners, and with the arrival of the other brigades the enemy's line was broken. This success, supported by the position of CROOK's cavalry division, which had been planted squarely across the enemy's line of march, had the effect of cutting off three of the enemy's infantry divisions, and as the Sixth Corps moved up in the enemy's rear, nearly the entire force was captured. This included General EWELL and six of his generals, fifteen guns, thirty-one battle flags, and from nine to ten thousand prisoners. The battle had also the effect of deflecting LONGSTREET's corps from its march towards Danville, and it moved to Farmville, north of Appomattox.

SHERIDAN at this time wrote to GRANT, "If the thing is pressed, I think that LEE will surrender." And President LINCOLN telegraphed GRANT the laconic message, "Let the thing be pressed."

It was pressed. On the 7th CROOK's division was pushed on to Farmville; and MERRITT and MACKENZIE to Prince Edwards Court House to prevent any movement of the enemy towards Danville.

CROOK overtook the rear guard of the enemy's train just across the river at Farmville, and in a sharp fight by GREGG's brigade, was repulsed.*

This action indicated clearly that LEE's objective was Lynchburg. This being the case, SHERIDAN determined to throw all his cavalry across the enemy's path, and hold him if possible until the infantry could arrive.

Accordingly MERRITT and MACKENZIE were recalled, joining CROOK at daylight, April 8th, at Prospect Station, and all the cavalry were hurried on towards Appomattox Depot, twenty-eight miles away. CUSTER having the advance, detached two regiments to cut off four† trains of stores destined for LEE's army, which were found a short distance out of Appomattox, and then, turning his attention to the depot, charged the enemy's advance guard just approaching.

The First Division was soon brought up by MERRITT, and being deployed, dismounted, on the right of the Third, it crossed the road along which the enemy was attempting to move, and effectually blocked his retreat.

The enemy was driven in this fight, which continued until after dark, towards Appomattox Court House, and twenty four pieces of artillery, an immense train, and many prisoners, fell into the hands of the cavalry.

* General GREGG was captured, and the command of his brigade devolved upon Colonel B. M. YOUNG, Fourth Pennsylvania Cavalry.

† SHERIDAN says four trains. MERRITT and CUSTER report three.

The day's work of the cavalry was most important. As General MERRITT has said: "The enemy's supplies were taken, as it were, out of their mouths. A strong force—they knew not how strong—was posted along their line of retreat at a point where they did not expect opposition. Night was upon them. Tired, desperate and starving, they lay at our feet. Their bravest soldiers, their hardiest men gave way when they heard the noise of battle far in the rear, and the night of despair fell with the night of the 8th of April, darkly and terribly, on the Army of Northern Virginia."*

During the night of the 8th urgent efforts were made to hurry up the infantry reinforcements under ORD, and about daylight on the 9th the Twenty-fourth and Fifth Corps, and one division of the Twenty-fifth Corps, arrived at Appomattox Depot. Soon after, the movement which General LEE had agreed upon during the night, namely, that GORDON should break through the Federal cavalry, was begun under stress of overwhelming numbers. MERRITT's cavalry division was directed to fall back to the right and rear, resisting; and CROOK and MACKENZIE on the left of the line were instructed to hold their ground as long as possible, without sacrificing their men.

As the enemy caught sight of the long lines of ORD's infantry, he realized that further resistance was useless, and discontinued the attack. About this time MERRITT was ordered to move against the enemy's left, and in spite of a heavy artillery fire the First and Third Cavalry Divisions secured possession of high ground within half a mile of the Court House.

Preparations were being made to attack the exposed Confederate flank with CUSTER's and DEVIN's divisions, when a flag of truce called for a suspension of hostilities, and, so far as the cavalry of the Army of the Potomac was concerned, the War of the Rebellion was practically over.

The cavalry was marched to Petersburg, and on April 24th were moved southward, with a view to aiding General SHERMAN's army. But upon reaching South Boston, on the Dan River, SHERIDAN received word of General JOHNSTON's surrender, and the cavalry retraced its steps to Petersburg, from whence, by easy stages, it marched to Washington. On May 23d, mid the cheers of thousands, it took part in "The Grand Review," as fine a body of cavalry as the world has ever seen.

*Report of April 20, 1865.

XXIII.

The development of the cavalry of the Army of the Potomac, was perhaps the most wonderful object lesson of the entire war

Given a mass of citizen soldiers, undisciplined, undrilled, many of them ignorant of arms and of horses, men from the factory and men from the counting-house, engineers off the railroad and professors from colleges; to take these and in four years to mould them into that magnificent body of horsemen, which constituted SHERIDAN's command at Appomattox, is something that is distinctively a production of the active, physical and mental energy, the intelligence, the resources, and above all, the patriotism, of the American nation.

It would be absurd to draw comparisons between the courage of the soldiers of STUART and those of PLEASANTON, between those of FITZ-LEE and those of SHERIDAN. They were all Americans, and whether born beneath Southern suns or Northern stars, possessed equally American pluck, endurance and bravery.

But the Southern soldiers were natural horsemen, and under the wise patronage of General LEE, and the dashing leadership of STUART, the Confederate cavalry from the beginning exhibited that independence of action, whether mounted or dismounted, which made them so formidable to the Federal army. At the beginning of the Gettysburg campaign, no finer type of cavalry could be found anywhere than the cavalry of STUART; and the stimulus of such a standard of excellence contributed not a little towards producing a Federal cavalry which could successfully cope with their adversaries. But the greatest influence in making the National Cavalry was its concentration under one competent commander.

That it did so is a matter of history, and the superiority arose from a number of causes. The first two years of the war, though years of inferiority for the Federal cavalry, were filled with valuable lessons, far reaching in their effects. The use of arms and the care of horses—natural from birth to the Southerner—was hammered into the daily life of the Northerner with a persistent thoroughness which was a remarkable characteristic of his nature; and this constant attention to the minutiæ of a cavalryman's life had its ultimate effect in producing men equally skillful with saber, pistol and carbine. The saber was considered the first weapon of the Union cavalry, but in the use of the repeating carbine it showed that its effective fire-action was not lessened by its effective shock-action. The fact too, that in the Army of Northern Virginia each

trooper was required to furnish his horse, undoubtedly had its effect upon the degeneracy of the Confederate cavalry. Other causes—the loss of STUART and the rise of SHERIDAN, as well as the gradual draining of the resources of the Confederacy, men and materials, all these contributed to the final result.

It is best now to think of the cavalry of both great armies as exemplifying to the entire world all that was greatest and best in the organization, equipment, and use of the mounted arm. To be sure, a certain class of European critics continue, with almost willful persistence, to misrepresent the true character of our cavalry and its use during the greatest of modern wars. That our cavalry cast aside the moss-grown traditions of European tacticians, rejecting all that was obsolete, retaining all that was best, and developing that which their sound common sense indicated would add to their fighting efficiency, is to their lasting credit. They created a new role for the mounted arm, and proved to their own satisfaction, as KILPATRICK has said, "That cavalry can fight anywhere, except at sea."

Laying aside the question of cavalry raids, those independent, self-sustaining operations which were a distinct product of the War of the Rebellion, examples are not wanting of the most glorious use of the cavalry, both mounted and dismounted, throughout the war.

Side by side with the charge of the German cavalry at Mars-la-Tour, we can place the effective charge of the Eighth Pennsylvania Cavalry under HUEY, at Chancellorsville. For the charge of the English Light Brigade at Balaclava, we can name that of the lamented FARNSWORTH upon the Confederate right flank at Gettysburg. With the charge of the French cuirassiers at Sedan, we can class the devoted charge of the First and Fifth United States Cavalry at Gaines's Mill, or that of the Sixth United States and Sixth Pennsylvania upon the Confederate artillery at Brandy Station.

Was there ever a finer or more effective cavalry charge against infantry than that of MERRITT'S division upon the Confederate left flank at Opequon? Was there ever a grander cavalry battle than that of Beverly Ford, or the desperate fight of GREGG'S division upon the right flank at Gettysburg?

And was ever before seen the spectacle of these same cavalry troops, dismounted, holding in check long lines of the enemy's infantry as did the troopers of the gallant BUFORD at Gettysburg, or the cavalry under the peerless SHERIDAN at Dinwiddie Court House? Does the world believe that cavalry was none the less

true cavalry when, like GAMBLE'S brigade at Upperville, it dismounted behind stone walls, in order to check a cavalry charge with a withering fire from their carbines; or, as did DEVIN'S division at Five Forks, carrying the enemy's works, side by side with their comrades of the infantry?

No; it will be the proud boast of the cavalry of the Army of the Potomac that it created where others had been content to follow; that it shattered the traditions of the old world and builded them anew. Its deeds are too indelibly written upon the pages of history to ever be effaced, and though for a time misunderstood, misused, and misrepresented, it at last vindicated itself in a way which the cavalry of the future will do well to emulate

---

The writer has depended for his statements almost entirely upon that best of all authorities—the official records of the Union and Confederate armies, but a list of the principal supplementary works consulted, is appended

Official Records of the War of the Rebellion.
History of the United States Cavalry (BRACKETT).
The Second Dragoons (RODENBOUGH).
History of the First Maine Cavalry (TOBIE).
History of the First New York (LINCOLN) Cavalry (STEVENSON).
Annals of the Sixth Pennsylvania Cavalry (GRACEY).
Battles and Leaders of the Civil War (The Century Co.).
The Shenandoah Valley in 1864 (POST).
Cavalry in the Gettysburg Campaign (DAVIS).
Sheridan's Memoirs.
The Civil War (ABBOTT).
History of the Civil War (COMTE DE PARIS).
History of the United States (ELIOT).
Organization and Tactics (WAGNER).
Operations of War (HAMLEY).
JOURNAL OF THE U. S. CAVALRY ASSOCIATION.

The following pages of the Appendix are almost entirely statistical, and are merely added for reference in order to make the entire history of the cavalry as complete as possible in itself

APPENDIX 1.

Copy of the letter from the Secretary of War, authorizing the raising of the First regiment of volunteer cavalry.*

*By authority of this letter, the First Regiment of New York (LINCOLN) Cavalry was organized.

WAR DEPARTMENT,
WASHINGTON, May 1, 1861.

To the Governors of the Several States, and All Whom it May Concern:

I have authorized Colonel CARL SCHURZ to raise and organize a volunteer regiment of cavalry. For the purpose of rendering it as efficient as possible, he is instructed to enlist principally such men as have served in the same arm before. The government will provide the regiment with arms, but cannot provide the horses and equipments. For these necessaries we rely upon the patriotism of the States and the citizens, and for this purpose I take the liberty of requesting you to afford Colonel SCHURZ your aid in the execution of this plan. (Signed.)

SIMON CAMERON,
Secretary of War.

APPENDIX 2.

Organization of the Cavalry, Army of the Potomac, October 15, 1861.

Brigadier-General STONEMAN'S cavalry command:—
- Fifth United States Cavalry.
- Fourth Pennsylvania Cavalry.
- Oneida Cavalry (one company).
- Eleventh Pennsylvania Cavalry (Harlan's).
- Barker's Illinois Cavalry (one company).

Attached to City Guard—4th U. S. Cavalry, Cos. A and E.
Attached to Banks's Division—3d Regiment, New York Cavalry, (four companies).
Attached to McDowell's Division—8d New York Cavalry (Harris Light).
Attached to Heintzelman's Division—1st New Jersey Cavalry.
Attached to Porter's Division—3d Pennsylvania Cavalry, 8th Pennsylvania Cavalry.
Attached to Franklin's Division—1st New York Cavalry.
Attached to Stone's Division—3d New York Cavalry (six companies).
Attached to McCall's Division—1st Pennsylvania Cavalry.
Attached to Hooker's Division—3d Indiana Cavalry (eight companies).
Attached to Blenker's Brigade—4th New York Cavalry (Mounted Rifles).
Attached to Dix's Division—(Baltimore) one company of Pennsylvania Cavalry.

APPENDIX 3.

Organization of the cavalry, Army of the Potomac, during the operations before Richmond, June 25th to July 2d, 1862.

Attached to Second Army Corps—6th New York Cavalry, Cos. D, F, H and K.
Attached to Third Army Corps—3d Pennsylvania Cavalry.
Attached to Fourth Army Corps—8th Pennsylvania Cavalry.
Attached to Fifth Army Corps—8th Illinois Cavalry.
Attached to Third Division, Fifth Army Corps—4th Pennsylvania Cavalry.
Attached to Second Division, Sixth Army Corps—6th Pennsylvania Cavalry, Cos. I and K.
Attached to Sixth Army Corps—1st New York Cavalry (unattached).

CAVALRY RESERVE.

Brigadier-General PHILIP ST. GEORGE COOKE.

6th Pennsylvania Cavalry.	1st U. S. Cavalry, Cos. A, C, F and H.
6th U. S. Cavalry.	5th U. S. Cavalry, Cos. A, D, F, H and L

Cavalry Troops at General Headquarters—McClellan Dragoons, Oneida (New York) Cavalry, 2d U. S. Cavalry, 4th U. S. Cavalry, Cos. A and E.

APPENDIX 4.

Organization of the Union cavalry at the battle of Cedar Mountain, Va., August 9, 1862.

Escort at General Headquarters—1st Ohio Cavalry, Cos. A and C.
Escort at Headquarters, Second Army Corps—1st Michigan Cavalry (detachment), 5th New York Cavalry (detachment), 1st West Virginia Cavalry (detachment).

CAVALRY BRIGADE

Brigadier-General GEORGE D. BAYARD.

1st Maine Cavalry.	1st New Jersey Cavalry.
1st Pennsylvania Cavalry.	1st Rhode Island Cavalry.

APPENDIX 5.

Organization of the Cavalry of the Army of Virginia (POPE'S) during the operations August 16th to September 2d, 1862, inclusive.

Headquarters escort—1st Ohio Cavalry, Cos. A and C.
Escort at Headquarters First Army Corps—1st Indiana Cavalry, Cos. I and K.
Attached to First Army Corps—3d West Virginia Cavalry, Co. C.
Attached to Independent Brigade—1st West Virginia Cavalry, Cos. C, E, L.

CAVALRY BRIGADE OF THE FIRST ARMY CORPS.

Colonel JOHN BEARDSLEY.

1st Connecticut Battalion.	9th New York Cavalry.
1st Maryland Cavalry.	6th Ohio Cavalry.
4th New York Cavalry.	

CAVALRY BRIGADE OF THE SECOND ARMY CORPS.

Brigadier-General JOHN BUFORD.

1st Michigan Cavalry.	1st Vermont Cavalry.
5th New York Cavalry.	1st West Virginia Cavalry.

CAVALRY BRIGADE OF THE THIRD ARMY CORPS.

Brigadier-General GEORGE D. BAYARD.

1st Maine Cavalry.	1st Pennsylvania Cavalry.
2d New York Cavalry.	1st Rhode Island Cavalry.
1st New Jersey Cavalry.	

Unattached—3d Indiana Cavalry (detachment).

APPENDIX 6.

Organization of Cavalry, Army of the Potomac, September 14, 17, 1862. South Mountain and Antietam).

Escort at General Headquarters—Independent Company, Oneida (New York) Cavalry, 4th U. S. Cavalry, Cos. A and E.
Attached to Provost Guard—2d U. S. Cavalry, Cos. E, F, H, K.
Quartermaster's Guard—1st U. S. Cavalry, Cos. B, C, H, I.
Escort to Headquarters First Army Corps—2d New York Cavalry, Cos. A, B, I, K.
Escort to Second Army Corps—6th New York Cavalry, Cos. D and K.
Escort to Headquarters Fifth Army Corps—1st Maine Cavalry (detachment).
Escort to Headquarters Sixth Army Corps—6th Pennsylvania Cavalry, Cos. B and G.
Escort to Headquarters Ninth Army Corps—1st Maine Cavalry, Co. G.
Escort to Headquarters Twelfth Army Corps—1st Michigan Cavalry, Co. L.

CAVALRY DIVISION.

Brigadier-General ALFRED PLEASANTON, U. S. Army.

1st Brigade—Maj. CHARLES WHITING.
5th U. S. Cavalry.
6th U. S. Cavalry.

2d Brigade—Col. JOHN F. FARNSWORTH
8th Illinois Cavalry.
3d Indiana Cavalry.
1st Massachusetts Cavalry.
8th Pennsylvania Cavaly.

3d Brigade—Col RICHARD H. RUSH.
4th Pennsylvania Cavalry.
6th Pennsylvania Cavalry.

4th Brigade—Col. ANDREW T. MCREYNOLDS.
1st New York Cavalry.
12th Pennsylvania Cavalry.

5th Brigade - Col. BENJ. F. DAVIS.
8th New York Cavalry.
3d Pennsylvania Cavalry.

Unattached.
1st Maine Cavalry.
15th Pennsylvania Cavalry (detachment).

Artillery (attached to 2d and 3d Brigades).
2d U. S. Artillery, Batteries A, B, L, M.
3d U. S Artillery, Batteries C, G.

APPENDIX 7.

Report of officers, enlisted men and horses in the cavalry and light artillery, Army of the Potomac, November 1, 1862.

	Officers	Men.	TRANSPORTATION.			HORSES.		No. of Public Animals.
			Horses.	Mules.	Army wagons	Cav'y	Art'y.	
Cavalry and Light Artillery.....	396	7,995	752	541	276	7,063	690	8,986

APPENDIX 8.

Organization of the Cavalry, Army of the Potomac, at the Battle of Fredericksburg, Va., December 11-15, 1862.

Escort at General Headquarters—Oneida (New York) Cavalry, 1st U. S. Cavalry (detachment), 4th U. S. Cavalry, Cos. A and E.
Attached to Provost Guard—McClellan (Illinois) Dragoons, Cos. A and B; 2d U. S. Cavalry.
Escort at Headquarters Ninth Army Corps—8th New York Cavalry, Cos. B and C.
Escort at Headquarters First Army Corps—1st Maine Cavalry, Co. L.
Escort at Headquarters Sixth Army Corps—10th New York Cavalry, Co. L; 6th Pennsylvania Cavalry, Cos. I and K.

CAVALRY DIVISION ATTACHED TO RIGHT GRAND DIVISION.

Brigadier-General ALFRED PLEASANTON.

1st Brigade—Brig.-Gen. JOHN F. FARNSWORTH.
8th Illinois Cavalry.
3d Indiana Cavalry.
8th New York Cavalry.
Artillery—2d U. S. Battery M.

2d Brigade—(1) Col. DAVID MCM. GREGG.
(2) Col. THOMAS C. DEVIN.
6th New York Cavalry.
8th Pennsylvania Cavalry.
6th U. S. Cavalry.

CAVALRY BRIGADE ATTACHED TO CENTER GRAND DIVISION.

Brigadier-General WILLIAM W. AVERELL.

1st Massachusetts Cavalry.
3d Pennsylvania Cavalry.
4th Pennsylvania Cavalry.
5th U. S. Cavalry.
Artillery—2d U. S., Batteries B and L.

CAVALRY BRIGADE ATTACHED TO LEFT GRAND DIVISION.

(1) Brigadier-General GEORGE D. BAYARD, (2) Colonel DAVID MCM. GREGG.

1st Maine Cavalry.
2d New York Cavalry.
1st Pennsylvania Cavalry.
District of Columbia, Independent Co.
1st New Jersey Cavalry.
10th New York Cavalry.
Artillery—2d U. S., Battery C.

APPENDIX 9.

Organization of the Cavalry, Army of the Potomac, May 1-6, 1863 (Chancellorsville Campaign).

Attached to the command of Provost-Marshal General—6th Pennsylvania Cavalry, Detachment of Regular Cavalry.
Guards and Orderlies—Oneida (New York) Cavalry.
Escort Headquarters First Army Corps—1st Maine Cavalry, Co. L.
Escort Second Army Corps—6th New York, Cos. D and K.
Escort Headquarters Sixth Army Corps—1st New Jersey Cavalry, 1st Pennsylvania Cavalry.
Escort Headquarters Eleventh Army Corps—1st Indiana, Cos. I and K.

CAVALRY CORPS.*

Brigadier-General GEORGE STONEMAN.

1st Division—Brigadier-General ALFRED PLEASANTON.

1st Brigade—Colonel BENJ. F. DAVIS.
8th Illinois Cavalry.
3d Indiana Cavalry.
8th New York Cavalry.
9th New York Cavalry.

2d Brigade—Colonel THOMAS C. DEVIN.
1st Michigan Cavalry.
6th New York Cavalry.
8th Pennsylvania Cavalry.
17th Pennsylvania Cavalry.

Artillery—New York Light, 6th Battery.

2d Division—Brigadier General WILLIAM W. AVERELL.

1st Brigade—Colonel HORACE B. SARGENT.
1st Massachusetts Cavalry.
4th New York Cavalry.
6th Ohio Cavalry.
1st Rhode Island Cavalry.

2d Brigade—Colonel JOHN B. MCINTOSH.
3d Pennsylvania Cavalry.
4th Pennsylvania Cavalry.
16th Pennsylvania Cavalry.

Artillery—2d United States, Battery A.

3d Division—Brigadier-General DAVID MCM. GREGG.

1st Brigade—Colonel JUDSON KILPATRICK.
1st Maine Cavalry.
2d New York Cavalry.
10th New York Cavalry.

2d Brigade—Colonel PERCY WYNDHAM.
12th Illinois Cavalry.
1st Maryland Cavalry.
1st New Jersey Cavalry.
1st Pennsylvania Cavalry.

REGULAR RESERVE CAVALRY BRIGADE.

Brigadier-General JOHN BUFORD.

6th Pennsylvania Cavalry.
1st U. S. Cavalry.
2d U. S. Cavalry.
5th U. S. Cavalry.
6th U. S. Cavalry.

ARTILLERY.

Captain JAS. M. ROBERTSON.

Second United States, Batteries B and M.
Fourth United States, Battery E.

*The Second and Third Divisions, First Brigade, First Division, and the Reserve Brigade, with Robertson's and Tidball's batteries were on the "Stoneman Raid," April 29th to May 2d

APPENDIX 10.

Organization of the Cavalry, Army of the Potomac, at the Battle of Gettysburg, July 1-3, 1863.

Attached to the command of the Provost-Marshal-General—2d Pennsylvania Cavalry, 6th Pennsylvania Cavalry, Regular Cavalry (detachments from 1st, 2d, 5th and 6th Regiments.

Guards and Orderlies.—Oneida (New York) Cavalry.

Escort Headquarters First Army Corps—1st Maine Cavalry, Co. L.

Escort Headquarters Second Army Corps—6th New York Cavalry, Cos. D and K.

Escort Headquarters Fifth Army Corps—17th Pennsylvania Cavalry, Cos. D and K.

Escort Headquarters Sixth Army Corps—1st New Jersey Cavalry, Co. L; 1st Pennsylvania Cavalry, Co. H.

Escort Headquarters Eleventh Army Corps—1st Indiana Cavalry, Cos. I and K.

CAVALRY CORPS.

Major-General ALFRED PLEASANTON.

First Division—Brigadier-General JOHN BUFORD.

1st Brigade—Col. WILLIAM GAMBLE.
- 8th Illinois Cavalry.
- 12th Illinois Cavalry (4 Cos.)
- 3d Indiana Cavalry (6 Cos.)
- 8th New York Cavalry.*

2d Brigade—Col. THOS. C. DEVIN.
- 6th New York Cavalry.
- 9th New York Cavalry.
- 17th Pennsylvania Cavalry.
- 3d West Virginia Cavalry (2 Cos.)

Reserve Brigade—Brig.-Gen. WESLEY MERRITT.
- 6th Pennsylvania Cavalry.
- 1st U. S. Cavalry.
- 2d U. S. Cavalry.
- 5th U. S. Cavalry.
- 6th U. S. Cavalry.

SECOND DIVISION.

Brigadier General DAVID MCM. GREGG.

Headquarters Guard—1st Ohio Cavalry, Co. A.

1st Brigade—Col. JOHN B. MCINTOSH.
- 1st Maryland Cavalry (11 Cos.)
- Purnell (Md.) Legion.
- 1st Massachusetts Cavalry.*
- 1st New Jersey Cavalry.
- 1st Pennsylvania Cavalry
- 3d Pennsylvania Cavalry.
- 3d Pennsylvania Heavy Artillery (section Bat. H.)†

2d Brigade‡—Col. PENNOCK HUEY.
- 2d New York Cavalry.
- 4th New York Cavalry.
- 6th Ohio Cavalry (10 Cos.)
- 8th Pennsylvania Cavalry.

3d Brigade—Col. J. IRVIN GREGG.
- 1st Maine Cavalry (10 Cos.)
- 10th New York Cavalry.
- 4th Pennsylvania Cavalry.
- 16th Pennsylvania Cavalry.

THIRD DIVISION.

Brigadier-General JUDSON KILPATRICK.

Headquarters Guard—1st Ohio Cavalry, Co. C.

1st Brigade—(1) Brig.-Gen. E. J. FARNSWORTH; (2) Col. NATHANIEL P. RICHMOND.
- 5th New York Cavalry.
- 18th Pennsylvania Cavalry.
- 1st Vermont Cavalry.
- 1st West Virginia Cavalry (10 Cos.)

2d Brigade—Brig.-Gen. GEORGE A. CUSTER.
- 1st Michigan Cavalry.
- 5th Michigan Cavalry.
- 6th Michigan Cavalry.
- 7th Michigan Cavalry.

HORSE ARTILLERY.

1st Brigade—Capt. JAMES C. ROBERTSON.
- 9th Michigan Battery.
- 6th New York Battery.
- 2d U. S., Batteries B, L and M.
- 4th U. S., Battery E.

2d Brigade—Capt. JOHN C. TIDBALL.
- 1st U. S., Batteries E, G, K.
- 2d U. S., Battery A.
- 3d U. S., Battery C.‖

*Served with Sixth Army Corps and on the right flank.
†Serving as light artillery.
‡At Westminster and not engaged in battle.
‖With HUEY's cavalry brigade, and not engaged in battle.

APPENDIX 11.

Field report of the Cavalry Corps, Army of the Potomac, June 28, 1863, preceding the battle of Gettysburg.

	Officers.	Enlisted Men	Horses of Officers	Horses of Enlisted Men.	Officers Sick	Enlisted Men Sick	Horses Serviceable	Horses Unserviceable
Corps Headquarters	21	370	60	275			355	
1st Division	179	4,019			5	113	4,570	680
2d Division	266	4,347			7	156	4,584	934
Stahel's Division	231	3,291			5	331	*	*
Brigade Horse Artillery	7	484			2	30	736	
Total	708	12,441	60	275	20	630	10,195	1,424

*Not reported.

APPENDIX 12.

Organization of the Cavalry operating against Richmond, May 5th, 1864, Army of the Potomac).

Attached to Provost Guard—1st Massachusetts Cavalry, Cos. C and D.

Guards and Orderlies—Independent Company, Oneida (New York) Cavalry.

Escort to Headquarters Second Army Corps—1st Vermont Cavalry, Co. M.

Escort to Headquarters Sixth Army Corps—8th Pennsylvania Cavalry, Co. A.

Attached to Ninth Army Corps—3d New Jersey Cavalry, 22d New York Cavalry, 2d Ohio Cavalry, 13th Pennsylvania Cavalry.

Attached to Provisional Brigade—24th New York Cavalry dismounted.

CAVALRY CORPS.

General PHILIP H. SHERIDAN

FIRST DIVISION.

Brigadier General ALFRED T. A. TORBERT, Escort 6th U. S. Cavalry

1st Brigade—Brig. Gen. GEO. A. CUSTER.
- 1st Michigan Cavalry.
- 5th Michigan Cavalry.
- 6th Michigan Cavalry.
- 7th Michigan Cavalry.

2d Brigade—Col. THOMAS C. DEVIN.
- 4th New York Cavalry.
- 6th New York Cavalry.
- 9th New York Cavalry.
- 17th Pennsylvania Cavalry.

Reserve Brigade—Brig. Gen. WESLEY MERRITT.
- 19th New York Cavalry, 1st Dragoons.
- 6th Pennsylvania Cavalry.
- 1st United States Cavalry.
- 2d United States Cavalry.
- 5th United States Cavalry.

SECOND DIVISION.

Brigadier-General DAVID MCM. GREGG.

1st Brigade—Brig.-Gen. H. E. DAVIES, Jr.
- 1st Massachusetts Cavalry.
- 1st New Jersey Cavalry.
- 6th Ohio Cavalry.
- 1st Pennsylvania Cavalry.

2d Brigade—Col. J. IRVIN GREGG.
- 1st Maine Cavalry.
- 10th New York Cavalry.
- 2d Pennsylvania Cavalry.
- 4th Pennsylvania Cavalry.
- 8th Pennsylvania Cavalry.
- 16th Pennsylvania Cavalry.

THIRD DIVISION.

Brigadier-General JAMES H. WILSON.

Escort—8th Illinois Cavalry (detachment).

1st Brigade—Colonel TIMOTHY M. BRYAN, Jr.; Col. J. B. McIntosh (assigned May 5th).
- 1st Connecticut Cavalry.
- 2d New York Cavalry.
- 5th New York Cavalry.
- 18th Pennsylvania Cavalry.

2d Brigade—Col. GEORGE H. CHAPMAN.
- 3d Indiana Cavalry.
- 8th New York Cavalry.
- 1st Vermont Cavalry.

CAVALRY OF THE ARMY OF THE JAMES.

Unattached—1st Battalion, 4th Massachusetts Cavalry.

Cavalry Division—Brigadier-General AUGUST V. KAUTZ.

1st Brigade—Colonel SIMON H. MIX.
- 1st District Columbia Cavalry.
- 3d New York Cavalry.

2d Brigade—Colonel SAMUEL P. SPEAR.
- 5th Pennsylvania Cavalry.
- 11th Pennsylvania Cavalry.

Unattached.
- 1st New York Mounted Rifles.
- 1st U. S. Colored Cavalry.
- 2d U. S. Cavalry.

APPENDIX 13.

Organization of the Cavalry of the Army of the Potomac in the operations against Richmond, August 31, 1864.

Attached to Provost Guard—1st Indiana Cavalry, Co. K; 1st Massachusetts Cavalry, Cos. C and D; 3d Pennsylvania Cavalry, Cos. A, B and M.

Guards and Orderlies—Independent Company, Oneida (New York) Cavalry.

Escort at Headquarters Ninth Army Corps—3d New Jersey Cavalry (detachment.)

CAVALRY.

Second Division—Brigadier-General DAVID MCM. GREGG.

1st Brigade—Col. WILLIAM STEDMAN.
- 1st Massachusetts Cavalry.
- 1st New Jersey Cavalry.
- 10th New York Cavalry.
- 6th Ohio Cavalry.
- 1st Pennsylvania Cavalry.

2d Brigade—Col. CHARLES H. SMITH.
- 1st Maine Cavalry.
- 2d Pennsylvania Cavalry.
- 4th Pennsylvania Cavalry.
- 8th Pennsylvania Cavalry.
- 13th Pennsylvania Cavalry
- 16th Pennsylvania Cavalry.

RECAPITULATION.

Abstract from tri-monthly returns showing present for duty equipment or effective strength of the armies operating against Richmond, under General U. S. GRANT, August 31st to December 31st, 1864.

ARM.	Aug. 31st.	Sept. 30th.	Oct. 31st.	Nov. 30th.	Dec. 31st.
Infantry	45,998	66,818	76,637	77,857	92,141
Cavalry	6,366	7,122	6,295	8,698	10,059
Artillery	7,846	10,182	8,011	10,394	9,719
Aggregate	60,167	84,122	90,943	96,879	111,919

APPENDIX 14.

Effective force of the First and Third Cavalry Divisions, Army of the Shenandoah, February 28, 1865, Major-General WESLEY MERRITT, Chief of Cavalry.

	Officers.	Men.	Total
First Cavalry Division (Devin's)	280	4,787	5,047
One Section, Companies C and E, 4th U. S. Artillery	2	52	54
Third Cavalry Division (Custer's)	240	4,800	4,840
One Section, Company M, 2d U. S. Artillery	1	45	46
Total	523	9,684	9,987

APPENDIX 15.

Abstract from the returns of the Cavalry commanded by Major-General PHILIP H. SHERIDAN, U. S. A., for the month of March, 1865.

COMMAND	Present for Duty.		Aggregate Present.	Aggregate Present and Absent	Pieces of Artillery.	
	Officers	Men.			Heavy.	Field.
1st Division (Devin).						
General Headquarters	5		5	5		
1st Brigade (Stagg)	48	956	1,344	4,801		
2d Brigade (Fitzhugh)	82	1,168	1,496	5,417		
Reserve Brigade (Gibbs)	20	659	825	3,365		
Artillery (Miller)	2	47	50	157		2
Total	166	2,830	3,719	13,745		2
3d Division (Custer).						
General Headquarters	2		2	3		
1st Brigade (Pennington)	81	1,291	1,570	4,747		
2d Brigade (Wells)	70	1,725	1,980	3,884		
3d Brigade (Capehart)	56	1,838	1,725	3,196		
Total	209	4,856	5,297	11,830		
Grand Total Army of Shenandoah	375	7,185	8,976	25,575		2
ARMY OF POTOMAC						
2d Division (Crook).						
General Headquarters	5		5	5		
1st Brigade (Davies)	91	2,147	2,776	3,956		
2d Brigade (Gregg)	66	1,752	2,326	4,651		
3d Brigade (Smith)	48	1,516	2,370	4,104		
Artillery	6	285	285	338		8
Total	216	5,656	8,682	13,048		8
Grand Total	591	12,841	17,658	38,623		10

APPENDIX 16.

Organization of the Union Cavalry in the Appomatox Campaign, March 29th to April 9th, 1865.

Escort to General GRANT's Headquarters—5th U. S. Cavalry, Cos. B, F and K.
Attached to Provost Guard of the Army of the Potomac—1st Indiana Cavalry, Co. K; 1st Massachusetts Cavalry, Cos. C and D; 3d Pennsylvania Cavalry.
Quartermaster's Guard—Independent Company, Oneida (New York) Cavalry.
Escort Headquarters Fifth Army Corps—4th Pennsylvania Cavalry, Co. C.
Escort Headquarters Sixth Army Corps—21st Pennsylvania Cavalry, Co. E.
Attached to Ninth Army Corps—3d Pennsylvania Cavalry.
Attached to Independent Brigade—1st Massachusetts Cavalry (5 Cos.)

CAVALRY.

Major General PHILIP H. SHERIDAN.

Army of the Shenandoah—Brevet Brigadier-General WESLEY MERRITT.

First Division—Brigadier-General THOMAS C. DEVIN.

1st Brigade—Colonel PETER STAGG.
- 1st Michigan Cavalry.
- 5th Michigan Cavalry.
- 6th Michigan Cavalry.
- 7th Michigan Cavalry.

2d Brigade—Colonel CHAS. L. FITZHUGH
- 6th New York Cavalry.
- 9th New York Cavalry.
- 19th New York Cavalry.
- 17th Pennsylvania Cavalry.
- 20th Pennsylvania Cavalry.

Reserve Brigade—Brig.-Gen. ALFRED GIBBS.
- 2d Massachusetts Cavalry.
- 1st United States Cavalry.
- 6th United States Cavalry.
- 6th Pennsylvania Cavalry (6 Cos).
- 5th United States Cavalry.

THIRD DIVISION.

Brigadier-General GEORGE A. CUSTER.

1st Brigade—Col. A. C. M. PENNINGTON.
- 1st Connecticut Cavalry.
- 3d New Jersey Cavalry.
- 2d New York Cavalry.
- 2d Ohio Cavalry.

2d Brigade—Col. WILLIAM WELLS.
- 8th New York Cavalry.
- 15th New York Cavalry.
- 1st Vermont Cavalry.

3d Brigade—Col. HENRY CAPEHART.
- 1st New York (Lincoln) Cavalry.
- 1st West Virginia Cavalry.
- 2d West Virginia Cavalry.
- 3d West Virginia Cavalry.

SECOND DIVISION.

(Army of the Potomac)—Major-General GEORGE CROOK.

1st Brigade—Brig.-Gen. HENRY E. DAVIES, Jr.
- 1st New Jersey Cavalry.
- 18th New York Cavalry.
- 24th New York Cavalry.
- 1st Pennsylvania Cavalry (5 Cos.)
- 2d U. S. Artillery, Battery A.

2d Brigade—Brvt. Brig.-Gen. J. IRVIN GREGG.
Col. SAMUEL B. M. YOUNG.
- 4th Pennsylvania Cavalry.
- 8th Pennsylvania Cavalry.
- 16th Pennsylvania Cavalry.
- 21st Pennsylvania Cavalry.
- 1st U. S. Artillery, Batteries H and I

3d Brigade—Brvt. Brig.-Gen. CHAS. H. SMITH.
- 1st Maine Cavalry.
- 2d New York Mounted Rifles.
- 6th Ohio Cavalry.
- 12th Ohio Cavalry.

CAVALRY OF THE ARMY OF THE JAMES.

Unattached—4th Massachusetts Cavalry, Cos. I, L and M; 5th Massachusetts Cavalry (colored); 7th New York Cavalry (1st Mounted Rifles).
Attached to Separate Brigade—20th New York Cavalry, Cos. D and F; 1st United States Colored Cavalry, Cos. B and I.
Headquarters Guard Twenty fourth Army Corps—4th Massachusetts Cavalry, Cos. F and E.
Provost Guard of the Twenty fifth Army Corps—4th Massachusetts Cavalry, Cos. E and H.
Attached—3d United States Colored Cavalry.

CAVALRY DIVISION.

Brigadier-General RANALD S. MACKENZIE.

1st Brigade—Colonel ROBERT M. WEST
- 20th New York Cavalry
- 5th Pennsylvania Cavalry

2d Brigade—Colonel SAMUEL P. SPEAR.
- 1st District of Columbia battalion.
- 1st Maryland Cavalry.
- 11th Pennsylvania Cavalry

PATROL DUTY.

By First Lieutenant J. T. DICKMAN, Third Cavalry.

ONE of the most important elements of successful field exercises is found in the proper performance of patrol duty. As long as men and officers are not familiar with the elementary details, field exercises as a whole cannot prove satisfactory. Occasional exercises for enlisted men in the duties of sentinels and patrols are of little value. In order to be of real benefit the instruction must be systematic.

The duties of sentinels on outpost are acquired with comparative ease, for they are rather simple, and mistakes or negligence can be readily observed and corrected. Thorough instruction in patrolling, however, requires labor and patience on the part of the instructor.

After the non-commissioned officers have been instructed they must be held to strict responsibility for the conduct of individual members of their patrols, otherwise the course will be a failure.

In every efficient army the officers must be the instructors. In the subject of patrolling, this duty will fall to the captains and lieutenants. As no instructor can become proficient until he has himself practiced what he is endeavoring to teach, young officers upon joining should be required to perform these duties, usually assigned to non commissioned officers or even to intelligent privates. The practical knowledge and experience thus acquired will be specially valuable to them in supervising a course of instruction in time of peace and in conducting officers' patrols in time of war.

Infantry officers will not be called upon frequently to conduct patrols, unless they be cyclist patrols, of which considerable use will be made when the conditions are favorable; but in the great and important strategical *rôle* of cavalry such duty will be of daily occurrence. Upon the young officers will rest the burden and honor of this service.

NOTE.—Map at end of article.

The exercises in patrolling on the map are intended to confirm the men in the elementary knowledge and to prepare the way for patrolling in the terrain. They offer advantages in the facility with which the work may be observed and the number of exercises that can be conducted at the same time under supervision of one instructor, thus economizing a great deal of labor and utilizing a season of the year unfavorable for outdoor work. During this part of the course the men are expected to ask questions about all doubtful points that may arise in their minds, the object being to render them familiar with the details of the elementary knowledge, the test and application of which will come in the practical exercises in the terrain.

The course of instruction in patrolling presented herewith consists mainly of a translation of the work of E. von Mühlenfels, entitled "*Der Unterricht im Patrouillengang*," with such changes and adaptions as were deemed desirable.

A number of works dealing with the subject of patrolling to a greater or less extent have been consulted. A list of the more valuable ones will be found in the bibliographical note, and are recommended to the student for additional reading after he has made himself familiar with the authorized guide on such subjects, "*The Service of Security and Information*," by Major Arthur L. Wagner, U. S. Army.

It was considered advantageous to submit a set of answers to the questions stated in the exercises. It must be distinctly understood that these answers do not constitute the only solutions of the problems presented, nor is it pretended that they are the best. They are intended to serve simply as examples of solutions for the guidance of beginners.

Although this course was devised primarily for infantry, it can be applied to cavalry as well. The principles are the same. Some marshy ground practicable for infantry would be impassable for cavalry; in some places where there is sufficient cover for infantry patrols, cavalry would be exposed. On the other hand, the elements of space and time would have to be increased and reduced, respectively, for cavalry patrols.

After the men under instruction are well grounded in the elementary knowledge, theoretically and practically, they should be taken through the course in patrolling on the map. These exercises can be carried out on the map herewith, but it would be better to enlarge it to a scale of 1:3000. Solutions should be written in pencil and suitable messages be actually made out and addressed. The

winter season, when the ground is covered with snow and ice, can be utilized for the theoretical part of the course and the map exercises, which should be completed before spring opens. However, south of latitude 40° there are many days in the winter months when, on account of cool temperature and absence of mud, the weather is well suited for outdoor work, especially for infantry.

The instructor should have in readiness at this time a number of outdoor exercises in patrolling. The solutions should be discussed on the half day following the exercise, a map of the reservation, or of the ground operated on, being used for this purpose. The object of this discussion should not be to find fault with the conduct of beginners, but to encourage them in the habit of independent thought and to get them as far away as possible from mere learning by rote.

The officer in charge must necessarily be familiar with all the details of the course. A little industry will do the rest and lead to valuable and interesting instruction for the company or troop.

Addendum to map.—Section house No. 54, is at intersection of double track railroad with Bolton — Fay's Corners Highway.

INSTRUCTION IN PATROLLING.

(*a*) *The Object of the Course of Instruction and Its Arrangement.*

The duty of patrolling makes the highest demands on the soldier —suitable and skillful execution of a task, independent action, courage and determination.

This requires the utmost exertion of his physical and intellectual powers; the latter must, moreover, be specially trained for this purpose.

To instruct only the cleverest men of the company in patrolling would be contrary to the nature of the duty itself, for in many cases special work is assigned to each member of a patrol; each one may be placed in a position requiring independent action, and, as during the performance of the duty assigned, the leader can no longer enter into explanations to the other members, all must be equally well trained. The ablest man of the party should be designated as the commander. He assigns the duties of the other members, conducts them, as far as possible, by means of the voice and signals, and is himself always farthest in advance.

When only the leaders are thoroughly instructed in this branch of a soldier's duties, the consequence will be either that the other

men, in case of necessity, are incapable of proper independent action, or else that they will cling to their leader, in both cases the object of the instruction is defeated

What, then, is the purpose to be accomplished by a course of instruction in patrolling?

To which we answer: To instruct those men of the company who have a good knowledge of their ordinary duties in

1. The object and employment of patrols
2. The details of the method of conducting a patrol, and the means available.

The course of instruction may accordingly be divided as follows

1. The preparatory exercises, comprising
   - (*a*) Elementary knowledge
   - (*b*) Patrolling on the map
2. Practical exercises
   - (*a*) Patrolling in the terrain for purpose of instruction.
   - (*b*) Patrolling against a represented enemy

The preparatory exercises are necessary to acquaint the soldier, before carrying out exercises in patrolling, with the work required of him and with the means at his disposal, and also to enable him to obtain practice in map reading and sketching. A better opportunity is thus also afforded to discuss an exercise in patrolling with the whole detachment in a more comprehensive way and in less time than would be possible on the ground

The practical exercises comprise

1. Observation by the whole detachment of the operations of a patrol, after preceding instruction as to the nature of the terrain and the methods of taking advantage of it.
2. Execution of actual exercises in patrolling against a represented enemy, and criticism after each exercise, advantage being taken of the occasion to compare messages received and reports sent in.

(*b*) *Preparatory Exercises.*

The preparations for exercises in patrolling are made during the first half of the period allotted for the instruction of the company. The weather at that time of the year will usually confine the instruction to what can be given in barracks, although occasionally it can be supplemented by lessons in the terrain.

These preparations will begin with instruction in

1. KNOWLEDGE OF THE GROUND AND MAP READING.

Q. What is meant by ground, or terrain?

A. The surface of the earth, its forms—hills, mountains, ridges, slopes, valleys, troughs, ravines, etc.—as well as its covering and cultivation—roads, railroads, rivers, canals, lakes, swamps, forests, buildings, etc.

Q. In what respects is terrain of military importance?

A. The terrain may afford both advantages and disadvantages to troops. Advantages—

1. By masking our own movements, that is withdrawing them from the enemy's view;

2. By affording natural cover, thus saving or facilitating construction of artificial cover;

3. By interposing obstacles such as rivers, swamps, dense forests, etc., thus depriving the enemy of a portion of his strength.

Disadvantages, however—

1. By permitting the enemy to execute movements hidden from our view;

2. By economizing his exertions as indicated above under (2);

3. By diminishing our strength through necessity of overcoming or turning obstacles.

After these ideas have been explained to the soldier, the various features of the ground will be pointed out—generally a hill or mountain in the vicinity of the garrison will afford ample opportunities for this purpose.

The military importance of the various features will be stated, and in connection therewith the conventional signs will be shown, if possible, by drawing them on the blackboard.

Now when the men have in this way obtained a knowledge of the more important features of ground and the objects to be found therein, as well as of the proper conventional signs to represent them, we can proceed to practice in map reading, and in connection with the latter the military importance of the various features and the use to be made thereof can be more fully elucidated.

This practice begins with

ORIENTATION,

for which purpose the instructor will select a high point in the vicinity of the garrison.

1. *Orientation with a map.*

After the necessary explanations the soldier is given a map of the vicinity and is required to determine thereon his own location, as well as to compare the terrain represented on the map with nature, to state the direction of distant points, etc.

2. *Orientation by observations.*

The various methods of orientation in the terrain, that is, of fixing the direction of one of the points of the compass and from that the location of various points in the terrain, or the direction in which troops are marching, are next discussed and explained. For example:

Finding the direction of north by means of the big dipper and pole star, and finding the south by means of the sun, or from phases and positions of the moon.

The direction of west is indicated by the position of the steeple of old churches (at the west end). The growth of moss to be found on houses, rocks and trees is usually on the north side, the rings of annual growth seen in tree stumps are closer together on the north side. Finally, the easiest method of orientation, which is by compass, is explained.

3. *Description of the observations which may be made during an exercise in patrolling and the method of finding the back trail.*

This is particularly important because it may not only be a question of the patrol's ability to find its way back, but frequently —especially at night enterprises—large bodies of troops may have to trust themselves completely to the guidance of patrols which have been over the ground before.

(*a*) The greatest variety of means is available for this purpose; the skill of each member may be of great benefit. The simplest method is to impress on the memory the appearance of peculiar objects in the terrain, such as trees, corners of woods, enclosures, ponds, etc.

(*b*) It may also prove useful to make a note of the numbers on milestones along a highroad, in order to determine, for example, what byway one ought to take. Orientation in a forest is more difficult. By blazing trees—preferably on one side only of the road, thus indicating the direction of the advance—breaking off fresh branches which may be laid across the road, placing of small piles of wood or stones near cross-roads in the new direction, much assistance may be derived.

(*c*) It is especially difficult to mark our route at night, or when the return trip is not to be made until after nightfall. The signs

must in such cases be made quite conspicuous so that they will show up in the dark; light colors obtained by marking with lime or chalk are to be used if practicable. The use of lanterns in such cases is to be condemned, for the bright light not only blinds the eyes so that surrounding objects can not be seen, but also betrays our presence to the enemy. Moreover the human eye soon becomes so well accustomed to darkness that objects can be tolerably well distinguished anyway.

(*d*) It may become a matter of importance to fix a proposed route for a patrol which cannot be traveled in day time. For example, from a place of concealment we may have been able to see the enemy's picket, and desire to fix the direction. This is done by establishing two directing rods, such as young trees, sticks, or laths, about two yards apart on the line to the object. The rods should be marked with stripe of paper or wisps of straw. At night the direction is taken from these rods and prolongation of the line is sought in a distant light, or better still, a star. The march is then made straight across country. A good way of marking our trail, especially at night, is by means of paper cuttings which can be easily prepared anywhere and carried along in a bag. In our own country the assistance of the inhabitants is advisable on such occasions; the best guides will be found among rangers, deputy sheriffs, etc.*

This is followed by instruction in the

USE OF COVER,

in which the soldier is taught how to make use of the advantages offered by the ground in the execution of the task assigned him.

A brief explanation is first made of what the soldier should look for in the terrain, namely, cover and good points of view; these are generally to be found on high ground, hill tops, dikes, edges of precipices and woods, etc. After a brief discussion these points are shown in the field, and in connection therewith we bring out instruction in the suitability of positions for defense, good points for attack, the sections of a defensive position, lines of observation and of resistance.

In this way the men receive practice in judging the distance and

*The above methods have the sanction of the best authorities. The precautions indicated seem to be excessive. To those who are disposed to condemn all such details the following experiment is suggested: Detail a patrol from soldiers who have just arrived at the garrison and are strangers to the adjoining country. Send the patrol into a dense forest on a stormy night with orders to go one mile in a certain general direction and return.

Sending Detachment	Location	Date	Time

No. _____ Received _____

To _____

dimensions of objects in the terrain, and even at this early stage we begin to require

REPORTS AND SKETCHES

referring to the ground in view; gradual progress is to be made from the simplest to the more difficult class of exercises of this nature.

From the very beginning one must insist that each man formulate his own report, and that it be based on what he has seen himself; for otherwise, if it be permitted once, the man will easily fall into the habit of making reports without having himself inspected the points in the terrain to which he refers.

It is recommended that at these preliminary exercises a beginning be made in outlining the position of the enemy; for instance, we may establish double sentinels; we can then set problems which will accustom the men to keeping a sharp lookout and teach them to take advantage of what they have learned concerning cover and points of view. Subsequently a comparison can be made with reports received from the sentinels about what they have seen of the patrol, and any doubtful points can thus be cleared up.

The men at the same time receive practice in writing such a report in few words, and if necessary in illustrating it with a sketch.

SKETCHING.

The sketch to accompany a report must be capable of execution in a very short time, and must therefore be simple and not go too much into detail. As it can not be drawn accurately to scale, the sketcher should at least acquire sufficient skill to enter the relative dimensions of objects approximately, important distances being paced off and then drawn. The direction of north should always be indicated by drawing the arrow.

Exercises:

1. Copying on the blackboard from a map and description of the ground represented; designation of the distances which might prove to be important and which should therefore be paced off.

2. Drawing on the blackboard according to dictation; in this exercise the student must acquire the ability to reproduce distances from nature in their proper proportions.

After the elementary principles have thus been acquired, we next proceed to instruction in

PATROLLING,

beginning with

Classes of patrols, their object, and the general principles governing their conduct.

Patrols are classified according to the use to be made of them into

1. Small flank patrols and combat patrols;

2. Outpost patrols.

The former, composed of two or more men, are pushed out to the right front and left front of marching bodies of troops for the purpose of exploration and to protect the flanks; when the troops enter into a combat these patrols remain in observation towards the front and flank.

The latter are used for the service of exploration and the security of troops at a halt, and in connection with the supervision of outpost duty.

In regard to these patrols the German Field Service Regulations state:

"Par. 140. The system of patrols must be so arranged that interruption in exploration will not occur.

"Consequently we must, as a rule, continually have cavalry patrols out to the front, even at night."

"Par. 141. Cavalry patrols should be supplemented, up to a safe distance, by infantry patrols.

"The instructions of such patrols and their conduct will vary according to whether they are to be employed beyond the chain of sentinels or within the same, and thus have greater or less prospect of coming in contact with the enemy.

"In every case we shall obtain a better guaranty of good results by making a careful selection of the men, and especially of the leaders, than by exhaustive instructions."

"Par. 142. Special importance attaches to the selection of patrols sent out beyond the chain of sentinels, towards the enemy. They are composed of at least two men under a skillful leader, who in important cases, should be an officer. The knack of quickly finding one's way in strange country; indefatigability born of pleasure in the work; presence of mind and shrewdness which in moments of danger always manages to get out of the scrape, are desirable qualities for this kind of duty.

"Patrols move cautiously and silently; they halt frequently in order to listen; they make themselves familiar with the ground so as to be able to report on it, and, if necessary, to act as guides; they guard against the danger of being cut off, perhaps by taking a different return route. It may be judicious to indicate the hour for their return in a general way. Under certain circumstances they may be sent out in light marching order.

"All patrols, when they cross the line of observation, must communicate to the nearest sentinel the direction in which they are about to advance; on their return they must report what they have seen of the enemy within the sentinel's range of observation."

"Par. 143. Patrols within the chain of sentinels, which occasionally are necessary to visit the posts, to search ground on which no sentinels are posted, and to keep up communication with adjoining pickets, are usually composed of only two men (including the leader)."

Although it would be a mistake to exercise patrols in certain rules and fixed schemes which hinder the independent action of individual men, yet a number of general principles may be set forth which will apply to all kinds of patrols and the knowledge of which would be of advantage to the soldier in any case likely to arise.

These refer to

(*a*) The arrangement of the patrol, the relation of the men to their leader, issuance of orders and the beginning of the movement.

(*b*) The steps to be taken during the progress of the patrol and upon contact with the enemy.

1. One man of the patrol is designated as the leader; he is the commander, and the others must obey his orders. The leader receives his instructions, repeats them to the other men, and gives his orders. The most important condition is that the leader must clearly understand his instructions; to prove this he will in every case repeat them, although he may not have been called upon to do so. It would be advisable for the superior officer to require careful explanation of the more important points and a statement of the intended course of action.

Similarly the leader will cause the members of the patrol to repeat the orders he may have given.

2. If time is available, the instructions are furnished to the leader in writing. If he is familiar with the ground he will issue his orders at once; if not, he must first get his bearings either from a map or by looking over the ground from a high point.

3. During the progress of the patrol the men by no means remain close together, but each one seeks a sheltered way for himself, or darts from cover to cover.

4. In order to be able to issue new orders the leaders must designate points, not too far apart, at which all the members are to reassemble.

5. A few preconcerted signals will facilitate issuance of orders and obviate too frequent assemblage; but these signals must have been uniformly practiced in the company so as to avoid errors.

6. The men must always remain near enough for the whistle or sharp voice of the leader to be heard, and if possible each one should be able to see him. When in certain cases this is imprac-

ticable, for instance, while searching a forest, connection must be re-established as soon as possible; under no circumstances should interruption of communication be permitted for protracted periods of time.

7. After the patrol is well on its way—as a flank protection for the security of a marching column, or as an outpost patrol sent out beyond the chain of sentinels to look for the enemy—its principal endeavor must be to avoid being discovered by the enemy before it has ascertained his presence; for this purpose rapid perception and correct estimation of the enemy, combined with caution and good judgment in the movements of the patrol, are requisite.

8. The manner in which a patrol accomplishes this object will depend upon whether it finds the enemy halted or in motion; the former will be the rule with outpost patrols, the latter on the march.

9. One rule, however, is applicable to all cases of contact with the enemy: avoid firing if possible. Only in the rarest cases would patrols be justified in discharging their pieces; for example, in case of extreme personal danger, or to warn the troops of the approach of the enemy when a message could not reach them in time. In most other cases, unless it is expressly prescribed, firing would be an error.

10. One of the most important duties of patrols is the rendering of reports. Correct appreciation of the situation, and a brief and clear report of the state of affairs as we understand it, are the main conditions.

The following points must therefore be impressed upon the men:

In the message a sharp distinction must be made between what has actually been seen by the bearer of the dispatch or another member of the patrol, and what is merely matter of surmise or inference from that which has been seen. The man who actually made the observation should usually be selected to carry the message.

The message must be brief but exhaustive. In reporting on the features of the terrain the instructions received must be strictly complied with. In furnishing information concerning the enemy, everything must be reported which might possibly be of importance; for example, whether the enemy is at rest or in motion, whether intrenched or not, the direction of his march and its rapidity, the measures he has taken for security, his strength, the kind of troops, the size of the tactical units, etc.

11. Neither the sender of the message nor the bearer can be made responsible for its timely arrival; however, all messages which

are anywise important and which probably would cause a change in the dispositions of the recipient, must be dispatched and delivered with the greatest practicable celerity.

(*a*.) PATROLS FOR THE SECURITY OF THE MARCH, AND COMBAT PATROLS.

When a body of infantry takes up the march it sends forward and leaves behind certain fractions of its force to provide for the security of the main body; these in turn send out flank patrols, which should be regarded as small flank guards.

Their principal duty consists in the exploration or careful searching of terrain to the right and front, left and front, and flanks of the advance party. The object of this exploration is to prevent the surprise of the main body—which is marching in close order and consequently is not ready for battle—by the sudden appearance of the enemy on its flank. To answer this requirement the flank patrols must already have traversed sections of the ground to the front and flanks which might afford cover to the enemy when the support of the advance guard arrives abreast of them. These patrols are sent out from the advance party—if it be large enough, otherwise from the support—and maintain unbroken communication with these bodies. In order to enable such patrols to perform their duties properly in very close country demanding considerable delay, two points must be borne in mind by the commander:

1. Strength of patrols to be adapted to the character of the terrain.

2. Timely despatch of the patrols and regulation of the rate of march so as to afford them ample opportunity to perform their duties thoroughly.

Now, although in this case also it is impossible to lay down fixed rules governing the action of patrols so as to cover every situation likely to arise, the knowledge of certain general principles will be found to be of advantage.

1. The patrol must maintain connection with the main body, as far as possible, and must be able to transmit important information rapidly by means of the voice or signals, without firing. This is accomplished by means of a connecting man, who is selected and instructed by the leader of the patrol, and placed about half way between the patrol and the troops on the march. It will also be the duty of this connecting man to transmit orders from the commander to the leader of the patrol and to give notice of halts, changes of direction, etc.

2. In order to fulfill their purpose as above indicated the patrols must endeavor to maintain their position ahead of and to the flank of the most advanced troops—that is, the point; if, on account of careful searching of woods, enclosures, etc., the point has arrived abreast of them, they must regain their former relative position by marching at an accelerated rate, at double time if necessary, so as to prevent the surprise of the troops at the head of the column by the enemy.

3. No section of country within the prescribed field of observation must be left unexplored; an effort must be made to reach all points, such as hills, buildings, etc., affording a good view, for in this way the inspection of large areas is simplified, and much time is saved.

As soon as detachments of the enemy—even if they are only patrols—are discovered, a message must be sent to the commander; in case of great danger rapid firing is resorted to.

4. Hostile patrols must be pushed back as far as practicable, and special paing must be taken to drive them away from places where they could inflict loss on the column by firing a few shots and thus delay the march. The various covering detachments, well aware that they can count upon support within a short time, must always remember that it is their duty to force the enemy back as long as his numbers are decidedly inferior, in order that the march of the main body may be continued without interruption.

5. It would be improper for these flank patrols to stop their advance as soon as the point of the advance guard halts; for

(*a*) If the point halts upon orders received from the rear, it will be of advantage if the country in advance has already been explored when the march is resumed, and thus another delay in the immediate future is avoided.

(*b*) If the enemy has forced the point to halt, then it becomes necessary to obtain more accurate information concerning his position and strength and the chances for approach under cover, etc., as soon as possible.

If the march of the column be stopped by the appearance of relatively large bodies of the enemy, these flank patrols at once assume the functions of

COMBAT PATROLS.

As such they must endeavor, from their advanced position, to attain a point affording a good view, from which they must observe and report concerning

(*a*) The movements of the enemy—especially of his cavalry—which threaten our flank; in case of great danger they will commence firing.

(*b*) The disposition of the enemy's supports and reserves.

The general rules mentioned above are applicable to the method of issuing orders to flank patrols and also to orders issued by the leaders of such patrols.

(*b*) OUTPOST PATROLS.

Patrol duty in connection with outposts is much more severe than when the forces are on the march.

Although there are but few occasions when infantry marches alone, and while cavalry assumes by far the greater part of the service of security, which, on account of its mobility it is better fitted to discharge, the duty of outposts, the greater half of which is performed at night, falls more to the lot of infantry. And, although a few troopers are usually assigned to infantry pickets, they are employed only as messengers, and the service of exploration at night (and also in daytime when sufficient cavalry is not available) is principally performed by infantry patrols.

INFANTRY PATROLS.

According to the German Field Service Regulations, outpost patrols are divided into

Patrols within the chain of sentinels,

Patrols against the enemy.

1. Patrols within the chain of sentinels are composed of two men (including the leader) and are used to visit the sentinels, to support them in case of noise or firing within the outpost, to maintain connection with adjoining pickets, and to search close country lying between the posts of sentinels.

2. Patrols against the enemy are composed of three or more men (leader included); in important cases they are commanded by an officer. These patrols are characterized by the difference in the duties required of them, which may relate

(*a*) To the enemy,

(*b*) To the terrain,

(*c*) To the enemy and the terrain.

During the instruction in this part of the course the practical exercises will go hand in hand with the theoretical instruction, so that the latter may be illustrated and fixed in the minds of the men.

Immediately after this we have a brief repetition of the general principles of outposts and of the duties of the separate units, especially of sentinels and patrols. More advanced instruction is not

taken up until the instructor is satisfied that the men are familiar with the elementary principles of this branch of a soldier's duties.

While going through with the repetition of the general principles applicable to patrols, the difference in the nature of their duties (three general classes above mentioned) is explained and illustrated by examples, beginning with the simplest; and the men are then asked how they would perform their duties in various positions as members of the patrols employed, and their answers are approved or corrected.

This is followed by instruction in the terrain, on which occasion such problems as, for example, searching an enclosure or a small wood, are carried out by the patrols.

Special value must in these cases be attached to the sending of proper messages; errors, inaccuracies, etc., are to be corrected at once and the message under consideration must be so thoroughly discussed with the whole patrol that each individual member learns how to make out an absolutely correct message.

To lay down rules, even if only approximately definite, for exercises in patrolling, would be a mistake. Each problem has its own peculiarities, and through the different ways of looking at it on the part of the leaders, a still greater variety is introduced. The instructor is by no means permitted to incline towards a one-sided solution, for a problem which, for apparently valid reasons, was solved in a manner differing materially from the views of the instructor, has better served its purpose than when the leader, without much thought, happens to hit upon a correct solution.

As the instructor never knows beforehand the exact location and all the circumstances which have a bearing on the execution of an exercise, in order to form a correct opinion as to the action of the patrol, he must take all these factors into consideration, consequently he must learn them on the spot, or have them explained to him. In this connection the time to be allowed for the exercise is a matter of some importance.

According to paragraph 142 of the German Field Service Regulations, "* * * it may be desirable to fix, in a general way, the time at which patrols sent against an enemy are to return."

But it certainly would be an error to do this as a rule, for (1) all possible circumstances cannot be taken into consideration, and (2) it induces the men to return when the time allotted has expired, in spite of a complete, or at least a partial, failure to perform the duties expected of them. How often does it not occur that a whole patrol, as soon as it has seen something of the enemy, comes back

to report, instead of continuing its observation and contact with the enemy, and sending back only one man with a message. It should be made the duty of patrols, on the contrary, never to lose sight of an enemy after he is once discovered.

If we fix a definite time for the return of the patrol we prescribe a termination of the functions of the patrol, whereas, when the enemy is encountered, the work should not be abandoned until the latter withdraws from observation.

During the course of instruction we should specially see to it that the men are educated to bear in mind constantly the work assigned to them. When no enemy is encountered, the task should be performed promptly; but when, through contact with the enemy, special circumstances arise, then such progress as is possible must be made.

To correspond with the classification given above (enemy, terrain, enemy and terrain), the problems should follow each other in about the following order:

Let us assume that the command has halted at the conclusion of its march, and that contact with the enemy has not yet been obtained. The security of the command is provided for by means of outposts, and to cover the establishment of the outpost, patrols are sent out.

Instructions are given to these patrols concerning

1. The direction in which they are to advance.
2. The distance to which they can go to seek a post of observation.
3. The time after which, in case nothing is seen of the enemy, they are permitted to return.

Should these patrols come in contact with the enemy the rule laid down above will apply: they remain in touch with the enemy.

The object of these patrols is to form a preliminary screen to the outpost and also to prevent interference with the establishment of the line of sentinels. Consequently, penetration by hostile patrols or detachments must be energetically warded off.

As soon as the location of the line of observation has been completed the outpost commander sends out additional patrols to insure

Exploration of the Terrain in the Direction of the Enemy.

The orders for this purpose would read about as follows: "To search carefully the section of ground in advance of the *n* th sentinel post to a distance of about two miles and a half, and to report if any signs of the enemy are discovered."

The leader advances to the line of sentinels with his patrol in close order and passes out at the designated post after obtaining from the sentinels all the information they possess concerning the nature of the ground and indications of the enemy.

The patrol then looks for a point from which it can obtain a good view of the ground to the front and moves in that direction, each member picking out a way under cover for himself. After arrival at the point sought a careful general survey is made and then a search is instituted of all the places on the route and in the vicinity affording cover, such as farmyards and other enclosures, thickets, small woods, etc.

If a glimpse is obtained of the enemy, observation is continued, only one man being sent off with a message.

If nothing is seen of the enemy, the patrol returns, having accomplished its mission. In repassing the line of sentinels the leader, or the messenger, informs the sentinels of what has been ascertained in regard to the enemy within the field of view of the sentinel post.

With reference to the sending of messages the leader should be frequently reminded that, if possible, he should select his messenger from those men who have actually seen what is reported in the message.

In each case the patrol will now be carefully instructed in the way in which portions of the terrain not open to view are to be searched. The points of special importance are pointed out to the men, and they are required to answer questions like the following: "What are the most important points to be searched in the terrain? in houses? in woods? Where was the enemy seen? What was his strength? Did you count the enemy or estimate his force by the dust, etc.? In what formation was he, as sentinels, patrols, or larger detachments? In what direction did he retire? Can the presence of the enemy be inferred from the locality or its condition, etc.?

In sending messages, too great pains cannot be taken in keeping matter of surmise separated from what has actually been seen: violations of this rule must be sternly reproved, for they render a message worthless and might cause great damage in war.

A patrol would proceed in precisely the same way in case contact with the enemy has already been established, and one patrol, so to speak, relieves another which has discovered the presence of the enemy. Before the men previously on duty withdraw they must accurately inform the new detail of the state of affairs, being particularly careful to separate what they have actually seen from what they only suspect.

An advancing patrol must endeavor to keep out of view of the enemy in order to avoid interference with the execution of its mission; this is done by taking advantage of the terrain and by darting from cover to cover. After crossing an open space they should observe carefully to see whether they have been noticed by the enemy. A retreat requires as much caution as the advance. If it be carelessly executed, we incur the danger of betraying our position to the enemy, in fact, of showing him the way for a sudden attack. Therefore, cautious movement under cover is enjoined; and in order to diminish the danger in case the patrol has been observed by the enemy, it will be well to take an indirect course, to change direction frequently, and, if possible, to return by a route not used by the patrol before.

Finally, we may now assign special work to patrols. Ordinarily this would relate to *reconnaissance of certain ground to ascertain* whether troops could pass over it; reconnaissance of a road as to whether it is practicable for all arms; of a river with reference to the number and condition of bridges, foot-bridges and fords, or the nature of the banks; or to the laying out of a route to be followed by another detachment subsequently, by day or by night; etc.

In order to accomplish such work (for which general rules can not be given) in a satisfactory manner, and to be able to render an exhaustive report, the men must be informed that the following points are of special importance:

Rivers.	Their width, depth, nature of bottom, character of the banks, fords, bridges, foot-bridges, and rapidity of current.
Bridges.	Capacity, age, and character of materials, length, breadth, stays, props, posts, handrails, nature of the ramps.
Roads.	Width, foundation, embankments, cuts, bridges, and their nature, grades.
Houses, yards, villages, with reference to defensibility.	View and field of fire, thickness and character of walls, or other cover, situation of the front with reference to the direction of attack, materials for barricades.
Woods.	Character of the borders, density of growth, nature of lanes and roads.

The duties of a patrol may be changed by the appearance of the enemy. As far as practicable the spirit of the instructions received must continue to be the guide for the patrol, whose field of action will, however, be contracted by the presence of the enemy; on the

other hand the additional duty which we have just explained, namely, maintenance of contact with the enemy after it has once been gained, arises to increase the work of the patrol.

After completion of the reconnaissance one man is sent with a message; the others remain to observe the enemy. Calm deliberation and resolute energy are the main conditions for success.

(*c.*) *Applied Exercises.*

(IN THE TERRAIN.)

1. THE PREPARATION

for these exercises goes hand in hand with the theoretical instruction. Special attention is to be paid to the exercises in orientation explained in Part B.

2. EXERCISES IN PATROLLING WITH A REPRESENTED ENEMY.

Hostile dispositions consisting of sentinels, or patrols, or both, are outlined and patrols sent against them. The enemy should be supplied with blank cartridges, and be instructed to fire on the patrol in order to attract its attention to errors committed (although in actual warfare the patrol would probably not be fired upon).

In these exercises with a represented enemy we must observe the following features:

(*a*) The exercises must begin with the easiest; that is, we send out patrols against a sentinel post without interference from hostile patrols. Observation, accurate judgment of the enemy's position, concealment from view of the hostile sentinels, and correct messages are the main points.

(*b*) Subsequent exercises are to be rendered more difficult by the presence of hostile patrols. Conduct of the patrol is the same as before, with the additional features of attention paid to hostile patrols, concealment from them, avoidance of firing, remembrance of original instructions, and withdrawal in such a way as not to lead the enemy to our own picket.

(*c*) Maintenance of alertness of observation by making unexpected changes in the enemy's dispositions.

It is recommended that a non-commissioned officer be detailed to keep a record of the messages according to some such system as the following:

Patrol Number.	*Time.*	*Point of Departure.*	*Contents.*
1. Corp'l A	6:30 P. M.	On the turnpike from A to B, 4 miles north of——	About 400 yards to the north, etc.

It is only by means of written messages and subsequent comparison thereof that effective instruction can be secured. The discussion must never be omitted and should take place as soon after the exercise as practicable, for then the soldier still remembers the general situation, the instructions received by him, the manner in which they were carried out, and the errors he committed.

(*d.*) *Examples on the Map.*

1. Simple
2. More difficult

} description of the terrain.

3. Going over a fixed route and making a record of the features by which the route may be found again.
4. Attempt to approach a fixed point under cover.
5. Flank patrols.
6. Flank patrols with interruption.
7. Combat patrols.
8. Patrols to cover establishment of outposts.
9. Patrols to search a section of terrain.
10. } Patrols against a represented enemy.
11. } 10. Against sentinels.
12. } 11. Against sentinels and patrols.
    12. Same as 11, with changes of position.
13. Reconnaissance.
14. Reconnaissance with interference by the enemy.
15. Explanation of the profile.

PATROLLING.

EXERCISES ON THE MAP.

No. 1.

Simple Description of the Terrain.

POSITION:

Near Section House No. 2, 450 yards northwest of Charlotte; face north.

Q. 1. What do you observe to the east, north, and west of your position?

2. Is it possible to get to Prospect Hill under cover?

3. What route to the hill should be taken?

4. Is your position suitable for defense? *

What advantages does it offer?

What disadvatages?

What is the nature of the field of fire? Are there any dead spaces?

How may the strength of the position be increased?

No. 2.

More Difficult Description of the Terrain.

POSITION:

On the windmill on Prospect Hill.

Q. 1. Give a description of the visible terrain, including the villages, yards and buildings that can be seen.

2. How is it possible to gain access under cover to:

(*a*) The village to the north of your position?

(*b*) Fay's Bridge?

(*c*) The railroad bridge to the west?

3. Is your position suitable for defensive action? What advantages does it offer? What are its disadvantages? What is the character of the field of fire? Are there any dead spaces? How may its defensibility be improved?

No. 3.

Going Over a Fixed Route and Making a Record of the Features by Which the Route May be Found Again.

A detachment stationed at a point southwest of Birch Hill is directed to destroy the railroad at various points between Addison and Section House No. 54.

PROBLEM:

A patrol from the picket at Fielding House is ordered to select and mark a route, under cover as far as practicable, to the portion of track to be destroyed. What will be the march and conduct of the patrol?

Q. 1. Why should the patrol avoid the Hinesburg Road east of the woods?

2. Can the village northeast of the woods be disregarded?

3. Will the detachment for the night expedition be permitted to pass through the village?

* NOTE.—These questions should be considered and discussed at each new position taken by a patrol, to the extent permitted by the time available.

4. What marks are necessary?

5. Is it necessary to remember the features of the terrain with reference to defense? To what position would the detachment retire in case of attack?

No. 4.

Attempt to Approach a Designated Point Under Cover.

PROBLEM:

The stone bridge 160 yards north of Fay's Corners has been destroyed. The stream is to be crossed about 700 yards lower down. A patrol is sent out from Prospect Hill to determine the character of the banks of the stream below the bridge, and will endeavor to reach that portion of the stream without being seen from the vineyards on Bellevue Hill.

Give the details of the movements of the patrol.

Q. 1. Would a direct march on the objective be possible in this case?

2. Would cover be available for the movement as required in the problem?

3. Under what circumstances could such direct march be used?

No. 5.

Flank Patrol.

A detachment leaves Colchester at the northern exit to march along the right bank of the river. A patrol for the right flank was sent out with orders to accompany the advance on the ridge to the east and north.

Q. 1. What is the most important direction for the observation of the patrol?

2. Is observation of the country between the detachment and the patrol obstructed in any way?

3. Can the patrol accomplish its purpose if it always keeps the same distance from the detachment?

4. How far forward and in what direction should the connecting man move?

5. How far should the patrol have advanced when the point of the advance guard leaves the town?

At the cross roads north of Colchester the direction of the march is changed, and instead of continuing along the river the column turns NNE. The patrol has received no orders concerning this change of direction.

Q. 6. What should the connecting man do under these circumstances?

The patrol sees that the new route leads up to Birch Hill.

Q. 7. In what direction should it now turn?

8. What should the position of the patrol be when the point of the detachment's advance guard reaches the north-and-south road along Sucker Brook and starts to go north?

9. How should the connecting man observe the actions of the detachment in Hinesburg?

10. Suppose the detachment advances toward the north, where should the patrol and the connecting man cross Sucker Brook?

11. Suppose that the detachment halts at the Copper Mines, what duties should the patrol now take up?

No. 6.

Flank Patrol With Hostile Interference.

A detachment leaves Hinesburg in a northeasterly direction. A flank patrol is at Section House No. 2, of the single-track railroad. The detachment receives intelligence that a hostile force from the north is crossing the river, and changes direction to meet it. The connecting man signals the change of direction to the patrol.

Q. 1. Where should the patrol cross the brook?

2. From what point will it first be able to obtain a view?

3. At what rate should it march to that point?

The enemy is advancing from Fay's Corners on the railroad cut.

Q. 4. From what point will the patrol be able to observe subsequent movements of the enemy?

No. 7.

Combat Patrols.

A hostile skirmish line has been deployed in the railroad cut south of Fay's Corners. Our detachment is in position between the Copper Mines and Prospect Hill. A combat patrol holds the Cemetery. The enemy receives reinforcements. Our detachment will have to retire.

Q. 1. What should the combat patrol do?

2. On what road and in what direction will the patrol retire?

3. How long should it remain on the hill?

4. Where will it cross the brook?

5. What will be the duties of the patrol in case the enemy stops his advance and marches off to the east?

6. Assuming the situation to be the same as at the beginning of the exercise, what would be the duties of a combat patrol on the left flank, in the hedge about 165 yards east of Section House No. 54, in case approaching hostile cavalry is observed south of Bolton's Factory?

No. 8.

Patrol to Cover Establishment of an Outpost.

A picket has arrived at its station near the forks of the road about 200 yards south of the southeast end of the tunnel northeast of Colchester. The advance party is about 435 yards farther east, on the ridge. The commander receives orders to utilize his party to cover the establishment of a line of sentinels. The ridge affords a good view toward the east, but portions of the valley of Sucker Brook east of Section House No. 4, are hidden from view. A patrol is sent to explore the valley.

Q. 1. How far must this patrol go to fulfill its mission?

2. Where should specially careful search be made?

3. How long must it stay out in front in case no traces of the enemy are discovered?

4. What should it report after its return, concerning presence of the enemy and the character of the country with reference to cover and practicability?

The patrol observes in the western edge of the woods north of Essex Hill, a hostile infantry patrol which is moving in a northerly direction toward the wooden bridge across the brook.

Q. 5. What position would our patrol take for observation, or how far would it advance or retire?

6. What message should be sent in this case?

No 9.

Patrols to Search a Section of Terrain.

A picket occupies a position east of Birch Hill, north of the highway, on the left bank of Sucker Brook, facing south. As the ground on this bank cannot all be seen, a patrol is sent forward with instructions to search the terrain on a front of about 800 yards to the south and southeast, but not to go farther than about 1,000 yards. The chain of sentinels will be crossed going out at the sand pit.

Q. 1. What are the principal features to be searched?

2. What disposition does the leader make of the members of the patrol for these various duties?

3. Where should the patrol be divided?

4. Where will it reassemble?

5. What would be done in case the enemy interferes with the proposed operations of the patrol?

NOTE.—The patrol consists of nine men and leader.

No. 10.

Patrols Against the Enemy's Outposts. (*a. Against Sentries.*)

A picket is stationed in the western edge of Charlotte, facing west. It sends out a patrol towards the ridge about 1,700 yards to the west, with the following orders: "The enemy's sentinels are said to be posted on Birch Hill; ascertain their position as far as possible."

Q. 1. In what formation should the patrol cross the chain of sentinels and advance towards the enemy? What point in the terrain will probably afford a good view?

2. What features of the terrain afford cover?

When they reach the bushes on the left bank of the brook the members of the patrol observe individual hostile infantrymen in the eastern corner of the woods on Birch Hill, and also in the bushes at the southern end of the hill, apparently two men in each place; a hostile horseman is seen to disappear behind the hill, south of the bushes referred to.

3. What conclusion may be drawn from this fact?

4. Has the work of the patrol now been entirely accomplished?

5. What investigations remain to be made?

6. Who is sent back with a message?

7. What is the tenor of the message?

8. As the whole valley can be seen from Birch Hill, are any precautions to be observed during the retreat?

No. 11.

Patrols Against the Enemy's Outposts. (*b. Against Sentries and Patrols.*)

The leader of the patrol (Exercise No. 10), receives orders to pass through the woods north of Birch Hill, thus turning the enemy's sentinels, and to endeavor to gain a view of the enemy's dispositions farther to the rear.

Q. 1. On what routes can the patrol reach the woods?

2. What is its method of advancing in the woods?

3. While in the woods it meets with a stronger hostile patrol; should the patrol retire, remain stationary, or endeavor to force its way through in the intended direction?

4. Will the patrol be able under the present circumstances to work out a perfect solution?

5. To what will it eventually have to confine itself?

6. What report should be made?

7. How does the messenger regulate his movements?

No. 12.

Patrols Against the Enemy's Outposts. (*c. Involving change of Direction.*)

The patrol (Exercise No. 11) observes that the hostile patrol opposed to it does not pursue; at the same time signals are made by the man left in the bushes on the river bank that the sentinels referred to in Exercise No. 10 have disappeared from their posts.

Q. 1. What can the patrol conclude from this?

2. Can it now through energetic action still secure information concerning the strength and position of the enemy? How?

After arrival at Birch Hill the patrol sees the enemy—who is retreating—in the enclosure about 900 yards southwest of the hill, and in the act of forming a rear guard, and observes columns of hostile infantry ascending the slopes on the west bank of the river.

3. What conclusion is drawn by the patrol?

4. What should it report?

5. How should the messenger proceed in this case?

No. 13.

Reconnaissance.

From Section House No. 2, at intersection of railroad and highway northwest of Charlotte, a patrol is sent out to ascertain the condition of the road as far as the village, about 1,300 yards to the northwest, to determine the degree of practicability of the adjoining terrain, and to reconnoiter the village with reference to defensibility on the western and southwestern edges.

The enemy is supposed to be advancing from the northwest, but not to have crossed the river as yet.

Important points for the advance:

1. The advance must be made under cover and with great caution in order that the enemy may not discover the reconnaissance and frustrate it.

2. The examination of the adjacent terrain must be made during the first part of the undertaking, while the patrol is in march.

Q. 1. How are the men divided for these purposes?

2. What features should be carefully observed with reference to

(*a*) The march of lateral columns?

(*b*) Vegetation lining the road?

(*c*) Ditches along the road?

(*d*) Opportunities for defensive action?

After arrival in the village the leader divides the patrol into parts which make the reconnaissance, and other parts which protect the men making the reconnaissance.

3. What are the important points in this reconnaissance?
4. What reports will be made after completion of reconnaissance?

No. 14.

Reconnaissance with Hostile Interference.

After the patrol (Exercise No. 13) has entered the village, a strong hostile detachment—apparently a company—emerges from cover south of Fay's Corners and advances on the highway towards Addison.

Q. 1. Will the patrol still be able to accomplish the second part of its mission?
2. How might it be cut off?
3. How should it withdraw?
4. What message should be sent?
5. In what manner should the message be carried?

No. 15.

Explanation of Profiles.

1. What is a profile? What is it intended to exhibit?
2. What military importance have elevations, depressions, slopes, and plains?
3. Of what importance, consequently, is a profile with reference to a clear conception of the terms, field of fire, dead space, etc.?
4. Point out a concave slope on the map. State what points would be in view from each other. To what extent would trees or other objects on the slope afford protection to an enemy?
5. Point out a convex slope on the map. In what respects would it favor an enemy?
6. What is the difference between the actual crest and the military crest? Illustrate by examples on the map.
7. Point out the directions in which the rivers and brooks on the map run.
8. How much of Swanton is visible from the top of Prospect Hill, supposing the trees in the fork of the roads between Swanton Woods and Ripley Woods to be forty feet high?

PATROLLING.

EXERCISES ON THE MAP.

Answers to No. 1.

1. The valley of a brook which comes from the southwest and about 430 yards from me turns to the north, and then, beyond the railroad bridge bends towards the northwest; the valley drops off rapidly at that point and I am therefore unable to follow the course of the stream farther. Towards the east the ground rises gradually and is almost entirely without cover; in the northwest, beyond the valley, there is a ridge of high ground culminating in two hills; there are some small woods towards the west; elsewhere the high ground is without cover. In case the farther slopes of the hills are without cover the summits would afford good points of observation. In the west, at a distance of from 750 to 900 yards, I see a hamlet; about 550 yards to the northwest a farmyard; near the bridge about 500 yards to the north, a mill; and near the railroad, a section house. As there is a windmill on the hill farthest to the southwest, and as this is also the higher one, it will probably be the better suited for a point of observation.

2. The country is so open that it would be impossible to reach the hill without exposure, except at night, or in foggy or in stormy weather.

3. Make a dash, individually,* for the clump of trees about 200 yards to the northwest; then observe the hill carefully to see if any persons can be discerned thereon. No movements being observed, make a dash for the brook and lie down in the weeds near its bank; then dart up the lane toward JONES's farm-house and ascend the hill by the road and trail leading west.

4. Naturally, the position is not well suited for defensive action because of commanding ground at distance of 700 yards.† It offers the advantage that fire from the position would sweep the highway to Booth's Mill and also the radiating country roads. Its disadvantages are that it is exposed to view and fire from sheltered positions which might be occupied by the enemy.

The field of fire is excellent in all directions to the east, north, and to the west as far as the hill range. There is a dead space northeast of Gravel Hill.

* Movements across open ground should, as a rule, be made individually.

† All the features contributing to the strength of a position can, of course, not be shown on the map, but for purposes of practice these questions are to be answered as far as possible.

The strength of the position could be increased by artificial cover against fire from the hills, cutting down trees near highway to Booth's Mill, finding ranges accurately, etc.

Answers to No. 2.

1. Before me there is the valley of a river which flows from southwest to northeast, passing at about 700 yards northwest of my position; the valley becomes wider towards the lower course of the stream. Both banks are flat and rise gradually, the opposite bank being the lower; a range of hills, distant about 1,400 yards, runs parallel to the river on the other side of the valley; in the northwest there is a depression over which a highway passes. In the northwest there is also a bridge across the river for the highway just mentioned; and in the west there is a bridge for the railroad which issues from a tunnel farther west. The brook which flows around my position, empties into the river about 1,300 yards to the north. The opposite ridge is covered with woods, and on the southern slopes there are vineyards; the slopes on this side of the valley present scarcely any cover.

The railroad issuing from the tunnel in the west passes along the hither bank of the river; a branch of this railroad passes up the valley of Sucker Brook. Along the near bank of the river there is also a highway; the highway from the northwest and another one from the southeast passing through the valley of the brook, come into this road.

The village of Addison is plainly visible; also Bolton's factory, Fay's Corners, Corbin's, Hart's Mill, and several smaller buildings north of Fay's Corners.

2. (*a*) Proceed along the southeastern slopes of Prospect and Gravel Hills; thence northeast in the ravine about 300 yards to the highway; thence through the cut into the small wood about eighty yards east of Addison. At this point the members of the patrol can await a favorable moment and dash across to the nearest houses individually.

(*b*) The patrol under (*a*) will proceed west, past the Cemetery and the last houses west of Addison, then make a dash separately for Fay's Corners; from the latter point dart across the open space to the west side of the bridge.

(*c*) Proceed along the southern slope of Prospect Hill, cross the saddle at the Quarry, and from the Copper Mines dart across individually, to Dayton Wood. Assemble in Dayton Wood. Then proceed northwest along the hedge to Section House No. 54, and to the railroad embankment individually; assemble behind the embankment and proceed along the southern face to the bridge.

3. The position is well suited for defensive action against troops coming from the north and west, the country being open for over 1,000 yards; there is thus a free field of fire to the limit of accurate range of the rifle. A detachment not supported by other troops to the right and left could be easily turned, as there are no features in the terrain protecting the flanks. The position is also exposed to artillery fire at close range from Ripley and Bellevue Hills. The enemy could find cover 100 yards southwest of Fay's Corners, and in the railroad cuts near the Hinesburg, Fay's Corners road. There are several cuts and embankments on the railroad and wagon roads east and northeast of Addison.

The strength of the position may be increased by intrenchments and gun-pits, and by arrangements for concentrated fire on the approaches to the village and points affording cover to the enemy.

Answers to No. 3.

Work of the Patrol.

The patrol will pass the chain of sentinels at the cross roads west of Birch Hill and groups of men will be ordered to march on the points of woods to the north. The individual members of the patrol will advance by separate routes, when possible by rushes. After arrival in the woods a halt is made; the advance thereafter is in skirmish line with extended intervals, the leader being in the middle as he is thus better able to communicate by signals. Progress through the woods continues until arrival at the northern border. The patrol should then assemble for further instructions. Another way of reaching Hinesburg Woods without danger of exposure on the northwest slopes of Birch Hill, would be to proceed west by Fielding to eastern edge of Beekman Woods, and thence under cover of fringe of trees past Hunting Lodge. The patrol should then examine Hinesburg Woods and assemble as above.

The direction of Dayton Wood must be fixed by marking a couple of trees which are on the proposed line of march, or by means of small piles of stones or other arrangements. These marks would be necessary on very dark nights to start the detachment in the right direction. As the country from now on is open, the patrol is divided into two parts, and thus proceeds to the Stone Quarry and to Dayton Wood; all come together again in Dayton Wood. The border of Dayton Wood and the west and east corners must be impressed on the men's minds.

The leader will then determine what part of the track should be attacked first, the curve or the cut, and fix the direction. The hedge gives a natural line to the western end of the curve. The patrol may then retire in a southerly direction, but while in the woods it must see whether the marks set up are still in place.

A. 1. By moving on the Hinesburg Road the patrol would expose itself unnecessarily.

2. The village must not be disregarded, especially in a hostile country. Two men should be left in concealment at a point near the northern border of the woods, from which they can observe the village and also the country to the northeast, and warn the remainder of the patrol of the approach of danger.

3. The detachment on its night expedition should not pass through the village, its mission being a secret one, to be accomplished as quietly as possible. A small patrol should be left in observation and to cover retreat of the detachment in case of attack.

4. The point of entrance into the woods and the roads in the woods should be marked as far as the exit at the northern edge, the line of direction (above mentioned) to Dayton Wood, and thence a line of direction on the railroad should also be established.

5. All the officers and non-commissioned officers of the patrol and of the detachment should endeavor to impress upon their minds the features of the terrain favorable for defense and retreat.

The retreat of the detachment would depend somewhat on the direction of the attack. An effort should be made to regain the woods as quickly as possible. Instructions to the patrol left in observation near Hinesburg, and to two other men stationed near the northern border, for instance, at the northwest corner of the woods, to show a light in case it is evident that the detachment has been attacked, would facilitate retreat, especially on very dark nights. The detachment would retreat, not on the light, but to one side of it.

Answers to No. 4.

Solution of Problem.

March under cover on the southeastern slopes of Prospect and Gravel Hills; then past sand pits and in the ravine in a northeasterly direction about 300 yards. The members of the patrol will dart across the highway individually, for the portion on embankment can be seen from Bellevue Hill to the northwest. The patrol then separates into two parts. One part proceeds along the northern edge of the cut, reaches the little wood southeast of the village, and then darts into the village itself; the other part moves to the railroad cut of the single-track road northeast of the village, stooping if necessary, and then reaches the yards on the highway north of the village. The whole patrol is assembled in the small wood between the village and the river. From the northwest corner of the wood the patrol darts into the bushes and finally reaches the river. From this point the patrol sees that the river has steep banks; a farther advance, therefore, is not necessary. The patrol retires with the same precautions. Every time an open space is crossed the patrol will pause in observation to see if any movements of the enemy take place in the vineyards.

1. A direct march on the objective is precluded by the conditions of the problem, for

2. The northwestern slopes of Prospect and Gravel Hills are without sufficient cover, and the patrol would be exposed to view of enemy on Bellevue Hill.

3. The direct route might be used in urgent cases, at night, or in foggy or stormy weather.

Answers to No. 5.

1. To the front and right flank of the advancing detachment, consequently towards the north and northwest; specifically, at the moment when the detachment leaves Colchester, the patrol should be ready to leave Birch Hill.

2. Observation of the country between the detachment and the patrol in its progress from Fern's Hill to Birch Hill is not obstructed in any way by vegetation, depressions, abrupt slopes, or other features of the terrain. It is presumed that the railroad cut and tunnel northeast of Colchester have already been carefully inspected.

3. No; for the summit of the high ground does not continue to run parallel to the proposed line of march of the detachment.

4. The connecting man should maintain himself about half way between the patrol and the detachment, and about on a straight line joining them; he should endeavor to occupy positions from which both the patrol and detachment are visible.

5. The patrol should be leaving Birch Hill on the road to Bolton's.

6. The connecting man should make a signal to attract the attention of the patrol to the changed state of affairs in the detachment, and start toward Birch Hill.

7. As soon as the patrol observes the change of direction on the part of the detachment it will endeavor to reach quickly a

position from which it can observe the ground to the front and right flank of the detachment on its new route. In this case it would cross Sucker Brook and proceed in the direction of Youngtown and Charlotte.

8. When the point of the advance guard of the detachment starts north along Sucker Brook, the patrol should be on the road and near to Section House No. 2, northwest of Charlotte.

9. The connecting man can best observe the operations of the detachment from the clump of trees which is half way between Hinesburg and Section House No. 2.

10. The patrol should cross Sucker Brook at Booth's Mill, and the connecting man south of JONES's farm-house.

11. The patrol, after examining Gravel Hill and the features of its northern slopes, continues exploration in Addison and vicinity.

Answers to No. 6.

1. The patrol would cross the brook on the line to JONES's farm-house and then take the road to the north.

2. Its first view will be had on the ridge east of Denton Wood.

3. As fast as possible, keeping in good wind.

4. From Denton Wood.

Answers to No. 7.

1. The position of the patrol is a dangerous one. It should keep a sharp lookout in all directions to see whether any parties of the enemy have been detached against it or are approaching its position, at the same time endeavoring to ascertain the strength and dispositions of the enemy. As soon as it becomes evident that the reinforced enemy intends to advance and that our detachment will be forced to retire, or when the patrol is menaced by superior parties of the enemy with intention to cut off its retreat, the patrol should withdraw, its rate of march being governed by circumstances.

2. The patrol should retire through Addison and gain the cut on the northern spur of Gravel Hill, thus avoiding exposure to view and to the enemy's fire at rather short range. It would then ascend Gravel Hill in the ravine, take position in or near the Sand Pits, and continue observing the enemy.

3. The patrol remains on the hill until it knows from the direction of the sound of the firing, or other evidences, that the detachment has retreated from its position at the Copper Mines.

4. Marching by JONES's farm at a rapid pace it will take a straight route for Section House No. 2, crossing the brook wherever it may strike it, as there will probably be little time to be lost.

5. In case the enemy does not pursue the detachment towards Hinesburg, but marches off towards the east, the patrol will endeavor to gain a favorable position to observe the enemy's movements; the location will also depend on the action of its own detachment, which may halt, continue to retire, change its line of retreat, or make demonstrations against the enemy's flank.

6. The patrol should commence firing at once in order to warn the detachment at the Copper Mines, and should then retire into Dayton Wood. A messenger should also be sent to make sure that the detachment learns of this new danger and to report, approximately, the strength of the enemy's cavalry. If the reinforced enemy has commenced his advance from the railroad cut, the patrol will have to leave Dayton Wood to avoid being cut off. It should retire towards the Copper Mines and afterwards take position on the high ground west of Hinesburg; or, the movements and strength of the enemy's cavalry, and the circumstances of the terrain might be such as to justify an attempt to reach the northwest corner of Hinesburg Woods by a dash of 250 yards across open ground.

Answers to No. 8.

1. By way of Vinton and Harper's to Essex Hill; later to York Hill.

2. The patrol examines Vinton and the copses along Holton's Brook and then the enclosure at Harper's on its way to Essex Hill. The woods on Essex Hill, enclosures and embankments in the valley of Sucker Brook, and small woods on York Hill would require careful examination. On its way back the patrol should explore the vicinity of Section House No. 4, and the long railroad cut to the west. The first object of such patrols should be to reach high ground affording a good general view; details can be examined later.

3. The patrol may return as soon as it has completed its exploration, for the outpost will have been thoroughly organized in the meantime. Orders fixing the length of time the patrol is to remain out would, of course, be complied with.

4. Under the assumption contained in the preceding question, the patrol should report upon its return that no traces of the enemy

have been discovered, and that the inhabitants of the country seem to be ignorant of his whereabouts. The country on the northern slopes of Essex Hill, the roads, Sucker Brook and its banks, the bridges and approaches thereto, all should be described with sufficient detail to convey to higher authority a clear idea as to practicability of the terrain for the various arms, and the cover and obstacles therein.

5. Assuming that the patrol gained its first intimation of the enemy's presence at Harper's, the leader should proceed cautiously to the crest of the spur near the cross roads east of Harper's and continue observation of the enemy.

6. The following message would be sent at once:

REPORT.

Sending Detachment.	Location.	Date.	Time.
Patrol Co. "C," 20 Inf.	Harper's Farm, 300 yards N. E. of Vinton.	12 Oct. '98.	4:10 P. M.

No. 1. Received .....

To Lieutenant Farmer, Fern's Hill.

Hostile infantry patrol, five men counted, seen in western edge of Essex Woods, cautiously moving north towards bridge over Sucker Brook.

ANSON,
Sergeant, Company "C."

Answers to No. 9.

1. Railroad cut, section house, embankments, bridges across Sucker and Holton's Brooks; small wood about 300 yards south of railroad bridge; from the latter careful observation of the village to the southeast and of the enclosures east. Next proceed to Fern's Hill and observe the valley of the river to the west. Return on eastern slope of Fern's Hill and by north and south road past Section House No. 1.

2–4. Immediately after crossing the line of sentinels a group of three men is detached to go through railroad cut; the patrol marches east and then southeast to the junction of Holton's and Sucker Brooks. The vicinity will be carefully explored, and a group of men sent to the embankment in the valley of Sucker Brook about 300 yards farther east, with orders to rejoin about 300 yards farther south by way of Harper's. The group sent through the cut will examine the copse 300 yards southwest of Section House No. 4. All will assemble on eastern slope of Fern's Hill near summit.

5. If the enemy has not been seen in this part of the country before, a message should at once be sent to the commander of the picket. The patrol should endeavor to maintain touch with the enemy, withdrawing when he advances in superior numbers, and following cautiously when he retires.

Answers to No. 10.

1. The patrol moves in close order until it arrives at the chain of sentinels, and then is halted. The commander obtains from the sentinels the latest information concerning the enemy and the nature of the ground. After crossing the line of sentinels the patrol at once looks for a good point of observation; the most suitable one would probably be found on some high building in Youngtown.

2. The country on the western and northwestern slopes of York Hill is quite open. If there are any trees, bushes, or even telegraph poles along the Charlotte-Youngtown highway they would afford some cover, considering the supposed direction of the enemy. The patrol should advance by individual men, taking advantage of what cover there may be and bringing the buildings of Youngtown in line with Birch Hill as soon as practicable. Assemblage of patrol in Youngtown. Then, darting from building to building the members of the patrol finally cross Sucker Brook and come together in the bushes on the left bank. Another route, requiring rather long detour but affording better cover would be as follows: From Charlotte south on road to York Hill, across summit, individually, to woods on southern slope; to Sucker Brook; to junction with Holton's Brook. At this point the patrol would be divided, one party proceeding along brook and the other through railroad cut. Assemble behind railroad bridge over Sucker Brook and then advance to the bushes along the brook, north of highway.

3. That the enemy has a line of double sentinels on Birch Hill; that our presence has been discovered, and that information to that effect is being conveyed to the commander of the picket.

4. The patrol so far has touched only one part of the enemy's line of observation and has not completed its duty by any means.

5. An attempt must be made to find other sentinels and also the troops supporting them.

6. The man who first saw the enemy is sent back with a message as follows:

REPORT.

Sending Detachment.	Location.	Date.	Time.
Patrol, Co. "C," 20th Infantry.	Left Bank Sucker Brook, 300 yards south of Hinesburg.	15th Oct. '97.	10:30 A. M.

No. 1 Received .....

To Lieutenant Williams, Charlotte:

Enemy's infantry sentinels discovered in eastern edge of woods on Birch Hill and in bushes farther south. Mounted man was seen galloping to the west south of Birch Hill. JOHNSON,
Sergeant, Company "C."

8. The messenger will move as rapidly as possible, taking precautions to protect himself from the enemy's fire while within range. By passing rapidly down the valley of Sucker Brook he will soon find some cover and can cross the brook south of JONES's farm. This would also be a good line of retreat for the patrol in case the commander decides to retire; the direction gives no indications to the enemy.

Answers to No. 11.

1. There are several routes open to the patrol, if it is convinced that it is opposite the left flank of the enemy's line of observation. It could make for the highway at once and then move straight on the southeast corner of Hinesburg Woods, provided sufficient cover can be found in the terrain to avoid undue exposure to fire. It will probably be necessary to go farther down stream, perhaps as far as Hinesburg, and then cut across to the northeast corner of the woods. If no sentinels are discovered on the high ground west of Hinesburg, it becomes almost certain that the northern limit of the enemy's line has been reached, and the patrol would then enter the woods with intention of turning the position.

2. While in the woods the patrol will move cautiously, the members remaining within view or whistle call of each other. The ridge should be crossed while under cover of the woods.

3. The patrol will begin to retire if it is evident that it has been discovered; if it remained stationary it might be cut off by superior numbers, and to advance would bring on a fight by which nothing could be gained.

4. A perfect solution of the problem assigned does not seem possible under the circumstances.

5. All that can be done is to maintain contact with the enemy and take ample precautions against being cut off.

6. A message informing the proper officer of the new situation is sent as soon as practicable. Message as follows:

REPORT.

Sending Detachment.	Location.	Date.	Time.
Patrol, Co. "C," 20 Inf.	In woods 300 yards southwest of Hinesburg.	15 Oct. '97.	11 A. M.

No. 2. Received .....

To Lieutenant Williams, Charlotte.

Forced to give way before stronger hostile patrol in the woods. Observation will be continued as long as possible.

JOHNSON,
Sergeant, Company "C."

7. The movements of the messenger would be governed by the actions of the enemy. He should proceed as quickly as possible; his best line would probably be straight on Section House No. 2.

Answers to No. 12.

1. The circumstances indicate that the enemy intends to retreat.

2. The patrol can now afford to be bolder and should endeavor, by a rapid movement, to reach a position affording a view of the retrograde movements of the enemy. The patrol, in open formation, will make a dash for the north edge of the woods near the summit of Birch Hill, so as to gain a view of the country to the west.

3. That a general retreat is in progress.

4. A message should immediately be sent to the commander of the picket, preferably in duplicate, one verbal, the other written, as follows:

REPORT.

Sending Detachment.	Location.	Date.	Time.
Patrol, Co. "C," 20 Inf.	Summit of Birch Hill near Hinesburg-Fielding Road.	15 Oct. '97.	11:30 A. M.

No. 3. Received .....

To Lieutenant Williams, Charlotte.

Enemy's patrols and sentinels are retiring. He is forming a rear guard at Gardner. Long columns of infantry are ascending slopes west of Orange River. JOHNSON,
Sergeant, Company "C."

5. Messenger makes for the highway and proceeds as rapidly as possible. A horseman, or, if available, a bicyclist would be utilized at once to convey this important information to the proper officer with the least practicable delay.

Answers to No. 13.

1. Three active and intelligent men are sent to Gravel Hill with the usual precautions. They scrutinize the country carefully, and inform the commander at Section House No. 2 by message or by signal whether any of the enemy are to be seen in the valley of the river, and if so, what positions they occupy. Another small party will reconnoiter towards the right flank, east of the railroad, and report on the woods, railroad crossings, roads, fords, etc., east and north of the railroad track, gradually working along embankments and cuts, and then down stream to the crossing of double track road over Sucker Brook. The commander of the main patrol will move on the highway towards Booth's Mill, as soon as he is certain that no enemy is in a dangerous position likely to interfere with the reconnaissance. He notes carefully the ground to the right and left, sends individuals to doubtful points, compares the ground with his map, and fills in details, or sketches a new map if necessary. After arrival at the small wood east of Addison he waits for his right flank patrol to come in, and for a preliminary examination of the village to be completed. He utilizes this time to make out and send in his preliminary report. The patrol on Gravel Hill had better be ordered to remain there for careful observation of the slopes beyond the river.

2. Whether the march of the lateral columns would be facilitated or impeded. Whether the road is lined with trees or hedges and of what kind they are (also height and density). Lateral ditches, their width, depth, wet or dry; whether they can be crossed. Good defensive positions near the road.

3. General situation in the terrain; whether it (the village commands the ground to the front and flanks; whether the ground is open and the view unobstructed, and to what extent it is practicable for troops.

Its form: Whether within a single wall, or consisting of isolated enclosures.

The walls: Whether connected and forming enclosures; whether of brick or of stone; their height, thickness, condition, towers, arrangements for flanking fire. The height, thickness, and slopes of ramparts, and the condition of ditches and hedges are also required.

The interior of the village, structure, masonry, wood, or nogging; roofing, combustible or not; open places.

Entrances, number and location thereof.

Availability of material for construction of barricades.

4. If the patrol has no other duties but to make the reconnaissance, the report should be made as soon as practicable after return. If reconnaissance has been completed, but report can not be rendered at once because of activity of the enemy or for other reasons, a message would be sent stating the circumstances.*

Answers to No. 14.

1. The second part of the patrol's intended work falls to the ground.

2. The enemy, instead of making a direct attack, will probably attempt to turn the village by way of the cemetery.

3. As soon as the enemy is discovered (the party of Gravel Hill would fire signal shots), the patrol should withdraw cautiously yet rapidly, dashing through the cut east of Addison, then proceeding south up the ravine. If he makes preparations to leave the village and continue his march east, the patrol will withdraw from the ravine in a southeasterly direction.

4. As soon as the enemy is discovered a message should be sent as follows:

REPORT.

Sending Detachment.	*Location.*	*Date.*	*Time.*
Patrol, Co. "D," 20 Inf.	Addison.	16 Oct. '97.	10 A. M.

No. ... Received.....

Captain Watkins, Section House No. 2:

Party of enemy, one company, is advancing from Fay's Corners.

ATKINS,
Second Lieutenant, Company "D."

5. The bearer of the message should proceed as rapidly as possible on the highway.

* NOTE.—The patrol would consist of the leader and at least sixteen men.

Answers to No. 15.

1. A profile is the representation, in outline, of a supposed vertical section of a portion of terrain; it is intended to exhibit clearly the curvatures of the earth's surface, known as hills, valleys, slopes, plains, etc., in the ground under consideration.

2. Elevations are of importance in affording good points of view and commanding positions for artillery and long-range infantry fire; they also serve to screen the march of bodies of troops, and the reverse slopes often afford cover for troops in rear of the firing line. Depressions also, though in a less degree, are utilized in the concealment of troops, led horses, etc., to obtain cover for reserves on the defensive, and to facilitate approach to the enemy's line on the offensive. Slopes and plains are of material importance in determining the practicability of the ground for troops of the three arms, and in ascertaining the character of the field of fire.

3. By means of a profile we shall be able to ascertain whether, from an assumed position, all points on the earth's surface in a certain direction (that of the profile) up to the limit of vision can be seen, or whether, on account of elevations or depressions, certain portions are hidden, and would therefore afford cover to the enemy to a greater or less extent, which also can be determined from the profile. By using two or more profiles we can determine not only the depth, but also the width of the ground screened from our view. By restricting our observations to the extreme profitable range of modern weapons we determine the same factors with reference to the field of fire. Spaces within the range of firearms in which troops can not be seen on account of intervening features of the ground are called "*dead spaces.*" In such cases a straight line drawn from the position of the observer to the supposed position of the enemy would cut the profile of the intervening ground.

4. From the woods on top of Birch Hill looking west to the limit of the map, we have a concave slope. It is evident that from the top of the hill we can see and bring under fire all points of the slope to the west, except the portion west of Beekman Woods. If we know the height of the trees, the width of the covered space west of Beekman Woods can be determined from the profile. From Beekman we can also see all points of the slope to the top of Birch Hill.

5. From the cross roads on Essex Hill to the ground at the eastern end of the Youngtown-Charlotte road, there is a convex slope. The high ground on York Hill would screen Charlotte and

vicinity from view. It is evident that an enemy could assemble his troops near Charlotte and advance almost to the top of York Hill without being exposed to fire from Essex Hill. Inspection of a map will generally enable us to determine whether a slope is convex or concave. When the contours are close together at the top and gradually become farther apart towards the bottom, the slope is concave; when the contours are far apart at the top and there are places where they are close together towards the bottom, the slope is convex, and consequently will present dead spaces. In doubtful cases draw a profile.

6. The crest, or actual crest, of an elevation is marked by a line joining the summits of profiles parallel to the direction of fire. On opposite sides of the crest water will flow in opposite directions. The military crest, which very seldom coincides with the actual crest, but generally is found below it, is marked by the line joining the highest points on profiles parallel to the proposed direction of fire from which all, or nearly all, of the slopes below can be seen and brought under fire.

7. Orange River, northwest; Onion River, northeast; Sucker Brook, general course, north, etc.

8. Swanton would not be visible. A church steeple over seventy feet high would project above the tops of the trees. From a position on Gravel Hill near the Sand Pits the roofs of houses in Swanton could be seen through the gap in the woods made by the Swanton-Fay's Corners road.

EXAMPLES OF EXERCISES IN THE TERRAIN.

(See map of northern portion of Fort Leavenworth reservation published in CAVALRY JOURNAL for June, 1898.

PATROLLING.

Exercise No. 3.

A Brown force encamped near the Taylor school house has orders to blow up the trestles and damage the railroad north of Fort Leavenworth under cover of darkness. Small patrols are sent out about two hours before sunset to establish the route to be followed by the night detachment.

Orders for Patrol Leader B.

1. From a position about 100 yards south of forks of road just east of Point Lookout proceed northeast until arrival near railroad. Look for trestles (south of Weston Crossing) and select the best line of approach thereto under cover.

2. Return over same route to starting point.

3. After darkness has set in conduct detachment over route selected.

CAVALRY PATROLS.

Exercise No. 2.

A force of Brown cavalry has arrived at Kickapoo with orders to collect forage there for use of the army.

Small patrols are sent out in various directions to locate the forage and report on the most convenient roads for its transportation.

Orders to Patrol Leader A.

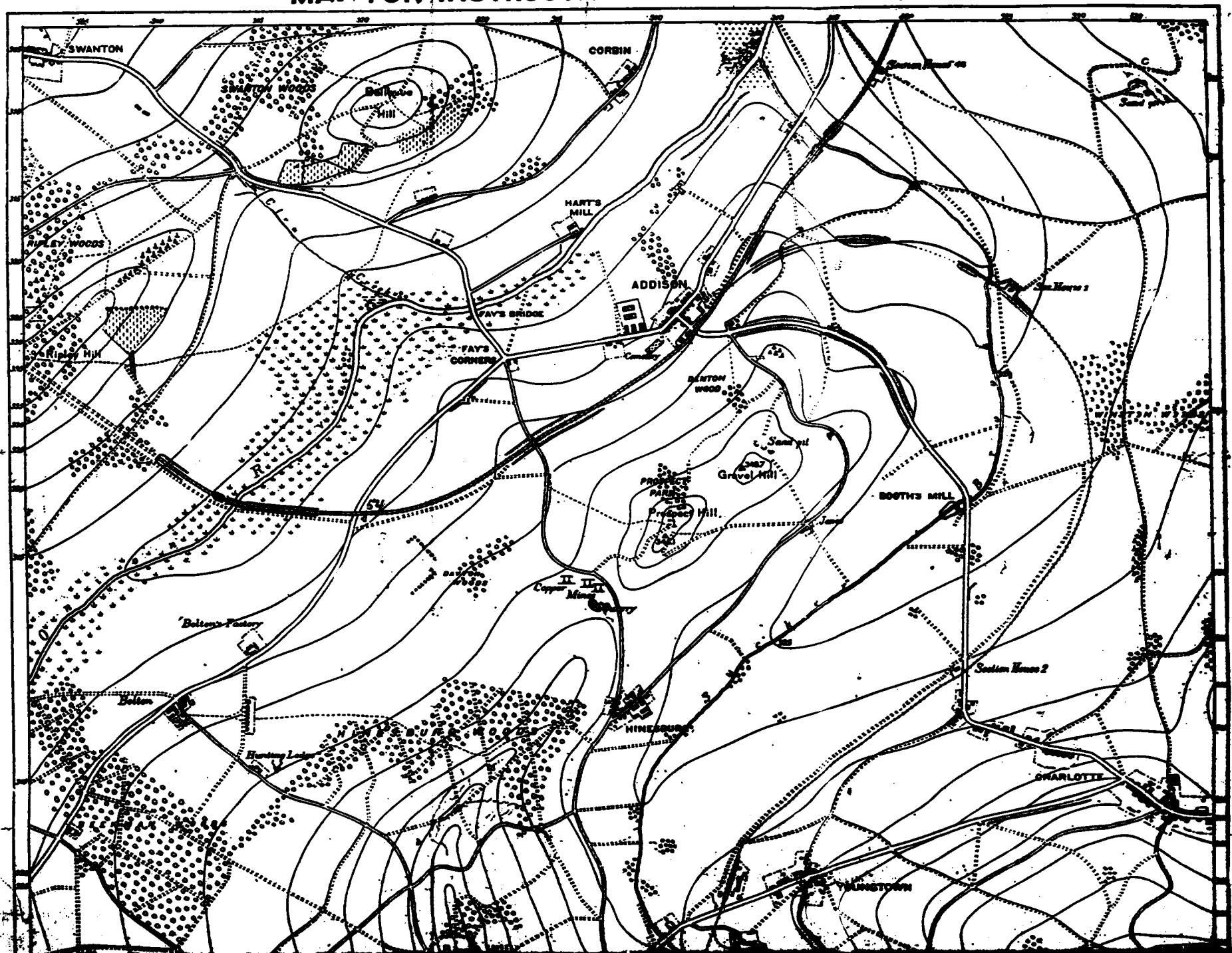
Examine the large farm in the bend of the Missouri River north of Fort Leavenworth, and submit a report (on message blank) showing the *amount*, *kind*, *quality*, and *location* of accumulations of forage you may find. Report also upon what roads the forage should be hauled; a sketch showing location of forage and the roads thereto, connecting with some well defined feature in the map in your possession will also be required.

Start: From the point where Millwood Rord crosses western boundary of reservation.

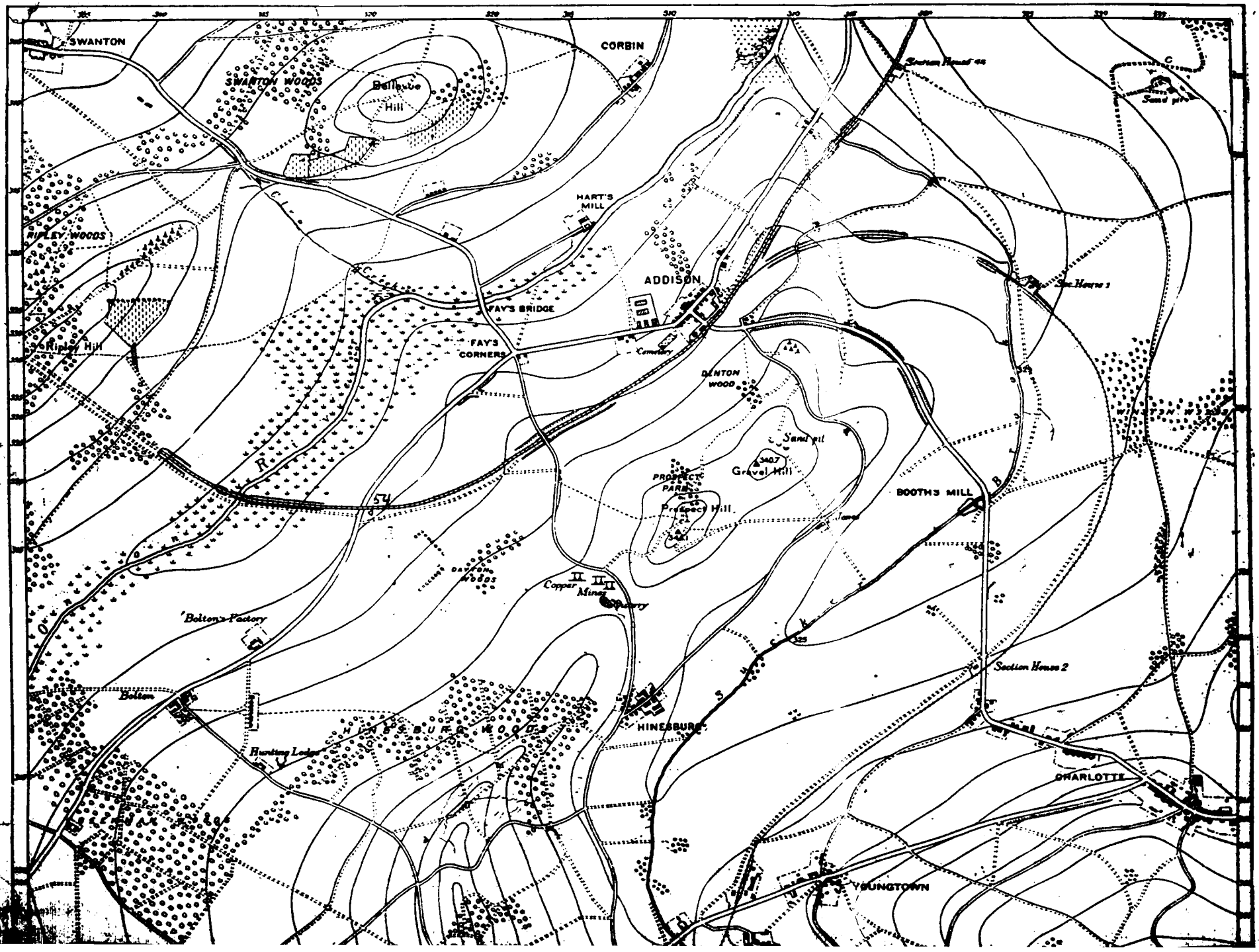
List of the more important works on patrolling consulted by the author.

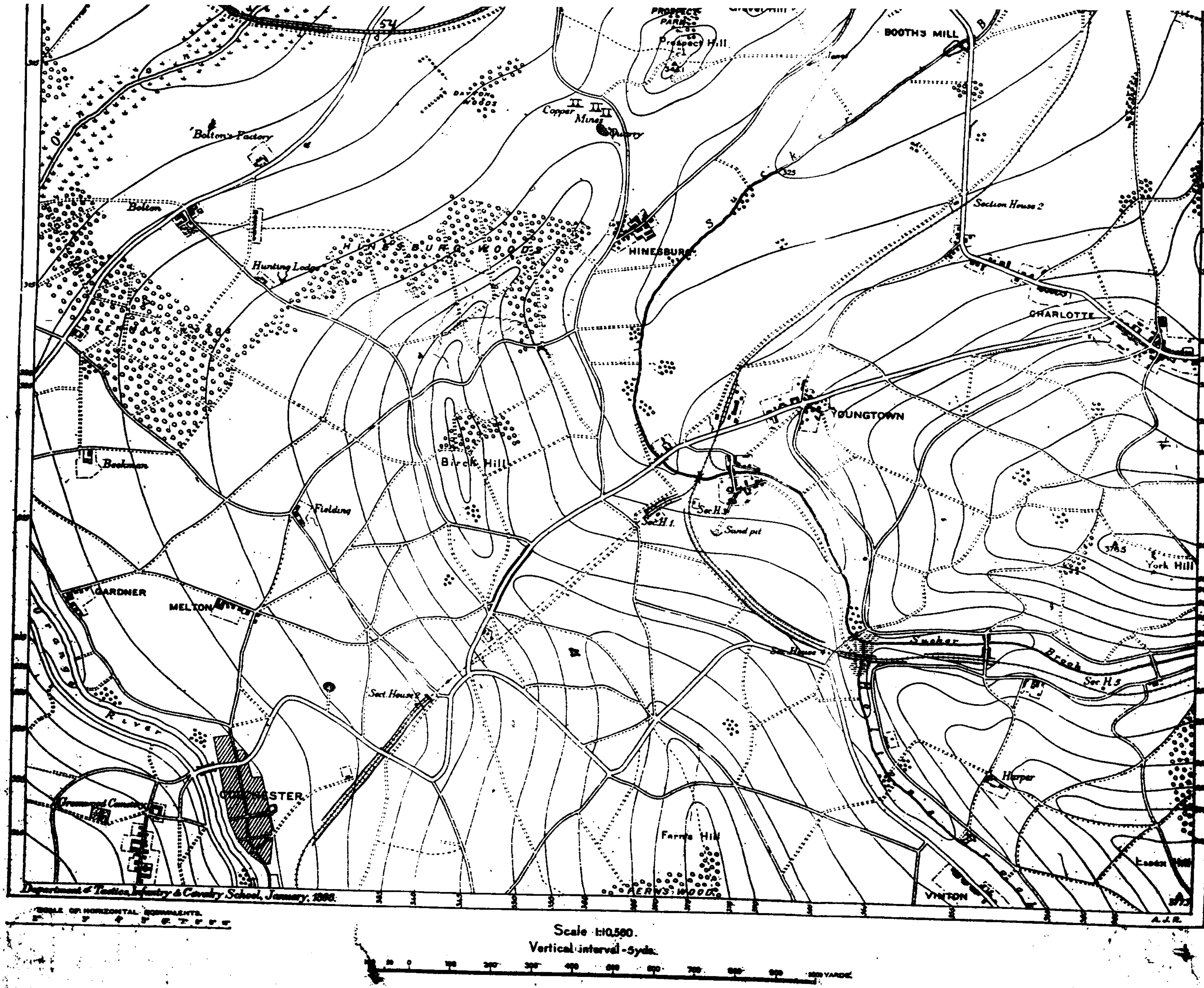
1. Beitrag zur theoretischen und praktischen Ausbildung der Kavallerie im Felddienst (JUNKE).
2. Cavalry Instruction (BADEN-POWELL).
3. Cavalry Instruction (VON SCHMIDT).
4. Der Kleine Krieg (RÜSTOW).
5. Die Offizier-Patrouille (VON KLEIST).
6. Guide Manuel du Chef de Patrouille.
7. Letters on Cavalry (PRINZ KRAFT ZU HOHENLOHE INGELFINGEN).
8. Order of Field Service of the German Army. (Translated by J. M. GAWNE and SPENSER WILKINSON.)
9. Tactique des Renseignements (LEWAL).

MAP FOR INSTRUCTION IN PATROLLING. No I.



MAP FOR INSTRUCTION IN PATROLLING, No I.





PROSPECT PARK
Prospect Hill
BOOTHS MILL
Copper Mines
Quarry
Bolton's Factory
Bolton
Hunting Lodge
HINESBURG WOODS
HINESBURG
Section House 2
CHARLOTTE
YOUNGTOWN
Beekman
Birch Hill
Fielding
Sec H. 1.
Sand pit
York Hill
GARDNER
MELTON
Sucker Brook
Sec H 5
Sect. House 8
River
Harper
CHESTER
Farms Hill
FERNS WOOD
VINTON
Essex Hill
Department of Tactics, Infantry & Cavalry School, January,
A.J.R.
SCALE OF HORIZONTAL EQUIVALENTS
Scale 1:10,560.
Vertical interval 5yds.
YARDS

THE SUPPLY OF SMALL ARM AMMUNITION TO TROOPS IN THE FIELD.

By Second Lieutenant GEORGE D. GUYER, Sixteenth Infantry.

"Toute la guerre tient deux mots: du pain et de la poudre."

STATEMENT OF THE GENERAL PRINCIPAL OF SUPPLY.

THE first great principle which modern experience has pointed out, is the division of the whole subject of supply into two great branches: First, That which works in the rear of the army; Second, That which accompanies the army. This applies to all stores, as ammunition, ordnance, subsistence and quartermaster stores. The function of the first is to look after and forward stores massed in large depots or magazines. The function of the second is to bring up the supplies from these advanced magazines or depots to the army. It is manifest that the service in rear may be semi-civil, while that in front must be performed by bodies having a military organization.

The working out of this first great principle has brought about the following organization:

1st. The general transport working along the lines of communication from the base to the most advanced magazines. This transport from its interior position may often be made over railroads or waterways. All magazines contain a great reserve of ammunition.

2d. Departmental transports, which convey the supplies from the advanced magazines to the army. With reference to the ammunition supply they are known as ordnance trains, army corps parks, etc.

3d. The regimental or army transports which follow the army and obtain their supplies from the departmental transports. In this case they are known as ammunition columns, regimental wagon train.

The first principal of supply, therefore, is clear enough; the fighting troops in battle must have full pouches or belts; the first reserve (regimental wagons) must see to this, while each echelon in rear supplies the deficiencies of those in front.

All military powers have about the same ideas and employ the same means, as:

ENGLAND:

1. By the soldier.
2. By battalion baggage wagons, ammunition carts, pack animals.
3. By ammunition columns.
4. By army corps ammunition columns.

GERMANY:

1. By the soldier.
2. By the company baggage and ammunition wagons.
3. By ammunition columns.
4. By an army park.

FRANCE:

1. By the soldier.
2. By battalion ammunition wagons.
3. By ammunition parks.

RUSSIA:

1. By the soldier.
2. By battalion and regimental carts.
3. By field ammunition parks.

The total supply of ammunition available to an army will, therefore, be stored or carried:

1. By the soldier.
2. By regimental wagons or carts.
3. By ammunition columns.
4. By ammunition parks or ordnance trains.
5. By magazines.

5th. *Echelon.*

MAGAZINES.

When circumstances compel us to make preparation for active war operations, the first measure which demands attention is the selection of a suitable base. Here depots are formed to receive vast amounts of warlike stores upon which the army must more or less depend during the course of the war. As the troops penetrate into the enemy's country, arrangements must be made for methodically pushing up large quantities of these resources within easy reach of the combatants.

All places on the lines of communications in which these reserves are collected are called magazines.

They are generally classified as:

1. *Base Magazines*, those established at the base of operations.
2. *Intermediate Magazines*, chiefly intended to facilitate the gradual transfer of the reserves from the front to the rear.
3. *Advance Magazines*, or depots; these are the nearest magazines to the combatants, and on which they must primarily depend.

This gradually advancing of our reserves is a very rational proceeding and offers several very important advantages:

(*a*) It prevents an embarrassing accumulation of articles in one locality.

(*b*) It facilitates their transmission, for one magazine passes on to the next what is needed to keep its stock from falling low.

(*c*) It limits the loss which would accrue by the capture of any one of them.

(*d*) Parties moving back and forth will experience no difficulty in obtaining supplies.

(*e*) Should the army be forced to retire, the troops gradually fall back on their resources.

The object of all magazines on the line of communication is the same, the different names they bear are simply used to indicate their position and relative importance.

Base Magazines.—Base magazines are frequently forts or fortified places.

Intermediate Magazines.—Intermediate magazines are also fortified places. They cannot well be dispensed with, even when a railroad line is available, as in case of willful damage or accident to the line the troops in front might be cut off from their nearest source of supplies, possibly for several days.

Advance Magazines.—The advance depots are, as a rule, twenty-five to thirty miles in rear of the combatants. This expresses what is desirable, rather than what is always obtainable. As the troops move forward, new advanced magazines must be located, while the base and intermediate magazines remain stationary.

Prudence demands that we should not place the advance magazines in a too forward position, yet we should facilitate the supply to the troops by locating them at a convenient distance from the front.

MAGAZINE BUILDINGS.

The structures best adapted for magazines are large, dry, well aired one-story buildings, as freight houses, market buildings, etc. The various articles must be stacked in separate piles, with plenty of room between each pile in which to work.

Position, Personnel and Duties.—The loss of any magazine, but above all, those containing warlike stores, will be severely felt by the army. They must be well defended by having an adequate guard, and should occupy a strong position. The advanced magazine requires to be guarded with greater jealousy than the rest, for it is more exposed, and is the primary source of supply to the troops.

The ordnance stores at each magazine are usually in charge of an ordnance officer, there being a senior ordnance store officer in charge over all. This senior officer is one of the principal administrative assistants of the general in charge of the lines of communication, takes his orders from him, and supervises the custody, transmission, and issue of all military stores.

He must see that the reserves are passed on in time, and should keep an accurate record of all receipts and issues from the commencement of the campaign.

4th. *Echelon.*

AMMUNITION PARKS OR ORDNANCE TRAINS.

This echelon of supply is called by various names, as, ammunition park, second echelon army corps park, ordnance train, and even incorrectly, "ammunition column."

The usual distinction between "ammunition column" and "ammunition park," is, that the ammunition column is protected by the troops it supplies and accompanies, while the park depends for active protection upon a separate guard or escort.

The park is usually divided into sections in order to facilitate the march. In the English army the park has five sections; the first three being for the supply of the three divisions, the fourth for the corps troops, and the fifth for the *cavalry*.

The different kinds of stores are kept together, and the relative position they occupy is based on the principle that those stores come first which will be needed first.

Personnel of the Ammunition Park and Duties.—The men of the ammunition park should be regularly enlisted, and would ordinarily be those who were not strong enough to be in front due to exhaustion or convalescency. These men being accustomed to military discipline will be more efficient and trustworthy than semi-civilian employees. Where more than ordnance stores are present the officer in charge should be an officer of the general staff unconnected with any administrative department.

The ammunition park replaces all deficiencies in the ammunition column. So long as the ammunition column is complete it does not

signify to what extent the park has to suffer; a perfect park is useless unless the columns in front are supplied. The replenishment of the park must come from the rear, and not be secured by the sacrifice of the troops in front.

3d. *Echelon.*

AMMUNITION COLUMNS.

The ammunition column usually marches at the rear of the main body though a part may be with the wagon baggage train. The column contains the ammunition for the artillery, and an extra supply of 44.4 cartridges per rifle for the infantry. It is usually divided into sections, each section in charge of an officer, and an artillery officer in command of all.

These sections would preferably march in column in the order of their regiments or brigades.

Personnel of the Ammunition Column and Duties.—Ordinarily the personnel of the ammunition column should be equivalent to that of two batteries.

Upon halting before battle its commander should at once report its position to the chief of artillery and to the senior infantry commanders.

Issues of ammunition should, as far as possible, be noted in writing, as:

Entry.	*Receipt.*
Issued at..... Time..... Date..... To order of.....Col. A.. ....B..... Two ammunition wagons, complete. N. B.—Received two empty wagons.	Received from Lt. D.....E ..... in charge of 5th division ammunition column two ammunition wagons, complete. (Signed), T. SMITH, *Reg't Ord. Sergt., 18th Inf'y.*

Any system adopted, however, should be of the simplest possible description, not demanding too much clerical labor in the field.

There must never be any delay from the ammunition column in the supply to the front in case of need. It seems almost unnecessary to emphasize this point, but any officer in charge of a unit is apt to think first of the efficiency of his own command, and in this case would neglect the only cause of his existence, which is to make the fighting portion efficient.

After a battle reports should be sent in showing the amount of ammunition required to reëstablish the normal supply.

In the War of 1870–71, when a battle appeared imminent, a telegram was sent to the advanced magazines where the reserve ammunition was stored, to warn the officer in charge to prepare for a convoy.

Immediately the battle was over, with but a general idea of the requirements, a second telegram was sent, on receipt of which the convoy was sent forward.

MANEUVERING OF THE THIRD AND FOURTH ECHELONS.

Position and Management of the Ammunition Parks and Ammunition Columns.—The position and management of the ammunition park and ammunition column depends upon the nature of the operations of the army it is supplying. Four cases arise:

1. The normal position without fear of immediate attack.
2. The unpremeditated action.
3. The offensive action.
4. The defensive action.
   - 4*a*. A defensive position taken up to meet an attack in which it is intended to fight to the last.
   - 4*b*. The rear guard action.

Case 1st. The Normal Position.—The ammunition column is in rear of the main body; the ammunition park is about one day's march, or seven to fifteen miles in rear of the main body. In action the ammunition column would be from 1,100 yards to 1,600 yards in rear of the firing line.

Case 2d. The Unpremeditated Action.—The normal position would be maintained as far as possible, but much must be left to the development of events. It might be advantageous to increase the normal distances in order to be well out of the way of maneuvering troops and not to block the road in case the troops were driven back temporarily.

In a division the rear of the main body is five to six miles* in rear of the advance party. The preliminary stages of the action usually give ample time to make good any lost ground.

Case 3d. The Offensive Action.—In which an enemy in such a position as "4a" is being systematically attacked. An attack presupposes superiority on the part of the assailants, and this will allow the ammunition supply of the troops destined for the attack to be close to them.

* See Plate I.

As the troops in rear move forward the supply of ammunition in the ammunition column must move forward also in order to be near the troops they have to supply, otherwise the distances may become too great.

The army ammunition park should also close up to one-half day's march, but its position will probably be defined by the general commanding.

Case 4th. The Defensive Position.—4*a*. A defensive position taken up to meet an attack in which it is intended to fight to the last.

In this case much can be arranged beforehand. Everything depends upon maintaining a constant controlled fire upon the enemy from the moment that his columns come into sight up to his final attack. It is reasonable to suppose that in a defensive position there will be cover near the fighting line for the ammunition carts. These carts should be near a road to permit of escape in case of retreat.

Troops on the firing line can often be amply and continuously supplied from small temporary magazines.*

Most authorities agree that the reserve ammunition carts should be from 1,100 yards to 1,600 yards in rear of the firing line.

The army park can be advanced to within five or six miles to facilitate the filling of the ammunition carts in front. As the troops are concentrated in front the roads will be quite clear.

If, however, any rear guard position has been selected in case of defeat the ammunition park train should be behind this.

Case 4b. The Rear Guard Action.—In the case of a rear guard menaced by attack all ammunition reserve carts should be with the main body, preferably at its head. If the regimental wagons of the troops of the rear guard have no opportunity during a halt to refill from the reserve wagons (*i. e.*, ammunition column wagons), then some of these wagons should be left behind for the fighting units at some points on the line of retreat. Battles are not money-saving institutions.

In undoubted cases of need every wagon, even to the last one, should be left where it could be made available rather than a single company should run out of ammunition.

The object being to get quickly beyond striking distance of the enemy, all delays should be avoided. Therefore, clear roads are essential and the ammunition park train should be sent as far to

* See BEACH'S Field Eng., page 90.

the rear as possible so that it may not impede the retreat or embar rass the general in command by his having to take precautions fo: its safety.

Depots of reserve ammunition can often be left at known places for the troops of the rear guard.

2d. *Echelon.*

THE REGIMENTAL WAGON TRAIN.

Position of the Ammunition Train Normally.—The regimental ammunition wagon train should *always march* in rear of its regiment.

No battalion or regiment ought ever think of moving or going into action without its ammunition wagons. The drivers of each should belong respectively to the companies to which the wagons may be regarded as assigned to, and they should also mess with their respective companies.

Who Has Charge of the Train.—The entire train, both on the march and in action, is under the charge of a regimental ordnance sergeant who superintends the issue of ammunition and the replenishment of empty wagons. He should be appointed and practiced in his work in time of peace and not detailed for the first time in war.

Position of the Train in Action.—In action the regimental wagons remain as near the line as possible.

Russian Regulations state: 348. "As soon as a serious engagement is foreseen, or as soon as it commences, the commanding officers of the principal units order up the ammunition sections and push them forward as far as the field of battle itself." 349. "As soon as troops are to move forward into action, the contents of the cartridge wagons are to be distributed among the men. The cartridge wagons, after being replenished, are to take a sheltered position as close to their units, and behind them, as possible. In urgent cases the wagons are pushed forward irrespective of losses, to the very verge of the firing line."

GALL, "Modern Tactics": "The immense importance of having a supply within easy distance of the fighting line will justify great risks being incurred in gaining such a position."

1st. *Echelon.*

BY THE SOLDIER.

The burden borne by a soldier is logically divided into two distinct and independent parts:

1st. Those things which relate to securing his health and comfort.

2d. Those which relate to his function as a fighting machine.

The two are correlative and alternate in their importance, bearing much the same relation to each other that information does to security, or tactics to organization.

In battle the second reigns supreme, but at other times the first is of momentous consideration.

If man had the necessary endurance, the question of subsistence and ammunition supplies would be much simplified, for we could estimate the maximum quantity of each required, and let him carry them.

But the physical limitations of man compel us to determine the greatest weight he can carry and not break down, and then apportion the load so that he may maintain the first and fulfill the second. If there are portions still remaining, but absolutely necessary, we must introduce an indispensable evil—the wagon train.

We cannot wisely place upon the soldier the entire armament we should wish him to have in battle, and then fill out his pack to the maximum weight with rations and clothing. For the greater part of his career in the field is spent in strategical and tactical movements, attended with exposure, privation and hardships.

The losses from fever, hunger and want far outweigh those of the battlefield. To prevent these losses is one of the most important questions of the art of war, for as war is the art of being strongest at any given place, that portion of the art of war that keeps the greatest number of men in the ranks is surely not to be despised.

Says General DE BRACK: "It requires more skill to keep men in condition to fight than to conduct the fight."

FREDERICK THE GREAT observed as an axiom that "hunger would subdue a man more thoroughly than the courage of his adversary."

For every thought a general bestows on his enemy he bestows two on his supply system.

This art of being strongest also requires mobility, a qualification of greater importance than formerly. It is evident that as the success of strategy is mainly dependent on accurate calculation of the powers of marching, the most brilliant conceptions and most profound combinations must fail if the troops do not move over the distances calculated on and do not occupy the prescribed positions to each other.*

*See "The Franco-German War"—BORBSTAEDT, p. 157. French defeat due to load of heavy pack.

One of the chief causes that impede the rapid movement of infantry is heavy burdens. In estimating the maximum load and its proportionate divisions we *must* therefore *consider* the two sides of the question simultaneously.

Hence the questions arise:

1st. What number of rounds should a soldier *ordinarily* carry, of necessity regarding his *total* burden?

2d. What number of rounds should he be given upon going into battle?

ESTIMATION OF NUMBER OF ROUNDS ORDINARILY CARRIED, WITH REGARD TO HIS TOTAL BURDEN.

The load carried by soldiers of other armies is:

Austria	62 pounds
France	62 pounds
Russia	65 pounds
England	49 pounds
Germany	56 pounds

Experiments in Germany in September, 1895, show that sixty pounds* is about the maximum weight that a soldier can carry without serious injury.

It was also found that a load which could be carried when the temperature was 60°, over a distance of twenty-five miles, would if carried when the temperature was higher, have a temporary bad effect. Hence we will estimate the load for over 60° Fahrenheit.

We must also make the weight of their pack so low that we may feel reasonably sure that United States soldiers—regulars, volunteers and militiamen—will keep it with them and not throw it away.

This requires judicious selection on our part and education and instruction on theirs. In our service an outfit deemed necessary for field service is as follows:

		Pounds.	*Ounces.*
2 blankets	weight,	10	.....
1 rubber poncho	"	2	12.00
1 half shelter tent	"	2	18.50
1 overcoat	"	6	5.00
1 pair shoes	"	2	6.81
1 cake soap	"	...	3.50
1 pair trousers	"	3	.....
1 shirt	"	1	2.54
1 pair drawers	"	...	14.54
1 pair socks	"	...	3.45
1 towel	"	...	2.40
1 blanket bag	"	2	.....
Total about			32.5 pounds

*Or one-third his weight. Annual Report, 1896, MERRITT, page 4, Document I.

2d.	The haversack, meat can, knife, fork, spoon, 3 days' rations	9.0 pounds
3d.	Rifle, bayonet, field belt, scabbard	12.5 pounds
4th.	Canteen filled and cup	4.5 pounds
5th.	Ammunition, 100 rounds	6.0 pounds
Total		64.5 pounds

This does not include the weight of the clothing on him and incidentals, as pocket knife, pipe, tobacco, money, etc., which would make the total nearer seventy pounds. It is evident that it is out of the question for men bearing such a load to make rapid or long marches. In Europe where the roads are broad and smooth and well shaded, and where for a good part of the year the troops are daily exercised in heavy marching order, in active service marches from fourteen to eighteen miles per day are made. But the speed is slow and when rapid marching becomes necessary the knapsacks are left behind. In war on such occasions they are generally lost.

A soldier can, without further expenditure of force, cover a distance one-third longer than under ordinary conditions when unburdened with a pack.

In the Civil War the troops on both sides were supplied with knapsacks, yet in the second year of the war a knapsack was rarely seen in the field except in the new regiments that had not yet done any marching. The first Confederate troops organized abandoned the knapsacks as soon as they got into the field and began to march, and at no time did they carry the loads as borne by the Union soldiers. During the last years of the war GRANT'S and SHERMAN'S troops marched without any load except the blanket roll, rifle and ammunition.

Other nations have had the same experience. GREENE states: "From the time the movement was well under way (after the fall of Plevna) the men never saw their knapsacks, which remained north of the Balkans till some time after the armistice."

We know that future wars must be of short duration and that the magnitude of the forces that will be brought into the field, as well as the rapidity of movement now indispensable in all military operations, require a smaller pack than ever.

Enough has been cited to show that:

(*a*) The total weight borne must be small.

(*b*) The pack must contain only articles of vital necessity.

(*c*) That if too heavy the soldier will lighten the pack by throwing things away and will not always discard judiciously.

The following pack is suggested:

		Pounds.	Ounces.
1 blanket*	weight,	5	.....
1 poncho rubber	"	2	.....
1 piece shelter tent	"	2	8.00
1 shelter tent pole	"	...	10.00
1 haversack and meat can‡	"	2	.....
1 canteen filled†	"	4	7.00
1 bayonet, scabbard, rifle, sling	"	11	3.00
1 cartridge belt, 50 cartridges	"	3	10.00
3 reserve emergency rations§	"	6	.....
2 expense rations	"	4	.....
2 pair socks, woolen	"	...	9.00
2 pair drawers	"	...	14.54
1 pair shoes	"	1	9.50
1 blue flannel shirt	"	1	3.54
1 pair trousers	"	3	.....
1 blouse	"	1	4.00
1 campaign hat	"	...	4.50
Total weight about			52 pounds

No distinction is made as to whether the weight is carried or worn on him, for it must in either case, be lifted at each step.

It will also be noticed that but fifty cartridges are carried in the belt. This seems to be authorized by the recent and growing change in opinion on this subject.

As before stated when not engaged in battle the soldier's condition as a healthy and hardy animal must be first considered and his destiny as a fighting machine or unit put second.

A battle of any magnitude as between corps (which on a single road occupies a length of fifteen miles) would take one day's march to extend in line of battle. If the service of security and information *has been properly performed* a surprise should be impossible, and therefore ample time is always found in which to fill out the ammunition supply of each soldier to that required in the solution of the most difficult case—the frontal attack acting on the offensive.

*The overcoat has often been dispensed with by using the blanket Indian fashion or as a shawl. This was done occasionally during the Civil War and thus permitted an extra blanket being carried. ISHAM in "Prisoners of War," describes the Army of the Potomac in 1864 taking up its march toward Richmond: "Every man put as little burden upon himself as possible, carrying nothing that he could do without. If one had a preference for a blanket he left behind his overcoat, or if the overcoat was thought indispensable the blanket was thrown out."

†The Preston aluminum field mess kit (see *Army and Navy Journal*, May 23, 1896.) comprises a canteen, meat can, tin cup, knife, fork, and spoon in one canvas-covered compact parcel. Size, 5½x7½x3½ inches. Weight, empty, 3.5 pounds; weight of the articles it displaces about 6 pounds; a gain of 2.5 pounds.

‡Quite a fair entrenching tool can be formed with the knife, bayonet and meat can.

§Home's Precis of Modern Tactics: "*If large* bodies of troops are to be fed in the field, they must carry rations with them and the rations consumed during the day must be replaced by the train during the night, so that the men shall move off the next day with the same number of rations as previously. Soldiers, if they are not to starve, must carry rations."

This reduction to fifty cartridges is simply a separation of the two phases and making each predominate in its own sphere, although the field belt should have capacity for 100 rounds as at present obtains in the United States army.

The Germans have reduced by thirty the number that has heretofore been considered necessary.

MAYNE states: "It cannot be thought of with the present ammunition to make the men always carry the full supply necessary nowadays (100 to 120 rounds at least) if he has also to carry his rifle, knapsack and contents, overcoat, clothing, entrenching tool, bayonet, water and food. The problem to be solved is how to increase the supply of ammunition carried by each soldier of the attacking troops (just before attack) without increasing his load during marches and operations."

If the commander of the soldier takes the offensive, the assumption of the offensive allows a choice of time, usually of beginning action—that is, permits of time to supply the full amount deemed necessary. If the army is obliged to hastily assume the defensive, the stationary character of the fight permits ammunition to be easily supplied. Fifty rounds per man with the great defensive power of the new rifle, would seem, therefore, ample to begin with.

This discussion applies to troops of the main body, not to those of rear guards, advance guards, etc., which should of course have a belt full.

WHAT NUMBER OF ROUNDS SHOULD BE GIVEN THE SOLDIER UPON GOING INTO BATTLE?

Whatever may be decided concerning the number of rounds to be ordinarily carried by the soldier, it is unanimously agreed that the number which can be supplied him should be within his reach and sufficient to enable him to do any work required.

Food may be obtained by requisition, but ammunition cannot. A soldier may be hungry and yet fight, but a soldier without ammunition is helpless and useless.

BASIS OF COMPUTATION FOR OBTAINING THE MAXIMUM NUMBER OF ROUNDS PER RIFLE REQUIRED UPON GOING INTO BATTLE.

1. The estimate must not be for the average, but for the maximum expenditure in one day.

2. The number must be deduced theoretically, founded on sound principles. The conditions of modern wars due to the change in

fire tactics and armament are so different that the experiences of past wars are of little help.*

3. The number fired must be within the limit of physical endurance of the soldier.

4. The possibility of the troops being engaged for several consecutive days must be considered.

5. Secondary causes which affect the expenditure of ammunition.

(*a*) Lack of due artillery preparation, which compels long-range firing.

(*b*) Lack of fire discipline, which causes waste at all ranges.†

(*c*) Nature of the fire tactics employed.

THEORETICAL ESTIMATION OF THE MAXIMUM NUMBER OF ROUNDS.

Whether the force be a brigade, division or corps, the battalion is the tactical unit. Therefore the battalion is the unit which we must study to supply with sufficient ammunition to enable it to accomplish its purpose.

*A regiment may be formed for attack in two or three lines, according to the nature of the attack and the front to be occupied.

If formed in two lines the first line consists of two battalions and the second of one. If formed in three lines each line consists of one battalion. Three lines may be considered as the normal formation of a regiment.

Just before entering the first zone of artillery fire (3,000 yards) the regiment is formed front into line in three lines.‡ The object of the second line is principally for shock action or to carry the first line to final assault which it joins during rapid fire action. This reënforcement may not be necessary if the reserves of the first line are sufficient.

If fire be opened beyond 1,000 yards from the objective it will be under peculiar circumstances and need not be considered.

*"To most questions which may be asked on any military subject we can turn for an answer to the experiences of many wars for some analogous case; from these correct deductions may be formed, provided we can judge which side is supported by the weight of evidence, and also see clearly the local circumstances causing success or failure. In the present case we have little or no experience in war to refer to, since fire discipline, ammunition columns and parks as at present constituted are altogether new inventions, called into existence to meet the difficulty of supplying troops expending nowadays enormous quantities of ammunition."

†Company officers by explaining and training their men thoroughly in fire discipline and the estimation of distances can do much to help solve the ammunition question. An unlimited supply of ammunition is not the entire problem.

‡See Organization and Tactics, pages 127 and 132.

Such fire will no doubt be "fire of position" and does not concern the consumption of ammunition by the firing line.

By "fire of position" is meant long range fire (1,500 to 1,000 yards) executed by stationary troops abundantly supplied with ammunition for the purpose of facilitating the advance of the troops of the assault.

Beyond 1,500 yards no infantry fire should be used—this should be left to the artillery.

It should be the object of the assailants to reach as rapidly as possible a position from which really efficacious fire can be opened.

The objections to firing beyond 1,000 yards are:

1. Difficulty of estimating the range.
2. Limitation of vision.
3. Results not commensurate with the amount of ammunition expended.

If the value of fire be taken as unity at 500 yards in order to produce the same effect at 1,200 yards, ten times as much ammunition and at 1,700 yards thirty times as much ammunition must be used.

To meet any possibility of firing being unavoidable between 1,000 yards and 1,500 yards, it is recommended to give these troops destined for the attack (the first line) two belts of 100 rounds each in addition to the fifty rounds they ordinarily carry.

From 1,000 yards to 600 yards the advance may be taken at 40 yards per minute, or 1.3 miles per hour.* This advance of 400 yards will therefore take ten minutes; allowing two shots per minute, twenty rounds will be expended.

From 600 yards to 200 yards the advance will have to be by rushes† of say thirty yards each or $400 \div 30 = 13$ halts. If they halt one minute and at the end of each rush fire three shots they will consume thirty-nine rounds. The pauses should be short so as to give the attack all the vigor and dash possible, and to avoid losses, which are the greatest at the halts. An average length of about one minute permits the sights to be adjusted to the range and three shots fired with deliberation.

*This may be criticised on the ground that troops might not be able to make any such theoretical rapid advance; the objection in fact does exist, but it may be said that when a serious attack is intended it should be carried out in the shortest time possible and with the greatest determination, for a long drawn out, hesitating attack is fatal to the offensive spirit and to victory. Clearness of design and energy of execution are essential to success.

†"In order that the fire may proceed uninterruptedly during the rushes, it would seem, owing to the manner in which men hold their pieces, that the best method would generally be to advance the right echelon first, and then bring the left up to the same line."

In addition we must allow for the number required for rapid fire, say forty rounds, and twenty more to finish the victory or cover the defeat, making a total of 119 rounds, or allowing for cartridges dropped, 125.

The second and third lines would not require this amount, but to be on the safe side we will assume 200 rounds to be supplied to all alike, and this will permit the ammunition of the firing line to be somewhat replenished by these extra cartridges.

This amount is computed for an extreme case, the frontal attack, which would not be used if there is any other plan possible. MAYNE: "A frontal attack against a well-posted, disciplined and unshaken enemy is almost impossible.* Flank attacks are now the principal means of offense and the front attack is an auxiliary movement, intended to hold the enemy while the other is in progress.

PHYSICAL ENDURANCE.

The fact that the physical endurance of the soldier has a limit need hardly be stated. Anyone who has fired 100 rounds in a morning's shooting knows that shooting is hard work.

Cases are mentioned in which even sixty rounds, fired in succession, caused some of the men to be disabled. Two hundred rounds seems, therefore, to reach the limit of physical endurance.

THE POSSIBILITY OF TROOPS BEING ENGAGED FOR SEVERAL DAYS.

To provide for the possibility of more than one day's action, this number 200, is habitually increased by having reserve ammunition in accessible echelons in rear.

NUMBER OF CARTRIDGES CARRIED IN EACH ECHELON AND NUMBER OF WAGONS REQUIRED.

The regiment consists of 1,200 men, three battalions, 400 men each. Each soldier ordinarily carries fifty cartridges. The regimental wagons should have 200 rounds per rifle, a total of 240,000 per regiment, 20,000 per company. Twenty thousand cartridges weigh 1,200 pounds. A four-horse team can haul 3,000 pounds; hence the regimental train is composed of six double company four-horse wagons, carrying 40,000 rounds each.

AMMUNITION WAGONS.

Each ammunition wagon is composed of two parts, the limber and body, joined by an eye at the extremity of the pole of the body, which fits on to a spring hook on the limber.

*VON DER GOLTZ, Conduct of War, p. 187.

A two-wheel vehicle or cart has been adopted by many European nations for the transportation of small arm ammunition, on account of being more easily managed on the battlefield.

On the other hand, in the column of march, a wagon is less troublesome than a cart, and will, for the same number of animals, transport much more ammunition. The type wagon herein described meets *both* requirements, for a cart is obtained by unlimbering.*

Each wagon has three chests, one on the limber and two on the caisson body. These chests are not permanently fixed, but have on their under side appliances for attaching them to the wagon frame. *All chests are interchangeable.*

All ammunition wagons are distinctly marked so that they may be recognized as such at a distance. Each double company wagon will be accompanied by two men, one from each company. They may alternate as driver and assistant.

Cartridges, How Packed.—The cartridges should be put up in strong, coarse, cotton belts, holding 100 rounds each.* This style of packing to be used primarily in war service, but troops should be made familiar with this form during peace.

Ammunition Boxes.†—Ammunition packing boxes should have a top fastened with a single thumb screw, wedge, or wire loop, etc. They should fulfill the following conditions:

1. The weight and shape of the package should be such as to admit of ready handling by one man.

2. No tool or instrument other than those which every soldier carries should be necessary to easily and quickly open the case.

3. The material of which the package is made should be such as would assure the integrity of the contents under all conditions of transportation, storage and handling.

4. Ammunition boxes for infantry should be stained a light blue, for cavalry a light yellow, if the cartridges for the two arms are different.

With our present packing cases it would be highly advantageous in case of war or active service to *remove the screws* before packing them in transportation wagons. Also, as any extra ammunition beyond what the belt will hold will probably be carried or distributed in the paper boxes, their color should be a *brilliant red* instead of the present brown.

*See Plate III.
†See Plate II.

They could then be easily seen if dropped. If a sack or bag is used, that should also be red.

AMOUNT CARRIED IN THE OTHER ECHELONS.

The amount carried in the other echelons is variable. Other nations give as examples:

	On Soldier.	Reg't Carts.	Amm. Column.	Amm. Park.	Total
France	120	65	69	49	303
Germany	120	70	80	20	300
England	76–100	40	40	30	210
United States (per essay)	50	200	44.4†	88.8	383.2

From comparison and modern exigency it is recommended that the ammunition column should supply 44.4 rounds per rifle, based on the following organizations: Three regiments one brigade, three brigades one division, or nine regiments, equals 10,800 men; $10{,}800 \times 44.4 = 480{,}000$ approximately; $480{,}000 \div 40{,}000 = 12$ wagons, which are of the same pattern and capacity as the regimental wagons.

An ammunition column of twelve wagons is easily divided into sections, each brigade getting four wagons, a regiment one wagon, with one wagon per brigade extra to be sent to any part where firing is the thickest.

The ammunition carried in the ammunition column, it should be noted, is available for battle. Hence, total, 294.4†

AMMUNITION PARK OR ORDNANCE TRAIN.

As previously enunciated, provision is usually made for a replenishment of ammunition for a fight of more than two consecutive days. This is partly, but not wholly or reliably secured from the fact that all troops do not consume the amount allotted to them. Exact preparation is made for this emergency by establishing an ammunition park. As this park is about one day's march in rear, the supply it carries is not ordinarily available for the first day's fight. It may be laid down as an axiom that troops must not run out of ammunition. The ammunition park should therefore contain about 88.8 additional rounds per rifle, and this will require, per division, twenty-four wagons. The ammunition column and park would also have revolver ammunition.

† See Annual Report, MERRITT; Document I, p. 4.

With regard to the mode of conveying the ammunition, whether on wheels or on pack animals, it is a question to be decided by common sense and the nature of the roads. If the roads are good enough, wagons are a saving of horses, attendants and food, as a two-horse cart carries at least as much as eight pack animals. If the roads are bad and carts or wagons cannot travel, pack animals must be used.

CAVALRY CARBINE AMMUNITION.

The great mobility of the cavalry makes it difficult to prescribe the position of its first echelon.

In general the actions in which cavalry would be engaged are:

1. Screening and reconnoitering fights.
2. Flank fights.
3. Pursuit and rear guard fights.

Just before the beginning of a battle the cavalry would probably be in front, and after the battle began would retire to the flanks.

To supply this very mobile arm while in action is almost hopeless. The wagons containing carbine reserve ammunition will remain in rear near whatever flank the cavalry may be acting.

The cavalry will of necessity have to find its ammunition wagons. Each trooper when on active duty should be plentifully provided with ammunition, a fair estimate being 200 rounds per carbine.

The great importance of having the rifle and carbine cartridges of the same pattern can be readily seen, as it permits cavalry to replenish from any infantry reserve wagons. *One cartridge for all arms* should be the rule.

REPLENISHMENT OF AMMUNITION.

There are two ways in which troops destined for the attack can be supplied with these 200 rounds of extra cartridges:

1st. Make the men themselves carry the needed supply of 200 rounds into action, this amount being distributed before deploying.

2d. Distribute 100 rounds before deploying into battle formation (3,000 yards) and supply the remainder by carts or carriers during the action.

DRAGOMIROV: "During the war of 1877 neither the regimental carts nor the flying packs could be depended upon to replenish

rapidly the ammunition carried by the men, and in consequence from ninety to one hundred rounds were served out before an action."

MAYNE: "The difficulty of supply after the fight has commenced makes it important to issue extra cartridges to the men before it begins. The infantry, which comes first into action, cannot perform the duty required of it with the ninety rounds which they carry in our service, and it will be almost impossible to supply them with any larger quantity, at least over open ground. The best method of all for insuring to a soldier a sufficient supply of ammunition for the fight is to give him from the first the full supply considered necessary and maintain the strictest fire discipline, not to let him waste a round of it."

HOHENLOHE: "If a skirmish line runs out of cartridges their supply is impossible. Men as carriers will not do. Suppose a man with the necessary courage and good fortune should reach the firing line with a bag containing 500 rounds (thirty pounds), what will 500 cartridges matter to a company? It is but three rounds per man; and how, pray, will you distribute it to them?"

Russian Regulations: "If ammunition cannot be brought up during an action the troops may call upon their supports in rear and these in turn upon the reserves."

The only troops in rear who have extra ammunition are those of the second line. The supports and reserves, broadly speaking, are a part of the fighting line, and have none to spare. The supports and reserves must also remain in rear in order to maintain their tactical object. It would seem the method of supply by carts during attack is only applicable to cases wherein the battle lasts several days and the ammunition can be supplied under cover of darkness.

FRENCH: "The only certain supply on which the combatants may depend are the rounds carried on the persons. To empty the wagons before the fight must be the invariable rule. Any other method of supply which compels men and wagons to cross a fire-swept zone for the mere purpose of transporting ammunition, is impracticable, cannot be relied upon. Assistance dependent on so many accidents cannot be relied upon."

Quotations might be multiplied to show that no reliance can be placed on any schemes for supplying troops with ammunition during the final stages of an attack.

The regiment, therefore, is formed front into line, in three lines at 3,000 yards, and the ammunition wagons give every two men

three belts, or every man of the first line two belts of 100 cartridges each. These belts can be tied about the waist or the ends united, and the belt slung over the shoulder. No ammunition should be carried in the knapsacks. Soldiers abandon their knapsacks on a march at their first opportunity, and many authorities consider it necessary just before assault, in order to enable an energetic attack to be carried out, to have the men relieved of their knapsacks, especially after a long march.

Every question in war should be considered in the aspect of what men can do when fatigued. As before stated, no regiment ought ever to think of moving or going into action without its ammunition wagons.

RESUME.

These observations and propositions can be formulated as follows:

1. The division of a soldier's kit into two parts, the one that is necessary for combat, the other that is necessary for food, shelter and clothing.

2. The reduction of the burden borne by the soldier to those articles absolutely required, and which he will not throw away.

3. The definite adoption of a pattern battalion ammunition wagon.

4. The necessity of appointing during time of peace a regimental ordnance sergeant, for ammunition duties, as also that of selecting the conductors of the wagons exclusively from the ranks of the battalion to which they are attached, and of exercising them during peace in their special duties.

5. The position of the battalion wagons during action to be indicated by a signal placed on a flank.

6. Constant communications to exist between commandants of battalions, regiments and all echelons of supply by means of mounted orderlies.

7. The best method of all for ensuring to a soldier a sufficient supply of ammunition, is to give him from the beginning of the fight the full supply considered necessary, and to maintain the strictest fire discipline not to let him waste a round of it.

8. The establishment in the case of defensive action of depots of ammunition in rear of the firing line.

9. In the replenishment of empty wagons those of the echelon in rear go forward as required and exchange either vehicles or chests, but not drivers.

10. The adoption of a better ammunition case and a coarse belt for packing cartridges in the original, thus dispensing with the valuable time now required to transfer cartridges from the paper boxes to the field belt, and as especially forming a convenient vehicle for cartridges beyond what the field belt will hold.

11. One cartridge for all arms.

12. That the echelons of supply of ammunition would properly be: (1) By the soldier, (2) by a regimental wagon train, (3) by an ammunition column, (4) by an ammunition park or ordnance train, (5) by magazines.

13. The position of the echelons of supply will depend upon the nature of the operations of the troops they are supplying.

14. The establishment during peace of some definite and clear principles of organization; details however important quickly arrange themselves, if the framework is based on sound principles.

PLATE I.

March of a Division.

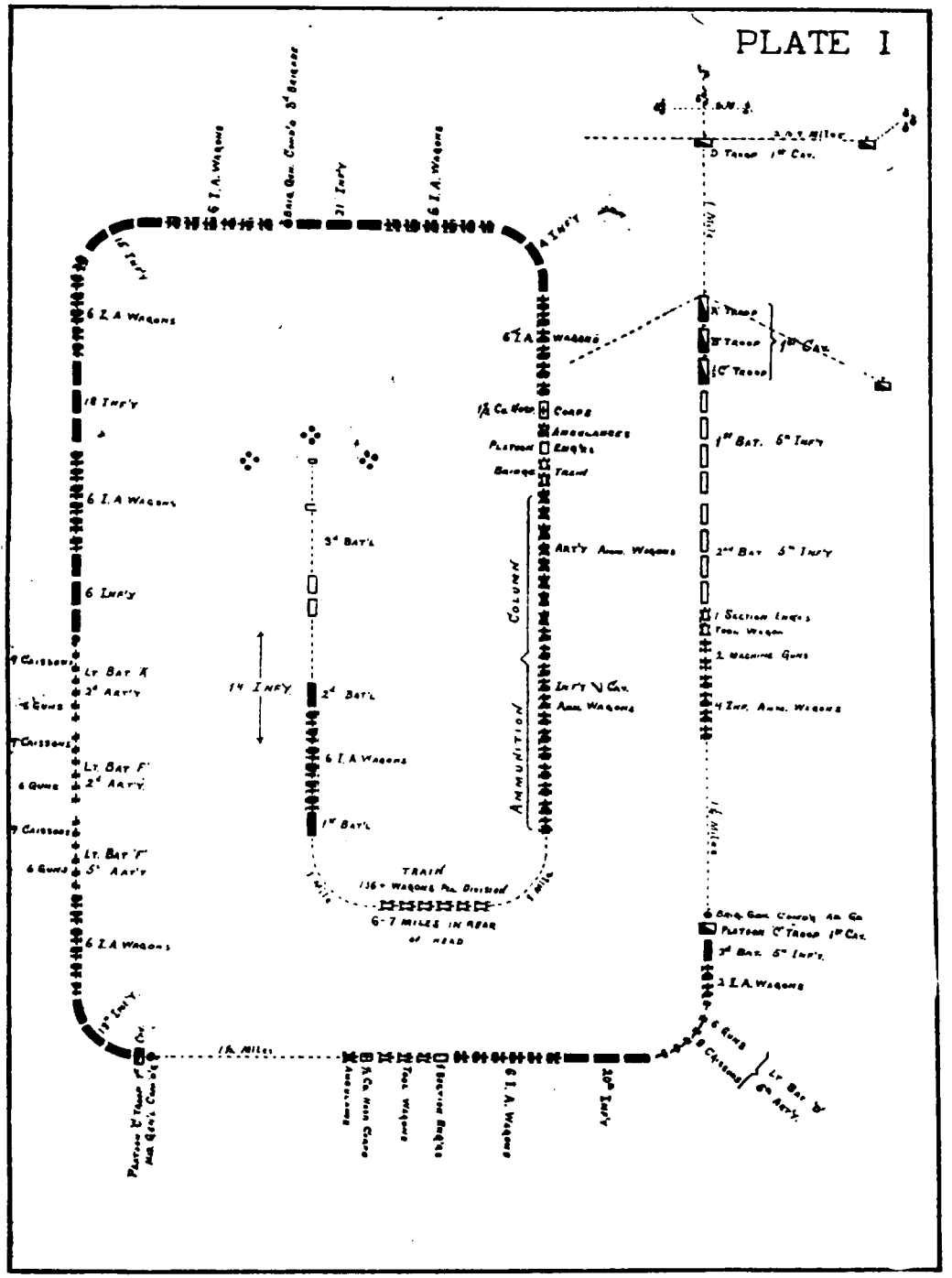
This plate shows the relative position of the infantry ammunition wagons to the units they supply. The fundamental principle for the relative position of the different elements is that those supplies and troops come first which will be needed first and in the order of their relative importance; also, that all regiments of infantry are immediately followed by their regimental ammunition wagons (page 6).

"Organization and Tactics" states that forty two rounds per gun of each battery are carried in the ammunition column. For a division this extra supply would require eight (8) wagons.

It may be noticed that the ammunition wagons of the infantry troops in the support are separated from their battalions by tool wagons and machine guns. In the case of an advance guard (page 11, line 32) the men have their field belts full ready for action and the near presence of their wagons is not so important as the good position of the machine guns.

In the main body the men habitually carry a smaller amount of ammunition (page 10), and a further supply must be immediately at hand. If troops must march where their wagons cannot also go, the soldiers of the main body should be given a full supply from their wagons or pack animals used (page 16).

PLATE I



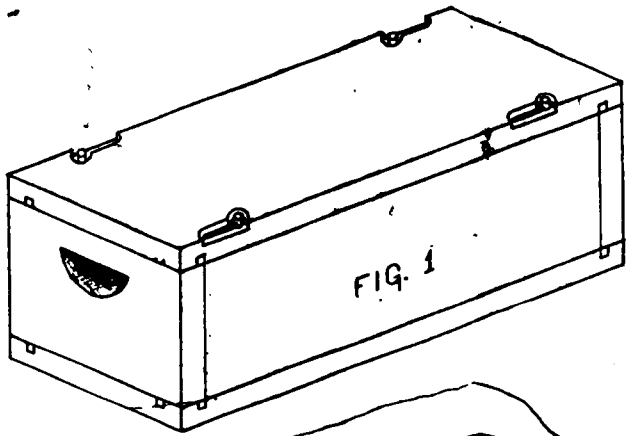


FIG. 1

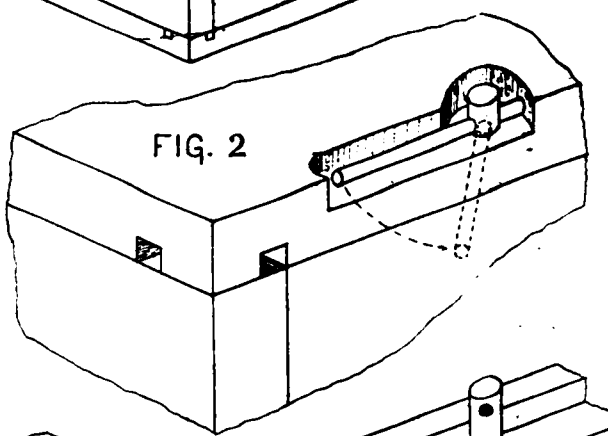


FIG. 2

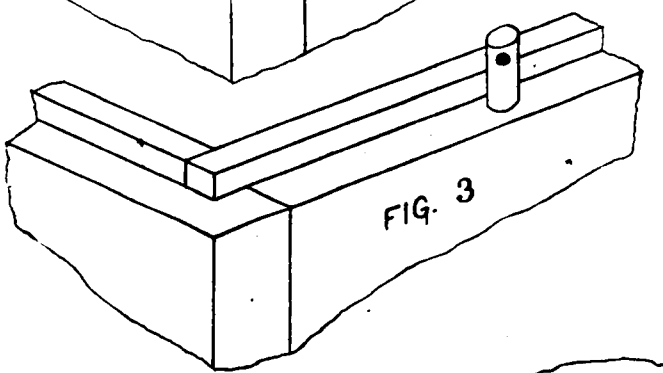


FIG. 3

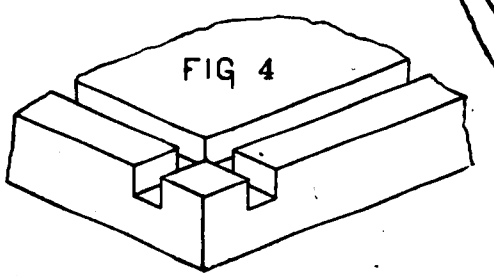


FIG 4

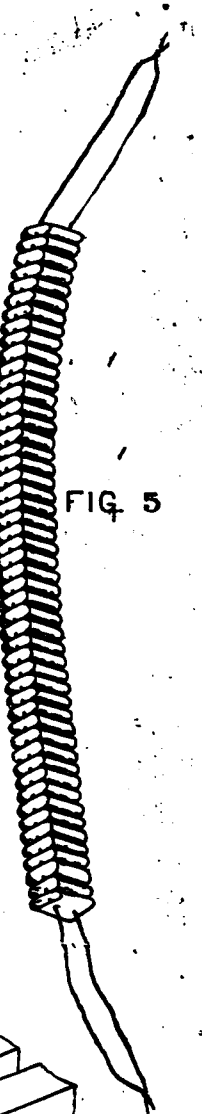


FIG. 5

PLATE II.

Ammunition Packing Box and Battle-Issue Cartridge Belt.

Figure 1 shows the general appearance of the proposed ammunition packing box; capacity, 1,000 cartridges; weight, about 8 lbs.; inside measurement, 6.25 x 6 x 25 inches. A finger notch on each end of the case furnishes a means of raising the case from the ground.

Figure 2 shows in detail the device recommended (after a trial of thumb-screws, wire loops, spring catches, etc.) for securing the cover to the box, and yet permitting the cover to be quickly opened in the field by such tools as a soldier will have. This fastening is strong, permits of sealing and allows the boxes to "stack" besides possessing simplicity and rapidity of manipulation. A thumb-screw requires more time to operate and projects above the surface of the box.

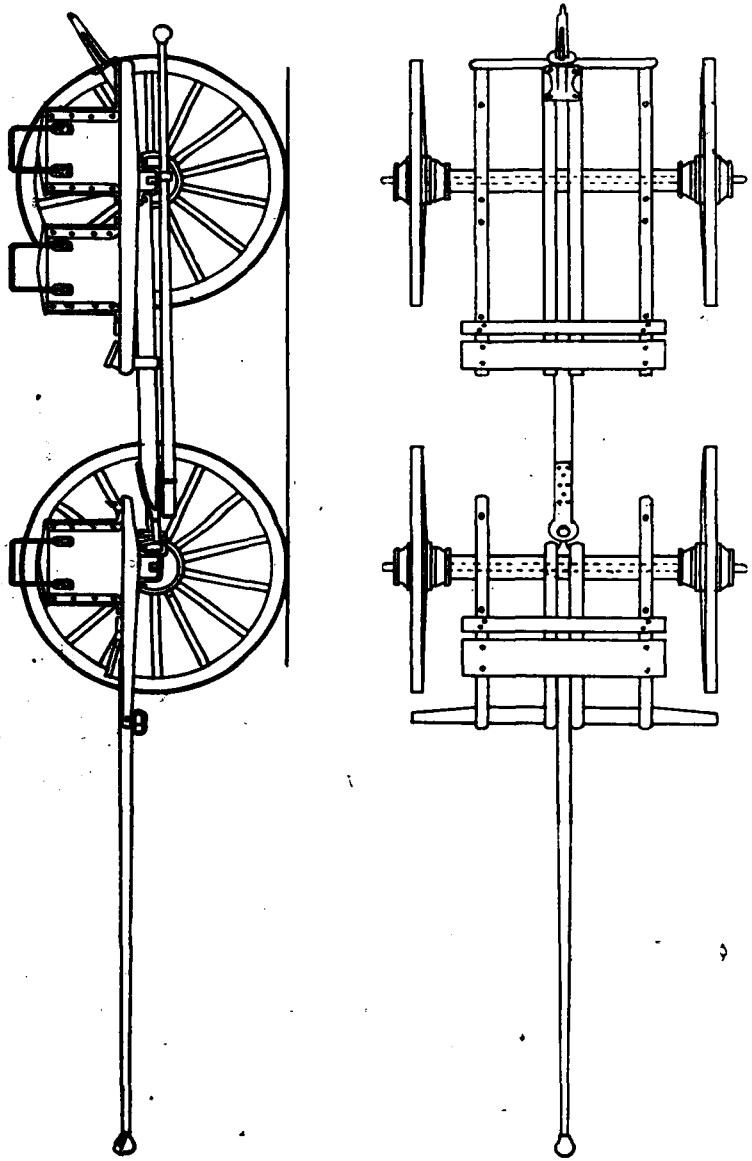
Figure 3 shows in detail the method of making the case. A case so made is water tight throughout and not more difficult to manufacture than the present box.

Figure 4. Detail of inner surface of the cover of the case.

Figure 5. The proposed battle-issue cartridge belt. It is formed of fifty short paper cylinders threaded on two strings as shown. By sliding the paper cylinders along the strings the belt can be subdivided, or this belt form of carrier can be made in blocks of twenty cartridges each, in which case by tying together the free ends of the projecting strings a belt carrying any desired number of cartridges may be formed. This belt is cheap and very strong. Cartridges can be packed in ammunition packing cases almost if not quite as compact as if they were loose. The belt can be tied about the waist or the ends of one or two belts united and thrown over the shoulder, giving a secure and portable supply of 100 to 200 rounds.

After considerable experimenting the sample attached is regarded as the most suitable material out of which to manufacture these paper cylinders. It is a stout wrapping paper mounted on cheese cloth, the paper giving the necessary stiffness and the cloth the tenacity and resistance to moisture and fraying. It is contemplated that these belts can be thrown away when emptied, as are the Frankford paper boxes whose place they take. One belt replaces five paper boxes and can therefore cost five times what a paper box costs without making any greater expense to the government in using this system.

PLATE III.



AMMUNITION WAGON

PLATE III.

Ammunition Wagon.

This plate gives a plan and elevation of the ammunition wagon outlined on page 160. It is really two carts, one carrying one chest and the other two chests, or both together forming the familiar American caisson and limber. The caisson is so made that a pole can be locked between the two forks and another cart or limber formed much like the limber proper. This permits either half of the ammunition wagon to be saved in retreat, or used in action directly.

It is believed that the most suitable place for the use of ammunition packing boxes is during the shipment of cartridges from the arsenals to the magazines, or from magazines to the front, when transported in ordinary wagons. The packing case is here indispensable. But in transporting cartridges in the ammunition wagons the packing cases cease to be useful, as the wagon chests are stout and waterproof. Therefore it would be advisable in filling the chests of the ammunition wagons to remove the filled battle-issue belts from the packing boxes and place them directly in the chests. An ammunition wagon so loaded can easily carry the 40,000 rounds proposed above.

A distinct type of ammunition wagon possesses these advantages over an ordinary wagon for transporting ammunition:

1. It can always be recognized as such by its color and shape.
2. It is more compact; an ammunition wagon can accommodate 40,000 cartridges with room to spare.
3. Economy of weight and expense. The ammunition boxes having been discarded, there is less weight to transport. If the ammunition wagons are loaded at an arsenal or magazine, the empty boxes can be returned to the manufacturing arsenal for further use. When carried in an ordinary wagon into the field the boxes would probably be lost.
4. Rapidity in issuing an extra supply to the troops.
5. Greater mobility in following troops over broken ground. An ammunition wagon can be divided into two carts, thus moving its load in sections, which could only be accomplished in an ordinary wagon by unloading. Likewise greater ease of turning about on a narrow road.
6. A supply of 40,000 rounds is 600 pounds under the weight of load the animals can pull. This margin may be used to carry forage or as a factor of safety.

BIBLIOGRAPHICAL NOTE.

In the preparation of this essay the following works and articles were consulted and are largely quoted:

WORKS.

Letters on Infantry (HOHENLOHE).
Infantry Fire (MAYNE).
Infantry Fire (BACHELOR).
Organization and Tactics (WAGNER).
Precis of Modern Tactics (HOME).
The Art of Subsisting Armies in War (SHARPE).
Lines of Communication in War (FURSE).
Modern Tactics (GALL).
Elements of Military Science (PETTIT).
Reflections on the Art of War (HART).
Security and Information (WAGNER).
Infantry Drill Regulations (U. S.).
Artillery Drill Regulations (U. S.).
Elements of Modern Tactics (SHAW).
Official Records of the War of the Rebellion.
War (CLAUSEWITZ).
Field Engineering (BEACH).
Notes on Military Science (CALIFF).
Military Hygiene (WOODHULL).
Prisoners of War and Military Prisons (ISHAM).
U. S. A. Subsistence Manual (1896).

ARTICLES.

Ammunition Packing Boxes (PENN).
Outlines of Modern Tactics (GUNTER).
Ordnance Notes, Vol. VII, (U. S.).
Ammunition Columns and Parks (CADELL).
Russian Fire Regulations.
German Fire Regulations.
Supply of Ammunition to the Firing Line (DUNCAN).
Supply of Small-Arm Ammunition to Troops in the Field (CRAIGIE).
Transport of Troops and Supplies (HOLABIRD).
The Knapsack and the Army Shoe (DOUGHERTY).

THE HAWAIIAN ISLANDS.

BY SECOND LIEUTENANT J. H. REEVES, SIXTH CAVALRY.

THIS article is of necessity entirely a compilation, and no originality is claimed for it. Much trouble was experienced in getting literature that could be at all depended upon. The publications of the Military Information Division were not to be had from that bureau, the War Department library, or the post library. Finally, after some weeks of correspondence and more than a month of waiting, some Congressional Records and President's messages were obtained from the War Department library. Through the courtesy of the Hawaiian legation in this country I was furnished with some eight or ten pamphlets, bearing more or less upon the subject. To two of these pamphlets I wish to acknowledge special indebtedness, viz: "Hawaiian Handbook," issued by the Bureau of American Republics, and "A Handbook on the Annexation of Hawaii," by Mr. L. A. THURSTON. I have also freely used the War Department library, Congressional Document No. 3180.

This article does not purport to advance any argument for or against the annexation of Hawaii. The desire is merely to give a succinct account of the islands, their people, their resources, and of the relations of the United States with them.

An apology for the length of this paper would not seem entirely out of place; but when the ground attempted to be covered in this one paper is remembered, together with the vital interest felt in this subject by the American people, I trust that the length may not be considered extreme.

General Orders No. 18, Department of the Platte, October 14, 1896, says: "Matters with which officers are kept familiar by constant practice, should be taken up only, if at all, by way of review; and in any event ought not to occupy time to the exclusion of subjects, such as field engineering, military topography, minor tactics

and military history, which seem to require greater attention." And again: "The proper commanding officers will assign, after consulting his preference, to each line officer under their immediate command a suitable professional subject." While the subject chosen for this article might not considered strictly professional, in that the military service nor its interests come up for discussion, still as a matter of military history (that has not influenced us in the past, but may greatly in the near future) I trust this subject may not be considered outside the limit allowable for essays. Then again, I do not believe in the narrowness of the views held by most military men in days gone by and even now held by quite a percentage—that is, that they should know nothing but of their sword, of their war-horse and the use of them. In fact, that view may be said to have passed away as far as English speaking people were concerned with WARWICK, the "Last of the Barons," and since that day it has been held that a military man should be well informed on all the questions of the day in any way affecting the policy or the welfare of the government of his country.

Especially may this be held to be true of those questions of so vital importance as the acquisition of outlying territory, when the policy of his country has always been against rather than in favor of conquest.

It is now proposed to consider this subject briefly under the following sub heads, viz: Historical sketch, area, topography, climate and population, resources, agricultural and commercial, commercial and naval importance, relations with the United States, including a side glance at certain annexation questions.

HISTORICAL SKETCH.

The Hawaiian Islands may be considered as consisting of only eight islands—the rest being mere rocks—and comprising an area of about 6,740 square miles, or nearly equal to that of New Jersey. These islands are situated between longitude 154° 40′ and 160° 30′ west from Greenwich, and latitude 18° 55′ and 22° 16′ north, and run from northwest to southeast, a distance of 380 miles. They are thus just within the tropics. (See Map A.)

The position will thus be seen to be a central one in the North Pacific, 2,089 nautical miles southwest of San Francisco; 4,640 from Panama; 3,800 from Auckland, New Zealand; 4,950 from Hongkong and 3,440 from Yokohama—a location of great importance from both a military and commercial view, as we shall see later on.

They are separated from each other by channels, as follows:

Oahu and Molokai	23 miles
Molokai and Lanai	8 "
Molokai and Maui	8 "
Maui and Lanai	8 "
Maui and Kahoolawe	6 "
Hawaii and Maui	26 "
Kauai and Oahu	61 "
Niihau and Kauai	15 "

The name by which these islands was first known was The Sandwich Islands, a name given them by their discoverer, Captain COOK, in honor of his patron, the Earl of Sandwich, then First Lord of the Admirality.

It is claimed that they were first sighted by a Spanish navigator as early as 1555 A. D., but the first real visit to the islands was by Captain COOK on the 18th of January, 1778—the same year that saw France come to the aid of the American colonies, struggling for independence from England.

On the 18th of January Captain COOK discovered Oahu and Kauai; the next day he landed at Waimea (Oahu); he finally sailed for Alaska. Returning the following winter, he landed again at the Hawaiian Islands on January 17, 1779, just one year after his first sighting of them. He stayed around for some time, but became involved with the natives, and was killed February 14, 1779.

Neither he nor his crew seem to have made any effort to lay claim to the islands in behalf of the Crown of England, based on the right of discovery. Nor does England herself, always on the lookout for new territory, seem to have laid any claim to the islands at this time, nor at any other time, based upon COOK's discovery.

For seven years after COOK's death no foreign vessel was again seen in the waters of these islands. From after that time, however, vessels engaged in the fur trade on the northwest coast of North America called at these islands for supplies, or ran down there to spend the winter, selling firearms, etc., to the natives.

Captain VANCOUVER, engaged in surveying the northwest coast of North America, visited the islands three times between 1792 and 1794. He refused to sell the natives firearms, but gave them their first cattle, and furnished them also with useful seed.

On the 25th of February, 1794, the Island of Hawaii, alone, was voluntarily placed under the protection of Great Britain by the chiefs of that island, and the British flag was hoisted at Kealakekua. This protection given by the British flag seems to have been done for the benefit of, or through the supposed protection given by

the two English merchantmen then in port. They were mixed up in the civil war then prevailing, and no notice by the home government seems to have been taken of this action.

At the time of discovery by Captain COOK, and for many generations previous, the governments of the different islands, and even parts of the same island, were in the hands of petty kings and chiefs who held title to all the lands by a sort of feudalism. But towards the close of the last century the whole group came under the sway of one ruler, KAMEHAMEHA, who, by force of arms brought all his rivals into subjection. He was not only a mighty warrior, but a man of great administrative ability, and was quick to avail himself of the white man's instruments and methods of warfare. While he possessed many of the faults of his race, he was both morally and mentally superior to his predecessors, and he did a great work for his people in putting an end to the petty wars which had hitherto prevailed, in consolidating the kingdom and founding a dynasty.

The decrease in population during this period of civil war and discord was very rapid—due partly to the wars, but still more to the diseases and vices introduced by the foreigners. Before 1800 they had learned the art of distilling liquor, and drunkenness became very prevalent. In 1804 a pestilence, supposed to have been cholera, carried off half of the inhabitants of Oahu.

In 1815 a Dr. SCHEFFER was sent to the islands by the Russian governor of Alaska. He built a fort at Waimea, on which the Russian colors were displayed, and urged the chief on that island to place himself under the protection of Russia. KAMEHAMEHA sent a force to build a fort at Honolulu, and ordered the chief of Oahu to expel Dr. SCHEFFER, which was done. This king, the first of the famous dynasty bearing his name, died May 8, 1819. His work was done. He had consolidated the group under a strong government, put an end to feudal anarchy and petty wars, and thus prepared the way for civilization and Christianity.

His son succeeded him, and this reign is especially worthy of mention from the fact that during the first year of his reign the first missionaries (they were from Boston) landed in the Hawaiian Islands; and here it may be remarked, from these missionaries have come the predominating influences of the white man (United States) as it exists in those islands to-day. These missionaries landed April 4, 1820. They found the Hawaiians an amiable and highly receptive race, eager for knowledge, and easily influenced for good or evil.

This king and his queen both died while on a visit to England in 1825.

His younger brother succeeded him as KAMEHAMEHA III. In the next year, 1826, Commodore JONES, of the United States navy, visited the islands and concluded the first treaty between the United States and the Hawaiian Islands, which was the first treaty made by the islands with any foreign power, and antedates the first one with England by ten years. This treaty grants to each of the contracting parties all privileges granted by either of them to the most favored nations.

Now began a series of persecution for missionaries and native converts. These persecutions seem to have been confined to missionaries from foreign nations other than the United States, principally the French. The declaration of rights and the King's edict of toleration were finally issued in June, 1839, after three years or more of persecution, but the mischief had been done and retribution was already upon them, for the French frigate "Artemise" arrived July 9, 1839. Captain LAPLACE immediately sent the government a peremptory letter demanding that full religious liberty be proclaimed, and that the sum of $20,000 be brought on board by noon of the 12th, or hostilities would commence. The required treaty was signed and the money promptly paid, and on the 17th a commercial convention with France was also signed.

The declaration of rights, mentioned above, which guaranteed religious liberty, produced a feeling of security unknown before, and formed the first step toward establishing individual property in land. The first constitution was proclaimed on October 8, 1840. It constituted a Legislature, consisting of a house of hereditary nobles, and representatives to be chosen by the people, who voted as a separate house. It also defined the duties of the governors, and provided for a supreme court.

In 1842 the French corvette "Embuscade" was sent out to investigate complaints of the violation of the Laplace Convention. The King giving a courteous reply to Captain MALLET'S demands the matter was passed over.

In July, 1842, an embassy was dispatched to the United States to submit the application of the Hawaiian government for recognition by the United States.

In replying to this application, DANIEL WEBSTER wrote on December 19, 1842, as follows: "The President is of the opinion that the interests of all commercial nations require that that government (Hawaii) shall not be interfered with by foreign powers.

* * The United States, * * is more interested in the fate of the islands and their government than any other nation can be, and this consideration induces the President to be quite willing to declare, as the sense of the government of the United States, that the government of the Sandwich Islands ought to be respected; that no power ought either to take possession of the islands as a conquest or for the purpose of colonization, and that no power ought to seek for any undue control over the existing government or any exclusive privileges or preferences in matters of commerce."

On December 31, 1842, President TYLER sent a special message to the Senate, relating to the Hawaiian Islands, in which he said: "It cannot but be in conformity with the interests and wishes of the government and the people of the United States that this community * * should be respected, and all its rights strictly and conscientiously regarded. * * Far remote from the dominions of European powers, its growth and prosperity as an independent state may yet be in a high degree useful to all whose trade is extended to those regions, while its near approach to this continent, and the intercourse which American vessels have with it (such vessels constituting five-sixths of all which annually visit it) could not but create dissatisfaction on the part of the United States at any attempt by any other power, should such attempt be threatened or feared, to take possession of the islands, colonize them, and subvert the native government." These words were written by Mr. WEBSTER and President TYLER before our possessions were extended to the coast.

The sending of this embassy to the United States, coupled with the courteous reply given Captain MALLET, soon caused them fresh trouble. For, about the year 1842, Great Britain, ever true to her national policy, seems to have awakened to the fact that a weak nation, which might be had for the taking, was lying in the north Pacific, and deeming it her duty to protect the weak, she started out to annex this territory. There being no pretext for doing so, one was formed without much trouble, which it was thought would serve the purpose. The British consul, one Mr. CHARLTON, went to London that year and made such representations, that the frigate "Carysford" was ordered out and arrived February 10, 1843. The commander, Lord GEORGE PAULET, made six demands, threatening war if they were not granted by 4 P. M. the next day. These demands chiefly related to a land claim of CHARLTON'S, and to decisions of the courts in civil suits between foreigners. Before the hour set for hostilities had arrived, the King acceded to the demands

under protest, and appealed to the British government for damages. But this was not the opportunity that was wanted, so a fresh series of demands having been made, together with claims for damages amounting to $80,000, the King decided by Dr. JUDD'S advice, to forestall the intended seizure of the island by a provisional cession, pending an appeal to the justice of the home government. England's policy here is perfectly evident, and no remarks are necessary. It may be mentioned that the Dr. JUDD here referred to was an American citizen, and surgeon of the American Mission in the islands, who had been prevailed upon by the King to assist him as adviser.

This cession was made in February, 1843. The British flag took the place of the Hawaiian for five months, and a body of native troops was organized and drilled by British officers. The country was governed by a mixed commission, Lord GEORGE PAULET being at the head of it. Admiral THOMAS, the commander-in-chief of the British naval forces in the Pacific Ocean, arrived in July, 1843. He immediately issued a proclamation declaring in the name of his government that he did not accept of the provisional cession of the Hawaiian Islands, and on the 31st restored the national flag with impressive ceremonies. The gist of the whole farce can easily be grasped when it is remarked that the law advisers of the Crown decided in favor of the Hawaiian Islands on every point except the CHARLTON land claim.

How far England's action in this matter was influenced by the sentiments expressed by President TYLER and Mr. WEBSTER, we can only conjecture. But it is significant that when Lord GEORGE PAULET was sent out, England was not aware of these public utterances, but she must have been aware of them before Admiral THOMAS pulled down the English and restored the Hawaiian flag. The law advisers of the Crown in making their decision had the advantage of a more positive public utterance than those quoted above, for Secretary of State LEGARE, on June 13, 1843, wrote EDWARD EVERETT, United States Minister at London, that, "It is well known that * * * we have no wish to plant or acquire colonies abroad. Yet there is something so entirely peculiar in the relations between this little commonwealth of Hawaii and ourselves that we might even feel justified, consistently with our own principles, in interfering by force to prevent its falling into the hands of any of the great powers of Europe."

A commission had in the meantime also visited France and England, and their work was so successful, that on the 28th of

November, 1843, the two governments of France and England issued a joint declaration, in which they recognized the independence of the islands, and reciprocally engaged never to take possession, either directly or under the title of a protectorate, or under any other form, of any part of the territory of which they are composed.

To make the government more permanent, the native and foreign elements were now combined into one organization. The executive and judicial departments of the government were organized by a group of men of remarkably high character and ability. The ancient land tenure was soon after abolished and the foundation laid of individual property in land.

In 1848, the old dispute with France was reopened by the new consul, apparently for no better reason than to keep his hand in. In August two French vessels arrived, and the Admiral, DE TROMELIN, sent the King ten demands, which were drawn up by the Consul, M. DILLON. The demands being refused, he landed a force on the 25th, took possession of the deserted fort, custom house and other buildings, and blockaded the harbor for ten days. The fort was dismantled and the King's private yacht destroyed by way of reprisal, after which he left, taking the Consul with him. Dr. JUDD was sent with a special commission to Paris, but could effect nothing there. They did, however, agree upon the basis of a new treaty with England.

A French vessel again landed in December, 1850, having a French Commissioner, M. PERRIN, on board. He presented the same old ten demands, and resumed the policy of interference in the affairs of the kingdom. His attitude became so menacing that the King issued a proclamation placing the islands provisionally under the protectorate of the United States. His action was ratified by the Legislature. Although this cession was finally declined by the United States, the French demands were dropped.

A new constitution was adopted in 1852, which was very liberal, and has formed the basis for all succeeding constitutions. The nobles were to be appointed by the King for life, the members of the Legislature, twenty-four in number, were to be elected by universal suffrage.

In 1853 occurred the great small pox epidemic which carried off several thousand of the inhabitants of Oahu. In that year and the next there was an active agitation in favor of annexation to the United States. This King died in 1854, and was succeeded by his son, as KAMAHAMEHA IV. His reign was uneventful. In 1862

Bishop STALEY arrived and founded the Anglican Mission. The King died in 1863 and was succeeded by his brother as KAMEHAMEHA V.

This reign was one of activity. He changed the constitution arbitrarily. The right of suffrage was made to depend on a small property qualification and ability to read and write; the nobles and representatives were to sit and vote in one chamber; the board of education was constituted; the bureau of immigration was founded; the act to segregate the lepers was passed, and a reciprocity treaty with the United States was negotiated. The destruction of the whaling fleet in 1871 was a serious blow to the prosperity of the islands. This King died in 1872.

The King had appointed no successor (which was in his power to do), so the Legislature elected his cousin, LUNALILO, as King. During this reign there came up the question of ceding or leasing Pearl Harbor to the United States. This with the enforcement of the act for the segregation of the lepers brought on a mutiny of his household troops, but did not reach so far as to overthrow the government. LUNALILO died in 1874. He left his real estate to found a home for the aged Hawaiians.

The Legislature was again called upon to elect a ruler, and their choice was DAVID KALAKAUA, the rival candidate being the Queen dowager. A riot followed, and at the request of the cabinet, a body of marines landed from the two United States ships in the harbor, dispersed the rioters and guarded the public buildings for a week.

The low ebb which the people had reached in keeping the constantly vacated throne filled, was strikingly illustrated in the choice of KALAKAUA. His reputed grandfather had been hanged for poisoning his wife; he had himself become a defaulter as a government official. His family was known to the natives as an idolatrous one, and under the former monarchs he had been an advocate of absolutism. His career as King did not belie his antecedents. As with this King commenced the sequence of events leading us directly up to the present status of affairs, we will notice his reign more in detail. The commercial treaty of 1875 with the United States was adopted. In 1881 he made a tour of the world. Returning from this tour, KALAKAUA seems to have determined to try his hand at governing under the "Divine rights of Kings."

Unlike his predecessors, KALAKAUA seemed to regard himself as merely a king of the native Hawaiians, and foreign residents as alien invaders. It also seemed to be his chief aim to change the

system of government into a personal autocracy. He twice dismissed the ministry without assigning any reason, immediately after it had been sustained by a vote of the Legislature. On the second occasion he was forced to yield. The national debt grew from $389,000 in 1880, to $1,936,000 in 1887. At the same time, under the existing law, no foreigner could be naturalized without the King's approval. After the legislative session of 1886 the King was virtually his own Prime Minister, and went from one rash act to another, until his alleged acceptance of bribes in connection with the assignment of an opium license precipitated the revolution of 1887. Overawed by the unanimity of the movement, and deserted by his followers, the King yielded without a struggle. The constitution which he signed on the 7th of July, 1887, was a revision of that of 1864, intended to put an end to mere personal government, and to make the executive responsible to the representatives of the people. Office holders were made ineligible to seats in the Legislature. The ministers were henceforth to be removable only upon a vote of want of confidence passed by a majority of all the elective members of the Legislature. The nobles, instead of being appointed by the King, were to be elected for terms of six years by electors who should be possessed of taxable property worth $3,000, or in receipt of an annual income of $600. The opposition of the court and of other adherents of the old regime to the reforms of 1887 led to an insurrection (headed by R. W. WILCOX) on the 30th of July, 1889, which was promptly put down, but not without bloodshed. Seven of the rioters were killed and a large number wounded. In order to recruit his health, the King visited California in November, 1890, and died in San Francisco on January 20, 1891. His remains were taken to Honolulu by the U. S. S. Charleston, arriving there January 29th.

On the same day his sister took the oath to maintain the constitution, and was proclaimed Queen, under the title of LILIUOKALANI. The decision of the Supreme Court that the term of the last Cabinet expired with the King, gave the Queen an opportunity to dictate terms in advance to the incoming Cabinet and to secure control of all appointments. The legislative session of 1892 was protracted to eight months, chiefly, it is claimed, by her determination to retain control of the executive, as well as to carry through the opium and lottery bills. Meanwhile she had caused a new constitution to be drawn up. Objection was raised to it on the ground that it would practically have transformed the government from a limited to an absolute monarchy, besides disfranchising a class of citizens who

paid two-thirds of the taxes. The attempt to put the constitution into effect precipitated an outbreak. From this it will be seen that the Queen had the "divine right" mania as bad or worse than her brother.

As with this revolution commenced the active participation of the United States in the affairs of Hawaii, we will here drop the subject, to be considered more fully under the subhead of "Relations with the United States."

AREA, TOPOGRAPHY, ETC.

The dimensions and area of the eight inhabited islands are as follows:

Hawaii, 90 by 74 miles	4,210 square miles
Maui, 48 by 30 miles	760 square miles
Oahu, 46 by 25 miles	600 square miles
Kauai, 25 by 22 miles	590 square miles
Molokai, 40 by 7 miles	270 square miles
Lanai, 17 by 9 miles	150 square miles
Niihau, 20 by 7 miles	97 square miles
Kahoolawe, 11 by 8 miles	65 square miles
Total area of group is therefore	6,740 square miles

The bulk of the population, as well as the chief industries, are in the first five islands as named.

All these islands are volcanic. No other rocks than volcanic are found upon any of them, excepting a few remnants of raised sea beaches, composed of consolidated coral sands. All the larger ones are very mountainous. Mauna Kea is 13,900 and Mauna Loa 13,700 feet high. On the Island of Hawaii the volcanic forces are still active, but are extinct on all the others.

The great central pile is Mauna Loa, which is certainly the monarch of modern volcanos. No other in the world approaches it in the vastness of its mass, or in the magnitude of its eruptive activity. There are many volcanic peaks higher, but none approach the magnitude of Mauna Loa. Etna and all its adjuncts are immeasurably inferior, while Shasta, Hood and Rainier, if melted down and run together into one pile, would still fall much below the volume of the island volcano.

It is a gently rising dome, whose steeper slopes are only about seven degrees, while its longer ones are only four degrees. Most volcanoes have slopes ranging from fifteen to forty degrees.

In general the island group consists of the summit of a gigantic submarine mountain chain, projecting its loftier peaks and domes

above the water; but none of the mountains are of sufficient height to reach the line of perpetual snows.

Only a small portion of the area of the islands is capable of supporting a dense population. The most habitable tracts are near the sea shore, and only a part or even a small part of these are really fertile. The interior portions are mountainous and craggy, with a thin soil, admirable in a few localities for pasturage, but unfit for agriculture. Deep, rich soils, at altitudes adapted to the growth of sugar cane, probably form less than a fortieth part of the entire area.

The islands that interest the intending immigrant are Hawaii, Maui, Oahu and Kauai.

It is on these islands that coffee, fruits, potatoes, corn and vegetables can be raised by the small investor and land can be obtained on reasonable terms.

The island of Hawaii is the largest in the group, and presents great varieties of soil and climate. The windward (northeast) side is copiously watered by rains; the leeward side is not exposed to such strong rains, but an ample supply of water falls in the rain belt. On this island are now situated numerous sugar plantations. The Kona district has given the coffee product a name in the markets of the world. There are thousands of acres at present uncultivated and only awaiting the enterprise of the temperate zone to develop them.

Maui is also a very fine island, with sugar and coffee plantations, and on the western side are small farms where are raised potatoes, corn, beans, pigs, etc.

The Island of Oahu contains much land undeveloped, as the industry has gone to the developing of the sugar land of the other islands. A line of railroad has been constructed up the coast for thirty miles from Honolulu. It is proposed to continue this clear around the island. This will open up much good coffee and farming lands, and offers also a ready means of getting produce to the capital,

HONOLULU,

which is situated on the island of Oahu and is the principal city. It is situated on a small but safe harbor, and has a population of 30,000. The business portion is well built of stone and brick; the residences are of wood.

The city has sixty-seven miles of streets and drives, of which twenty miles are macadamized; has a street railway system, public

and private electric light systems, a telephone system extending throughout the island and using 1,300 telephones; a well regulated state prison, handsome executive buildings, custom house and court house, an insane asylum, public hospital, Maternity Home, Old Folks Home, public library, a well equipped Y. M. C. A. building, banks, churches, public and private schools; public water works, both a reservoir and pumping plant; a paid fire department, equipped with the most modern steam and chemical engines; has a G. A. R. Post, branches of the Societies of "Sons" and "Daughters" of the American Revolution, and numerous Masonic, Odd Fellows, and other similar lodges. In other words, it has the appliances and conveniences of an up-to-date American city.

Kauai is called the "Garden Island," being so well watered, and so luxuriant in vegetation. It is largely devoted to sugar, though rice cuts a large figure in its agriculture.

The climate of these islands is the climate of Paradise. It is never hot, and except at considerable altitudes, is never cold. Rarely has the thermometer been known to reach 90° at the sea coast or to fall below 65°. But while the temperature in any given locality is uniform, there is wonderful variety in the climate as we pass from one place to another. Indeed, there are almost as many climates as there are square leagues.

Relative to human comfort, the climate is perfection. Americans and Europeans can and do work in the open air at all seasons of the year, as they cannot in countries lying in the same latitude elsewhere. To notice an instance, Calcutta lies a little to the north of the latitude of Kauai, the most northerly island, and in Calcutta the American and European can only work with his brain; hard physical labor he cannot do and live. On the Hawaiian Islands he can work and thrive.

As a general rule the windward sides are excessively rainy, the leeward sides are generally arid, but to this there are some striking exceptions. The prevailing winds come from the northeast, and blow for about nine months; the rest of the time they are variable, but chiefly from the south. From the above it is evident that the climate of the Hawaiian Islands is generally that of a mild summer. The hottest months are July and August, when the thermometer sometimes rises to 90°, but this is considered unusual. Frost is unknown, rains are warm, and the days and nights are so nearly the same temperature that little daily change of clothing is necessary.

Earthquakes occur, but their center of disturbance is in Hawaii, and they seldom cause any destruction.

Captain Cook's estimate of the population (400,000) in his day may have been exaggerated, but the first census, taken in 1832, after terrible plagues and ravages of disease, showed a population of 130,000. In four years the census marked a decrease of 109,500; in 1850 the inhabitants had diminished to 84,000; in 1853 to 73,000; in 1860 to 69,000, and in 1872 to 56,000. Soon after this latter date, the government, under the stimulus of the increased sugar production, began the importation of foreign laborers in large numbers, and the population rapidly increased, but the native race continued steadily to decrease, and in 1890 it was reduced to 34,000 pure Hawaiians and 6,000 half-castes. In 1896 the population was as follows:

	Males.	Females.	Total.
Hawaiians	16,399	14,620	31,019
Part Hawaiian	4,249	4,236	8,485
American	1,975	1,111	3,086
British	1,408	844	2,250
German	866	566	1,432
Norwegian	216	162	378
Portuguese	8,202	6,989	15,191
Japanese	19,212	5,195	24,407
Chinese	19,167	2,449	21,616
South Sea Islands	321	134	455
Other Nationalities	448	152	600

Giving a total of 109,020 against 89,990 in 1890, a gain of approximately twenty-two per cent., practically all by immigration, as the decrease among the natives since 1890 is ten per cent. Expressed in percentage, the population is as follows:

Native Hawaiian	28 per cent
Japanese	22 per cent
Chinese	20 per cent
Americans and Europeans (Portuguese) birth and descent	22 per cent
Mixed blood	8 per cent

With the continued rapid increase of imported labor and the steady decline of the native race, it may readily be seen, unless checked by some cause not now to be anticipated, the early extinction of the Hawaiian must inevitably occur.

The climate, however, is a healthy one. There are no virulent fevers. Epidemics seldom visit the islands. They now have a careful system of quarantine. Lung and chest troubles are almost unknown to the natives. Leprosy, now largely under medical control, is being gradually stamped out. On the island of Molokai a district of about 5,000 acres has been set aside for the leper settlement.

In the Pacific islands two very distinct races are fonnd. The Hawaiians, which is the same race as inhabits the Samoan, Society, Navigators and Friendly Islands, also New Zealand, form one and by far the better type, being superior physically, mentally and morally. Physically, they are rather large, and have a light brown color, straight hair and are handsomely formed, of good bearing and well featured. The women are comely and pleasant. There is nothing about them savoring of the squaw, hag or wench, which is almost universal among so many of the primitive, dark skinned races. At the time of discovery by Captain Cook, these people were by no means savages. Their social system was as much above savagery on one hand as it was below civilization on the other. The arts possessed by these people were few and simple. There were no metals, and even the stone they had for making implements was of a poor quality. So considering their want of materials, their arts were hardly to be despised.

Their houses were large and commodious structures of interwoven grass with a framework of poles, and scrupulously neat. Agriculture was practiced systematically, having canals for irrigation, etc. They were wonderfully expert fishermen and bold and skillful navigators, visiting in their small canoes the Society or Tahiti Islands, 2,400 miles distant. How they could make such voyages seems mysterious, but they had a knowledge of astronomy something like the old Egyptians and Chaldeans. They had a good calendar with 365 days in the year of twelve months, eleven of which had thirty days and one thirty-five days. They had a primitive arithmetic and a system of numerals by which they could number to hundreds of thousands. The religion was in some respects analagous to the Greeks.

The origin of the Polynesian race has always been a mystery. The view most favored is, that they came from the East Indies at a remote period.

If not from Southeastern Asia, they had at least communicated with them in one way or another. For when Captain Cook discovered the islands they had pigs, dogs and chickens of Asiatic origin, but the attempt to make them descendants of Asiatic people so far as language, myths and legendary lore goes, utterly fails.

The language is very largely made up of vowels, giving to the spoken tongue a pleasant, liquid sound, somewhat difficult to acquire. The consonants all have the English sound, the vowels that of the German vowel, except *i*, which is the same as the German *ie*. There are no silent letters in the written Hawaiian language. English is very generally spoken throughout the group.

The transition of this people from barbarism to civilization has been wonderfully rapid and complete. It is a remarkable fact, that it is the only dark skinned race that has ever been brought into contact and relation with civilization without war and generations of bloodshed, ending in subjugation. There can be little question that it is the finest and most intelligent race of dark skinned people in the world. And again, this was due in a great measure to the tact, wisdom and good sense of the first missionaries.

The natives are in themselves a good tempered, light-hearted, pleasure-loving people, not inclined to turbulence, nor inclined to revolt against any form of government. They are brave individually, but as a nation are peace loving, and in a military sense are not worth consideration. Except politically, the natives are but an unimportant element of the people, and their consent or opposition could have but little influence on the course of events. Little resistance could be expected from them even in defense of their country.

AGRICULTURE AND COMMERCE.

Almost all kinds of vegetables of the finest quality and growing in the greatest profusion can be had every day in the year. Strawberries, raspberries, etc., can be had all the year around. Besides oranges and limes, which grow to perfection in this country, many fruits peculiar to tropical and semi-tropical climates flourish. Among the more important may be mentioned the alligator pear, which bears fruit in splendid quantity in from three to five years from the seed. The mango is a tropical fruit tree that grows in the greatest profusion and bears enormous crops of delicious fruit. The guava grows wild in all parts of the islands below 3,000 feet. The poha is a quick growing shrub bearing a berry that makes excellent jelly and jam. Pineapples are at home on these islands. Another valuable fruit indigenous to the country is the papaia. This can be raised in enormous quantities, and is fine for fattening pigs and chickens. The milky juice of the unripe fruit, even if diluted with water, renders any tough meat that is washed in it quite tender. A small piece of the unripe fruit placed in the water in which a chicken or tough piece of meat is boiled makes it tender and easily digested. The taro is a valuable food plant and is indigenous. The cassava has been introduced, and is important for food, and yields abundantly. This is the plant much used for food by the population of Brazil.

Bananas in great variety are grown in all parts of the islands

where there is sufficient moisture. The yield of fruit from this plant is astonishing. The cocoa tree grows and bears well in most places. The tea plant grows well and yields a tea of good quality.

Among fodder plants growing well and useful for animals may be mentioned: Teosinte reana, a native of Guatemala, which is a large plant, requiring sixteen feet of ground for its development. Also the Guinea grass, one of the grandest fodder plants, forming large bunches which grow to the height of eight feet, and furnishes an abundance of sweet and tender feed. In moist places it can be cut every two months. Caffir corn, Egyptian millet and sorghum grow well.

Among fiber plants may be mentioned particularly the sisal hemp, which will grow and flourish on lands that are too dry for anything else. The bow string hemp requires wet, rich land, but yields the best fiber of all fiber plants. The ramie plant grows splendidly, and after being well established, will yield from four to six crops per annum.

The mainstay of the Hawaiian Islands has for the last thirty-five years been the sugar industry. But this requires large capital for expensive machinery, and has never proved remunerative to the small investor. Rice, neither the European nor American can cultivate as laborers. It requires working in marshy lands, and though on the islands it yields two crops per year, none but the Chinaman can cultivate it successfully.

The mainstay after rice and sugar, is coffee. This is essentially the crop of the future, and bids fair to become as important a staple as sugar. Coffee does not require the amount of capital that sugar does, and can be worked remuneratively on a small area. It is estimated that the return at the end of the fourth year on a seventy-five-acre coffee plantation will pay running expenses for that year, and from that time on a return of from $8,000 to $10,000 per annum may be realized. Rice is the staple food of nearly all the laborers on the coffee plantations. A dry land rice is now being tried in the coffee districts, and there is no doubt but that the rice used by the laborer on the coffee plantation can be raised on the spot, reducing the cost of living to the laborers, and making them more contented.

Only those who have been brought directly into contact with the commercial relations between Hawaii and the United States realize its importance. The first quarter of the present century the sandal wood trade was at its height. The wood was in great request at Canton, where it was sold for incense and the manufacture

of fancy articles. It was purchased by the picul of 133⅓ pounds, the price varying from $8.00 to $10.00 for the picul. This trade amounted some years to as much as $400,000. This wood, while it lasted, was therefore a veritable mine of wealth for the chiefs, by means of which they were enabled to buy firearms, liquors, boats, and schooners, as well as silks, and other Chinese goods, for which they paid exorbitant prices.

The first whale ship called at the islands in 1820, and was soon followed by many others. Their number soon increased to 100 every year, and the furnishing of supplies for them became the chief resource of the islands as the sandal wood became exhausted. It was estimated that each ship spent the sum of $20,000 annually. In 1845 there were 500 ships arrived. By 1878 the whaling trade had died out.

The treaty made by Commodore JONES in 1826 is entitled, "Treaty of friendship, commerce and navigation between the United States and Sandwich Islands," and was signed at Honolulu December 23, 1826. In this are provisions for the protection of the subjects of the two contracting parties when engaged in commercial intercourse; each nation agreeing to grant to all citizens and subjects of the other, all privileges granted to the most favored nation.

Between the years 1850 and 1860 (the liberal constitution heretofore referred to was in 1852), a large part of the government land was sold to the common people in small tracts at nominal prices.

The rapid settlement of California opened a new market for the productions of the islands, and gave a great stimulus to agriculture. For a time large profits were made raising potatoes for the California market. Wheat was cultivated in one or more districts, and a steam flouring mill was erected in Honolulu in 1854. The next year 463 barrels of Hawaiian flour were exported. A coffee plantation was started in Kauai in 1842, and promised well, but was attacked by blight after the severe drought of 1851–2. The export of coffee rose to 208,000 pounds in 1850, but then fell off. The export of sugar only reached 500 tons in 1853. The sugar mills were generally worked by oxen or mules, and the molasses drained in the old-fashioned way.

In 1866–7 a reciprocity treaty with the United States was negotiated, but failed of ratification by the United States Senate. The almost total destruction of the whaling fleet in 1871 was a severe blow to the prosperity of the islands.

In 1875 a treaty of commercial reciprocity was ratified with

the United States, and went into effect in September, 1876. The Hawaiian treaty was negotiated for the purpose of securing control of the islands and making them industrially and commercially a part of the United States, and preventing any other great power from acquiring a foothold there, which might be adverse to the welfare and safety of our Pacific coast in time of war. By this treaty each party agreed to admit all the articles named in a certain schedule, the same being the growth and manufacture or produce of the other party, into all its ports free of duty, and no export charges were to be charged by either party on said articles. And further, "It is agreed on the part of his Hawaiian Majesty that so long as this treaty shall remain in force he will not lease or otherwise dispose of or create any lien upon any port, harbor, or other territory in his dominions, or grant any special privileges or rights of use therein to any other power, state or government, nor make any treaty by which any other nation shall obtain the same privileges, relative to the admission of any articles free of duty, hereby secured to the United States. This to remain in force for seven years, and after that to be terminated by either party on a year's notice."

The development of the resources of the islands which has resulted from this treaty has surpassed all expectation. Prior to the negotiation of this treaty, the commerce of the islands was inconsiderable and was in a languishing condition, having decreased as follows:

Year.	*Imports.*	*Exports.*	*Custom Receipts.*	*No. of Vessels Entering.*
1869	$2,040,000	$ 1,743,000	$ 215,000	127
1874	1,210,000	1,622,000	183,000	120
1892	4,684,000	8,081,000	494,000	262
1896	7,164,000	15,515,000	656,000	386

Of these imports seventy-six per cent came from the United States. From the day the reciprocity treaty went into operation the island trade, in all its branches, increased rapidly, and to-day Hawaii is the best consumer which our Pacific coast has; the largest consumer of United States products of any single country bordering on the Pacific. There is not an industry in the United States which is not benefited by the Hawaiian trade, and which would not be injured by the abrogation of the treaty, or diversion of Hawaii's trade elsewhere.

The financial status of the public of to-day is strong. The country is self-supporting, solvent and prosperous. The status January 1, 1897, was:

RECEIPTS.

Cash on hand January 1, 1896	$ 22,496 30
The revenue for 1896 was:	
From Customs	656,895 82
From Postoffice	77,488 94
From Internal Revenue	1,240,937 12
Total	$1,997,818 18

EXPENSES.

General expenses for 1896	$1,651,631 33
Interest on all loans	236,459 59
Matured bonds paid	16,100 00
Total expenses	$1,904,190 92
Cash on hand December 31, 1896	93,627 26
Total	$1,997,818 18

This shows after paying all running expenses, interest on all loans, and redeeming $16,000 worth of bonds falling due, the treasury closed the year with a cash surplus of over $71,000 greater than at the beginning.

The total debt January 1, 1897, was $3,879,608.35. With the exception of $222,000 of five per cent bonds which are redeemable in 1901, all of the debt can be taken up at any time. With the exception of $1,000,000 held in London practically all of the bonds are held in Hawaii. The estimated value of public lands in 1894 was $4,389,550, the income from which in 1896 was $137,773.

COMMERCIAL AND NAVAL IMPORTANCE—DUE TO POSITION OF HAWAIIAN ISLANDS.

The remarks with reference to the naval importance of these islands are taken from an article by Captain A. T. MAHAN, U. S. N., and published in *The Forum*, March, 1893.

The commercial importance based upon imports and exports has just been considered. There is, however, another side to their commercial importance which is worthy of brief notice. The importance of the relation of Hawaii to the commerce of the Pacific is demonstrated by the fact that of the seven trans-Pacific steamship lines plying between the North American Continent and Japan, China, and Australia, all but one make Honolulu a way station. Upon the opening of the Nicaragua or Panama Canals, practically all of the shipping bound for Asia, making use thereof, will stop at Honolulu for coal and supplies.

Hawaii is to day the mainstay of the American merchant marine engaged in deep sea foreign trade. During the year ending June 30, 1896, the number of American vessels entering American ports, was, from Hawaii, 191, from all other foreign countries only 298. The total number of vessels entering Hawaiian ports in the same time was 386, of which 247 were American, and twenty-six were Hawaiian, which are practically owned by Americans also.

The total Hawaiian trade (imports and exports) in 1896, was, as we have seen, $22,679,791, of which 92.26 per cent. was with the United States, and 82.55 per cent. of this in American vessels, 5.26 per cent. in Hawaiian, giving a total of 87.81 per cent. of all trade practically hauled by American merchantmen. It is the only foreign commerce to-day that we can call our own.

But this is of small importance when compared to its strategical position. Hawaii is the only spot in the vast territory of the Pacific, from the equator on the south to Alaska on the north, and between America on the east and Asia on the west, where a ton of coal, a pound of bread, or a drink of water can be obtained; hence its great importance as a port of call for all vessels.

Broadly speaking, Hawaii may be said to lie about one-third of the distance on the accustomed route from San Francisco to Japanese or Chinese ports, from San Francisco to Australia, from ports of British Columbia to Australia or British India, and almost one-half the way from the Isthmus of Panama to Yokohama and Hongkong. The construction of a ship canal across the isthmus (and it is sure to come) would at once extend this geographical relation to the ports of the Gulf of Mexico and of the Atlantic seaboard of North and South America.

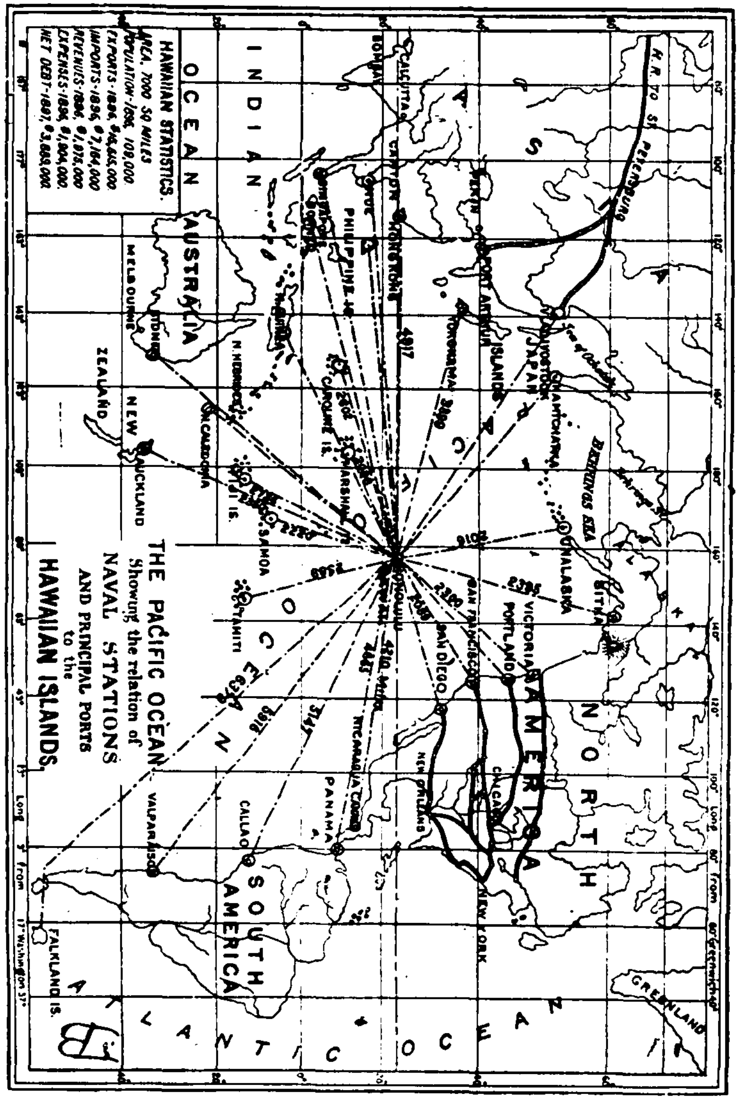
"Due to the development of British Columbia in the Northeastern Pacific and New Zealand in the southwestern, we find Great Britain holding two extremities of a line between which she must inevitably desire the intermediate links; nor is there any good reason why she should not have them, except the superior, more urgent, more vital necessities of another people—our own. Of these links the Hawaiian group possesses unique importance, not for its intrinsic commercial value, but for its formidable position for maritime and military control."

"The military or strategic value of a naval position depends upon its position, upon its strength and upon its resources. Of these three the first is of the most consequence, because it results from

the nature of things; whereas the two latter, when deficient, can be artificially supplied, in whole or in part. Fortifications remedy the weakness of a position, foresight accumulates beforehand the resources which nature does not yield on the spot; but it is not within the power of man to change the geographical situation of a point which lies outside the limit of strategic effect."

"To anyone viewing a map that shows the full extent of the Pacific (see map 'B') Ocean, with its shores on either side, two circumstances will be strikingly and immediately apparent. He will see at a glance that the Sandwich Islands stand by themselves, in a state of comparative isolation, amid a vast expanse of sea, and, again, that they form the center of a large circle, whose radius is approximately and very closely the distance from Honolulu to San Francisco. The circumference of this circle, if trouble is taken to describe it with compass on the map, will be seen on the west and south to pass through the outer fringe of the system of archipelagoes, which, from Australia and New Zealand, extend to the northeast toward the American continent. Within the circle a few scattered islets, bare and unimportant, seem only to emphasize the failure of nature to bridge the interval separating Hawaii from her peers of the Southern Pacific. Of these, however, it may be noted that some, like Fanning and Christmas Islands, have within a few years been taken into British possession. The distance from San Francisco to Honolulu, 2,100 miles easy steaming distance, is substantially the same as that from Honolulu to the Gilbert, Marshall, Samoan, Society and Marquesas groups, all under European control, except Samoa, in which we have a part influence."

"To have a central position such as this, and to be alone, having no rival and admitting no alternative throughout an extensive tract, are conditions that at once fix the attention of the strategist—it may be added of the statesman of commerce likewise. But to this striking combination is to be added the remarkable relations borne by these singularly placed islands to the great commercial routes traversing this vast expanse known to us as the Pacific; not only, however, to those now actually in use, important as they are, but also to those that must necessarily be called into being by that future to which the Hawaiian incident compels our too unwilling attention. Circumstances, as was before tritely remarked, creates centers, between which communication necessarily follows, and in the vista of the future all, however dimly, discern a new and great center that must greatly modify existing sea routes, as well as bring new ones into existence. Whether the canal of the Central Ameri-



can Isthmus be eventually at Panama or Nicaragua matters little to the question now in hand, although, in common with most Americans who have thought upon the subject, I believe it will surely be at the latter point. Whichever it be, the convergance there of so many ships from the Atlantic and Pacific will constitute a center of commerce, inter-oceanic, and inferior to few, if to any, in the world; one whose approaches will be jealously watched and whose relations to the other centers of the Pacific by lines joining it to them must be carefully examined. Such study of the commercial routes and their relations to the Hawaiian Islands, taken together with the other strategic considerations previously set forth, complete the synopsis of facts which determine the value of the group for conferring either commercial or naval control."

"Referring again to the map, it will be seen that while the shortest routes from the Isthmus to Australia and New Zealand, as well as those to South America, go well clear of any probable connection with or interference from Hawaii, those directed towards China or Japan, pass either through the group or in close proximity to it. Vessels from Central America bound to the ports of North America come, of course, within the influence of our own coast. These circumstances, and the existing recognized distribution of political power in the Pacific, point naturally to an international acquiescence in certain defined spheres of influence for our own country and for others, such as has already been reached by Great Britain, Germany and Holland in the Southwestern Pacific, to avoid conflict there between their respective claims. Though artificial in form such recognition would, in the case here suggested, depend upon perfectly natural as well as indisputable conditions. The United States is by far the greatest in numbers, interests and power of the communities bordering upon the North Pacific; and the relations to the Hawaiian Islands to her would be, and actually are, more numerous and more important than they can be to any other state. This is true, although unfortunately for the equally natural wishes of Great Britain and her colonies, the direct routes from British Columbia to Eastern Australia and New Zealand, which depend upon no building of a future canal, pass as near the islands as those already mentioned. Such a fact, that this additional highway runs close to the group, both augments and emphasizes their strategic importance, but it does not affect the statement just made that the interest of the United States in them is greater than that of Great Britain, and dependent upon a natural cause, nearness, which has always been admitted as a reasonable

ground for national self-assertion. It is unfortunate, doubtless, for the wishes of British Columbia and for the communications, commercial and military, depending upon the Canadian Pacific Railway, that the United States lies between them and the South Pacific, and is the state nearest to Hawaii; but the facts being so, the interests of our 65,000,000 people in a position so vital to our *rôle* in the Pacific, must be allowed to outweigh those of the 6,000,000 of Canada."

"From the foregoing considerations may be inferred the importance of the Hawaiian Islands as a position powerfully influencing the commercial and military control of the Pacific, and especially of the Northern Pacific, in which the United States, geographically, has the strongest right to assert herself. These are the main advantages which can be termed positive, those, namely, which directly advance commercial security and naval control. To the negative advantages of possession, by removing conditions which, if the islands were in the hands of any other power, would constitute to us disadvantages and threats, allusion only will be made. The serious menace to our Pacific coast and our Pacific trade, if so important a position were held by a possible enemy, has been frequently mentioned in the press and dwelt upon in the diplomatic papers which are from time to time given to the public. It may be assumed that it is generally acknowledged. Upon one particular, however, too much stress cannot be laid, one to which naval officers cannot but be more sensitive than the general public, and that is the immense disadvantage to us of any maritime enemy having a coaling station well within 2,500 miles, as this is, of every point of our coast line from Puget Sound to Mexico. Were there many others available, we might find it difficult to exclude from all. There is, however, but one. Shut out from the Sandwich Islands as a coal base, an enemy is thrown back for supplies of fuel to distances of 3,500 or 4,000 miles, or between 7,000 and 8,000 going and coming, an impediment to sustained maritime operations well nigh prohibitive. The coal mines of British Columbia constitute, of course, a qualification to this statement, but upon them if need arose, we might at least hope to impose some trammels by action from the land side. It is rarely that so important a factor in the attack or defense of a coast line — of a sea frontier — is concentrated in a single position, and the circumstances render doubly imperative upon us to secure it if we righteously can."

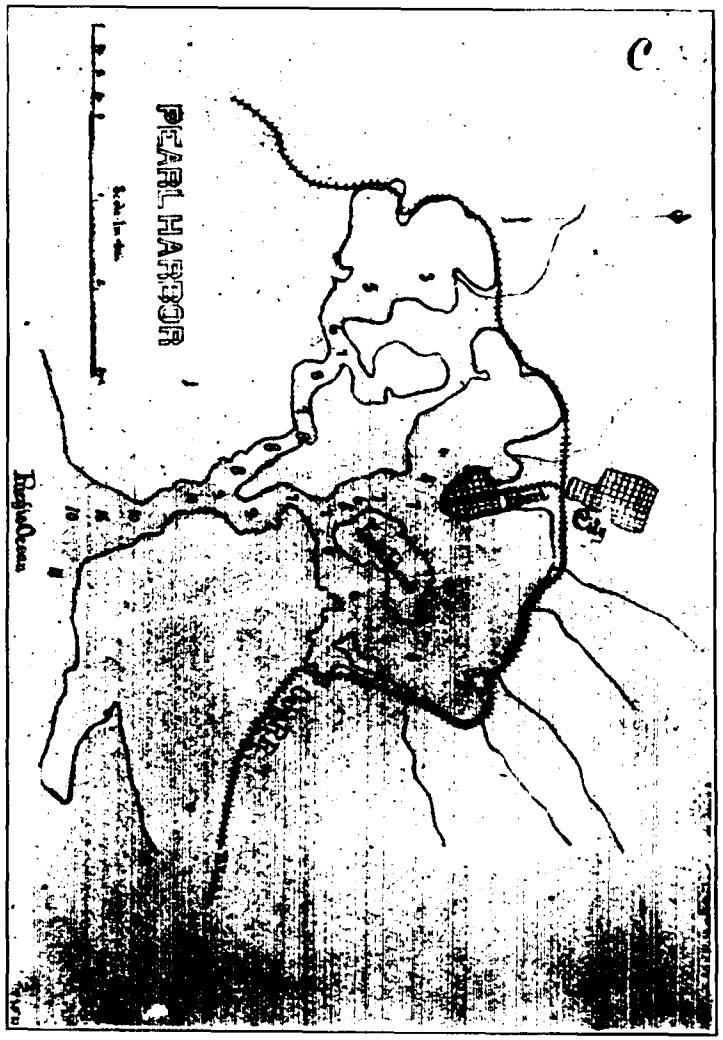
"Let us start from the fundamental truth, warranted by history, that the control of the seas, and especially along the greater lines

drawn by national interest or national commerce, is chief among the merely material elements, in the power and prosperity of nations, because the sea is the world's great medium of circulation. There is, however, one caution to be given from that military point of view beyond the need of which the world has not yet passed. Military positions, fortified posts, by land or by sea, however strong or admirably situated, do not by themselves confer control. People often say that such an island or harbor will give control of such a body of water. It is an utter, deplorable, ruinous mistake."

Contrast with the words of this able strategist, those of CARL SCHURZ, when he says: "It would rather be apt to present to hostile powers a vulnerable point which we do not present, and the absence of which is so discouraging to a foreigner who may wish ill to us. * * * We shall by annexing Hawaii simply acquire a vulnerable point." It seems the height of folly to hear one of our [illegible] speak thus, for I would say rather that we have no invulnerable point, all our sea coast, including the Great Lakes, being about equally vulnerable. And who can doubt but that this ex-Secretary of the Interior, and present paid political writer, does not influence ten voting men for every one that listens to the words of the ablest exponent of the sea power among English speaking nations.

The provisions of the treaty leasing or ceding us Pearl Harbor, will be referred to directly. But it may not be amiss to briefly describe Pearl Harbor, quoting from the reports of Generals SCHOFIELD and ALEXANDER, made in 1873: (See Map "C.")

"Honolulu is the only good commercial harbor in the whole group. The harbor of Honolulu can not be defended from the shore. An enemy could take up his position outside the entrance and command the entire anchorage, as well as the town itself. The harbor of Pearl River is the only one on the islands that can be made to satisfy all the conditions necessary for a harbor of refuge in time of war. Pearl River is a fine sheet of deep water extending inward about six miles from the mouth, where it could be completely defended by shore batteries. The depth of the water after passing the bar is ample for any vessel. It is divided into three portions called locks, the east, middle and west lock. The east lock is the best, having the most room, the deepest water and presenting the greatest facilities for shore improvements. In the middle of this lock is an island called 'Rabbit Island,' having deep water close to its shores and fine anchorage all around it. This island and the adjacent shore to the north and west of it afford the most advan-



tageous location for a naval depot of supplies and equipment in all these waters. But there is not sufficient water at present for heavy vessels to enter this Pearl River harbor. At the entrance to the harbor is a coral reef some 250 or 300 yards in width, with a depth of water of only two or three fathoms (a fathom, six feet) on the reef at low water. Its sides are vertical, or nearly so, the depth of water increasing in a few feet to four or five fathoms. At a distance of half a mile outside the reef there is a depth of fifteen fathoms, while at the same distance inside the reef the depth is only eight fathoms. If this coral barrier were removed Pearl Harbor would seem to have all, or nearly all the necessary properties to enable it to be converted into a good harbor of refuge. It could be completely defended by inexpensive batteries on either or both shores, firing across a narrow channel of entrance. Its waters are deep enough for the largest vessels of war, and its locks particularly around Rabbit Island, are spacious enough for a large number of vessels to ride at anchor in perfect security against all storms. Its shores are suitable for building proper establishments for sheltering the necessary supplies for a naval establishment, such as magazines of ammunition, provisions, coal, spars, rigging, etc., while the Island of Oahu, upon which it is situated, could furnish fresh provisions, meats, fruits and vegetables in large quantities.

"Such being the properties of this harbor, and it being the only one on these islands possessing all the requisites except depth of water on the bar, the question arises, can the coral reef at its entrance be removed? If so, at what cost? And if removed, would the channel fill up or remain open? Colonel ALEXANDER gives it as his opinion that the amount of coral to open a channel 200 yards in width and with a depth of twenty-six feet at low water, would be about 250,000 yards (cubic) and that it could be removed for $1 per cubic yard, or for a sum of about $250,000. We see no reason at present to fear a filling up on the bar after a passage through the coral reef at its mouth shall have been secured.

"If it should become the policy of the government of the United States to obtain possession of this harbor for naval purposes, jurisdiction over all the waters of Pearl River with the adjacent shores to the distance of four miles from any anchorage should be ceded to the United States by the Hawaiian government.

"It is to be observed that if the United States are ever to have a harbor of refuge and naval station in the Hawaiian Islands, in the event of war, the harbor must be prepared in advance by the removal of Pearl River bar. When war has begun it will be too late to make this harbor available, and there is no other suitable harbor in these islands."

RELATIONS OF THE UNITED STATES WITH HAWAII.

The first intercourse was when vessels engaged in fur trade on northwest coast of North America used to run down for the winter. The next was in 1820, when the first missionaries landed; also the first whaling vessel came that same year. Then came the treaty with Commodore JONES in 1826, which was noted above. In 1842 an embassy came to the United States seeking some sort of recognition. The first assertion of the superior interests of the United States was made on the visit of this embassy. This assertion was made both by Secretary of State WEBSTER and President TYLER and has been quoted above.

From this time (December, 1842) on, the relations of the Hawaiian Islands with the United States developed steadily in the direction of ultimate annexation. In 1893 Secretary of State FOSTER wrote: "From an early day the policy of the United States has been consistently and constantly declared against any foreign aggression in the Kingdom of Hawaii inimical to the necessarily paramount rights and interests of the American people there, and the uniform contemplation of their annexation as a contingent necessity. But beyond that it is shown that annexation has been on more than one occasion avowed as a policy and attempted as a fact. Such a solution was admitted as early as 1850 by so far-sighted a statesman as Lord PALMERSTON, when he recommended to a visiting Hawaiian commission the contingency of a protectorate under the United States or of becoming an integral part of the nation in fulfillment of destiny due to close neighborhood and commercial dependence upon Pacific States."

When the islands were seized by Lord GRANGE PAULET in 1843, the Secretary of State for the United States wrote to the United States Minister in London the most positive statement so far made. This statement has been quoted above, and will not be here repeated.

When the French were backing up the French Consul (DILLON) in 1849 and 1850, CLAYTON, the then Secretary of State, wrote to the United States Minister at Paris: "The Department will be slow to believe that the French have any intention to adopt, with reference to the Sandwich Islands, the same policy which they have pursued in regard to Tahiti. If, however, in your judgment it should be warranted by circumstances, you may take a proper opportunity to intimate to the Minister for Foreign Affairs for France that the situa-

tion of the Sandwich Islands, in respect to our possessions on the Pacific and the bands, commercial and of other descriptions, between them and the United States, are such that we could never with indifference allow them to pass under the dominion or exclusive control of any other power."

In 1851 DANIEL WEBSTER wrote that further enforcement of the French demands against Hawaii, "would be tantamount to a subjugation of the islands to the dominion of France. A step like this could not fail to be viewed by the government and people of the United States with a dissatisfaction which would tend seriously to disturb our existing friendly relations with the French government. * * * It cannot be expected that the government of the United States could look on a course of things leading to such a result with indifference. * * * It can never consent to see those islands taken possession of by either of the great commercial powers of Europe, nor can it consent that demands manifestly unjust and derogatory and inconsistent with a bona fide independence shall be enforced against that government."

He further said: "I trust the French will not take possession; but if they do, they will be dislodged, if my advice is taken, if the whole power of the government is required to do it."

Early in 1851 a contingent deed of cession was drawn and signed by the King and placed sealed in the hands of the Commissioner of the United States, who was to open it and act upon its provisions at the first hostile shot fired by France in subversion of Hawaiian independence.

In 1854 Mr. MARCY advocated annexation, and a draft of the treaty was actually agreed upon with the Hawaiian Ministry, but its completion was delayed by the successful exercise of foreign influence upon the heir to the throne, and finally defeated by the death of the King, KAMEHAMEHA III.

In 1867 Mr. SEWARD, having become advised of a strong annexation sentiment in the islands, instructed our Minister at Honolulu favorably to receive any native overtures of annexation. Also he wrote, "If the policy of annexation should conflict with the policy of reciprocity, annexation in every case to be preferred."

President JOHNSON, in his annual message of December, 1868, regarded reciprocity with Hawaii as desirable, "until the people of the islands shall of themselves, at no distant day, voluntarily apply for admission to the Union."

In 1871, on the 5th of April, President GRANT, in a special message, significantly solicited some expression of the views of the Senate regarding the advisability of annexation.

In an instruction of March 25, 1873, Mr. FISH considered the necessity of annexing the islands in accordance with the wise foresight of those who see a future that must extend the jurisdiction and the limits of this nation, and that will require a resting spot in mid-ocean, between the Pacific coast and the vast domains of Asia, which are now opening to commerce and civilization. And he directed our Minister not to discourage the feeling which may exist in favor of annexation to the United States, but to seek and even invite information touching the terms and conditions upon which that object might be effected.

The visit of Generals SCHOFIELD and ALEXANDER in 1873 has already been referred to.

Since the conclusion of the reciprocity treaty of 1875, it has been the obvious policy of the succeeding administrations to assert and defend against other powers the exclusive commercial rights of the United States, and to fortify the maintenance of the existing Hawaiian government through the direct support of the United States, so long as that government shall prove able to protect our paramount rights and interests.

In 1881 Mr. BLAINE said: "If through any cause the maintenance of a position of benevolent neutrality should be found by Hawaii to be impracticable, this government would then unhesitatingly meet the altered situation by seeking an avowedly American solution for the grave issues presented."

The treaty of 1875 that went into effect in September, 1876, had run its seven years, when an extension was negotiated in 1884, but this was not ratified by the Senate until 1887. It extended the original treaty for a further period of seven years from that date, with like proviso for terminating on one year's notice from that time. This treaty contained this further important proviso: "His Majesty, the King of the Hawaiian Islands, grants to the government of the United States the exclusive right to enter the harbor of Pearl River, in the Island of Oahu, and to establish and maintain there a coaling and repair station for the use of vessels of the United States; and to that end the United States may improve the entrance of said harbor, and do all other things needful to the purpose aforesaid."

As you will notice, the seven years expired November, 1894, and the only hold that we have on the islands is one that may be terminated on a year's notice by the *de facto* government in those islands.

Nothing has since been done to avail ourselves of the concession. The insertion of this clause may have aroused the jealousy of Germany, and led to the subsequent complications in Samoa. The cession of Pearl Harbor had a further effect of eliciting a note from the British Minister in Washington, in which he mentioned the English-French agreement of 1843, and proposed that England, Germany and the United States enter into a similar agreement by which should be guaranteed "the neutrality and equal accessibility of the islands and their harbors to the ships of all nations without preference;" which offer, needless to say, was declined.

The plan to lay a submarine cable to the islands was laid aside in Congress, although the President, in his message in December, 1888, said: "In the vast field of oriental commerce now unfolded from our Pacific borders, no feature represents stronger recommendations for Congressional action than the establishment of communication by submarine telegraph with Honolulu."

The laying of the proposed cable might have been effected at less than the cost of a man-of-war, and would have been of immense benefit as another artery of communication, in bringing the islands closer to us, commercially and politically.

In the short historical sketch given above, the record was carried down to the outbreak against the Queen. The events since then are so fresh in everyone's mind and being a subject of constant discussion in all the daily papers, the periodicals, etc., that but a passing mention is necessary. On Saturday, the 14th of January, 1893, the capital was wholly controlled by the royal troops, including a large additional force of over 500 armed men not authorized by Hawaiian law. On the same day the first call to arms in opposition to the Queen was issued, and the citizens' Committee of Safety was developed.

During the 14th, 15th, and most of the 16th, the two parties confronted each other in angry hostility, with every indication of an armed conflict at any moment. It was not until late in the afternoon of Monday, the 16th, after request had been made by many citizens of the United States residing in Honolulu, that a force of marines was landed from the Boston, by direction of the Minister, and in conformity with the standing instructions which for many years have authorized the naval forces of the United States to cooperate with the Minister for the protection of the lives and property of American citizens in case of imminent disorder. The marines, when landed, took no part whatever towards influencing the course of events.

The provisional government formed by the forces arrayed against the Queen, was proclaimed January 17, 1893. By the advice of her Ministers the Queen resigned under protest and decided to appeal to the government of the United States.

On February 1st, subsequent to the departure of the Hawaiian special commissioners, the United States Minister at Honolulu, at the request of the provisional government, placed the Hawaiian government under the protection of the United States to secure the protection of life and property during the pending negotiations at Washington and without interfering with the administration of public affairs by the said government. An instruction was sent him, commending his action in so far as it lay within the proviso of standing instructions to the legation and naval commanders, but disavowing any steps in excess of such instructions.

On the 15th of February, 1893, President HARRISON sent a message to the United States Senate, submitting a treaty for the annexation of the Hawaiian Islands. The rapidity with which this was done—less than a month from the overthrow to the submission—might give a suspicion that it was in an advanced state of preparation before the revolution. Though Mr. FOSTER, Secretary of State, diplomatically remarks: "The change of government in the Hawaiian Islands was entirely unsuspected so far as this government was concerned. The change was in fact abrupt and unlooked for by the United States Minister or the naval commander." In his message the President said: "The overthrow of the monarchy was not in any way promoted by this government, but had its origin in what seems to have been a reactionary and revolutionary policy on the part of Queen LILIUAKALANI, which put in serious peril not only the large and preponderating interests of the United States in the islands, but all foreign interests, and, indeed, the decent administration of civil affairs and the peace of the islands. Only two courses are now open—one the establishment of a protectorate by the United States, and the other annexation full and complete. I think the latter course * * * is the only one that will adequately secure the interests of the United States."

This treaty was withdrawn from the Senate by President CLEVELAND March 9th, 1893, and Hon. JAMES H. BLOUNT was sent as special commissioner to the Hawaiian Islands to ascertain and report upon the facts in connection with the revolution. In his annual message to Congress in December, 1893, President CLEVELAND said the report submitted by Mr. BLOUNT showed that "the constitutional government of Hawaii had been subverted with the active aid of

our representative to that government, and through the intimidation caused by the presence of an armed naval force of the United States, which was landed for that purpose at the instance of our Minister." It therefore seemed to him "the only honorable course for our government to pursue was to undo the wrong that had been done by those representing us, and to restore as far as practicable the status existing at the time of our forcible intervention." In a subsequent message, December 18, 1893, President CLEVELAND submitted the report of Commissioner BLOUNT and stated that an attempt had been made by Hon. ALBERT G. WILLIS, who had been sent as United States Minister to Hawaii, to effect the restoration of the monarchy, "upon terms providing for clemency as well as justice to all parties concerned," had failed because those terms had not "proved acceptable to the Queen." The President, therefore, committed the further consideration of the subject "to the extended powers and the wide discretion of the Congress."

In the following year a convention was elected which sat in Honolulu and formed a new constitution for the government of the country, and the Republic of Hawaii was formally proclaimed July 4, 1894, (notice the date).

The President is elected for six years. The Legislature consists of a Senate and House of Representatives all elected by popular vote. The Senators are elected for a term of six years, and voters for Senators must have real property worth $1,500, or personal property worth $3,000, or an income of not less than $600 per annum. The vote for Representatives is based on manhood suffrage. The judiciary consists of a Supreme Court, five Circuit Courts in which trials by jury are conducted, and District Courts in every district. There is an efficient police force in every part of the group. The Republic was formally recognized by the United States on August 7, 1894.

A royalist conspiracy in the fall of 1894 resulted in the insurrection of January 6, 1895, which was promptly suppressed. A number of persons, including ex-Queen LILIUOKALANI, were arrested and imprisoned, but ultimately released. The ex-Queen left the country in 1896 and proceeded to the United States where she has since resided.

For three years the republic has maintained itself by its own efforts and without serious complications of an international character, except a controversy with Japan, growing out of a treaty with that country defining the status of Japanese immigrants. The questions at issue are to be submitted to arbitration.

On the 16th of June, 1897, President MCKINLEY sent to the Senate of the United States another treaty of annexation, which is still under consideration in that body.

In transmitting this treaty he said, "The incorporation of the Hawaiian Islands into the body politic of the United States is the necessary and fitting sequel to the chain of events which from a very early period has controlled the intercourse and prescribed the association of the United States and the Hawaiian Islands. * * * The union is no new scheme, but it is the inevitable consequence of the relation steadfastly maintained with that mid-Pacific domain for three quarters of a century."

This treaty is not a mere renewal of that made in 1893, but was initiated and conducted upon independent lines. This treaty reserves to the Congress of the United States the determination of all questions affecting the form of government of the annexed territory, the citizenship and elective franchise of its inhabitants, and the manner in which the laws of the United States are to be extended to the islands.

Some of the features of this treaty may be briefly mentioned: "The Republic of Hawaii cedes absolutely and without reserve to the United States all rights of sovereignty, * * * the absolute fee and ownership of all public, government, or crown lands, buildings, or edifices, ports, harbors, military equipments, and all other public property of every kind and description. Congress shall enact special laws for the management and disposition of these lands; *Provided*, That all revenues from portions not used for military, naval, or government purposes, shall be used for the benefit of the inhabitants of the Hawaiian Islands for educational and other purposes. * * * The present government to remain in force till Congress shall provide for the government of the islands. * * * The President having power to remove officers and fill vacancies. * * * Existing treaties all to cease and be replaced by those of the United States. * * * The liability of the United States for the public debt shall in no case exceed $4,000,000. * * * No further immigration of Chinese except under laws of the United States. * * * The President of the United States to appoint five commissioners, two from residents of the Hawaiian Islands, to recommend to Congress such legislation as they shall deem necessary or proper."

Protest was made by the government of Japan against the conclusion of the treaty on the ground that it affected Japanese interests and treaty rights in Hawaii.

Much more is there instructive about the characteristics, religion, education, laws, languages, military forces and police, business, currency, vegetation, manner of life, clothing, and the American civilization that has been built up among these interesting people on these wondorful islands; and how the American interests predominate there, even to the owning of nearly three-fourths of all property valued at $50,000,000. But my paper is already too long.

I cannot close, however, without quoting from Mr. THURSTON's excellent pamphlet his reasons in favor of annexation, also twenty objections that are urged against it.

He backs up his reasons for it by some very able arguments, and combats those against it in an equally able manner, but space does not permit me to quote any of his arguments.

REASONS IN FAVOR OF ANNEXATION OF HAWAII.

First. "It will prevent the establishment of an alien and possible hostile stronghold in a position commanding the Pacific coast, and the commerce of the North Pacific, and definitely and finally secure to the United States the strategical control of the North Pacific, thereby protecting the Pacific coast and commerce from attack.

Second. "The conditions are such that the United States must act *now* to preserve the results of its past policy and to prevent the dominancy in Hawaii of a foreign people.

Third. "It will increase, manifold and secure to the United States the commerce of the islands.

Fourth. "It will greatly increase and secure to the United States the shipping business of the islands.

Fifth. "It will remove Hawaii from international politics, and tend to promote peace in the Pacific by eliminating an otherwise certain source of international friction."

OBJECTIONS TO ANNEXATION OF HAWAII.

First. "It is unconstitutional, because the general government is limited in its powers to those expressly conferred upon it by the Constitution. The Constitution does not specifically grant power to annex territory, and therefore the power does not exist.

Second. "It is unconstitutional, because Hawaii is not contiguous to the United States.

Third. "It is unconstitutional, because the inhabitants are not homogeneous with the people of the United States.

Fourth. "Whether the annexation of a non-homogeneous people is constitutional or not, the population of Hawaii is unfit for incorporation into, and will be dangerous to the American political system.

Fifth. "We do not want Hawaii as a state, with two more senators.

Sixth. "Hawaii is an outlying territory, and in time of war it will be a source of weakness to the United States.

Seventh. "It will necessitate heavy expenditures and a navy in order to protect Hawaii in time of war.

Eighth. "It will be a forerunner and form a precedent for a policy of unlimited annexation of territory.

Ninth. "It is contrary to the Monroe Doctrine to acquire territory beyond the boundaries of the American continent.

Tenth. "A large portion of the Hawaiian voters have been disfranchised. No vote has been taken in Hawaii upon the question of annexation, and it is un-American to annex a territory without a popular vote of its inhabitants.

Eleventh. "A protectorate will secure to the United States all the advantages which will accrue under annexation, without involving the country in the responsibilities of ownership.

Twelfth. "It will be injurious to the beet sugar industry, as Hawaiian sugar will compete with beet sugar raised in the United States.

Thirteenth. "It will excite the jealousy of, and create complications with, foreign governments.

Fourteenth. "The government of Hawaii consists of foreign adventurers, who have no authority or jurisdiction over the country.

Fifteenth. "Annexation will be benefical to the Sugar trust.

Sixteenth. "Under the proposed treaty of annexation the United States assumes the Hawaiian public debt without receiving in return the means or property with which to pay it.

Seventeenth. "There is leprosy in Hawaii.

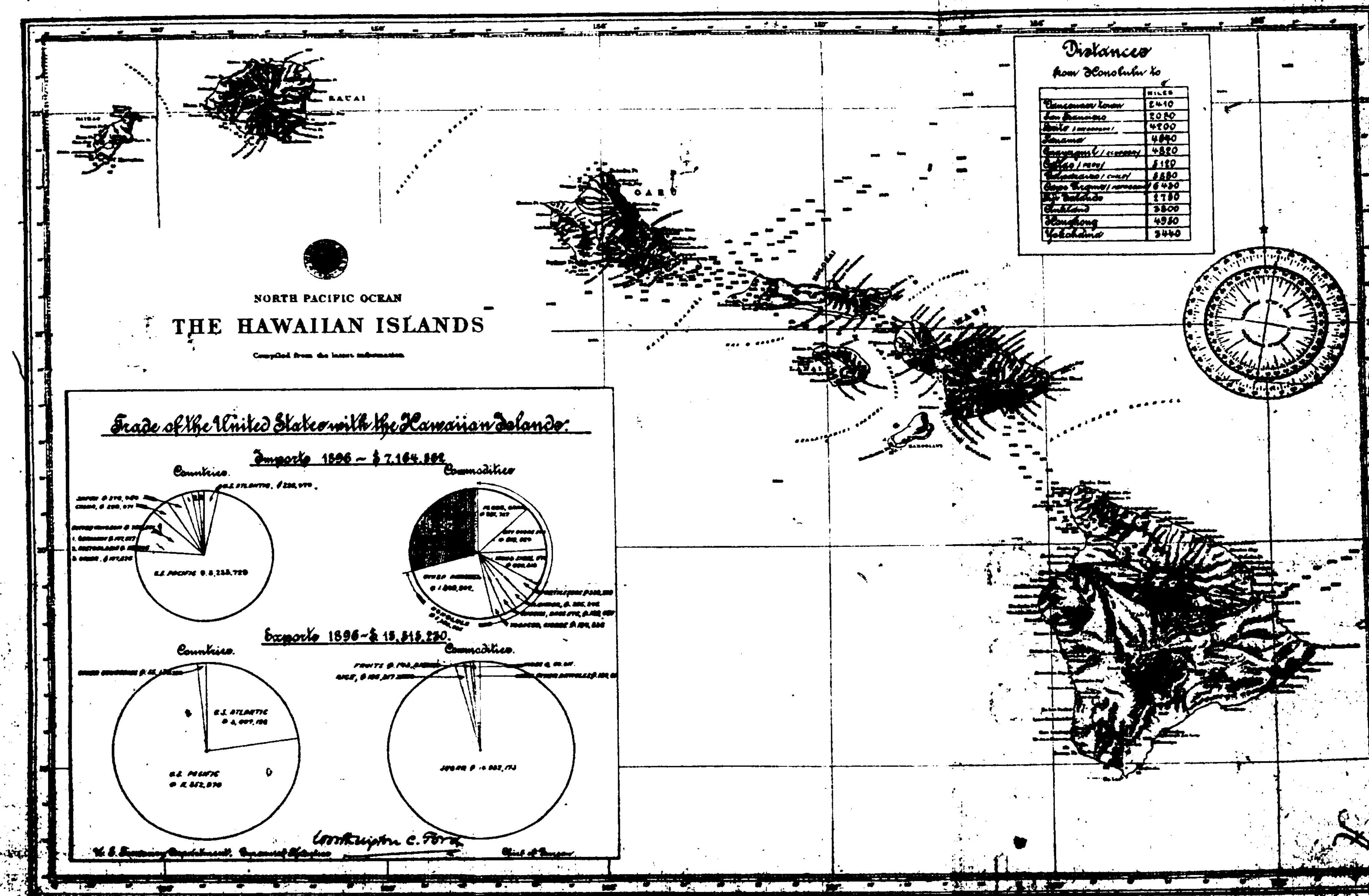
Eighteenth. "The monarchy was overthrown through the agency of American troops.

Nineteenth. "It is unlikely that the United States will go to war with any other country. But if it does, and if it then wants Hawaii there is time enough to take it.

Twentieth. "The United States already has enough territory, people and problems. We want no more of them. Let well enough alone."

List of books consulted and used in the preparation of this paper:

1. A Handbook on Annexation of Hawaii (L. A. THURSTON).
2. Annexation of Hawaii. An address by Hon. J. W. FOSTER.
3. Hawaiian Handbook. Bureau of American Republics.
4. Congressional Document No. 3062. War Department library.
5. Congressional Document No. 3180. War Department library.
6. Encyclopedia Britannica.
7. Hawaiian Islands. Presidents' messages and correspondence.
8. Paradise of the Pacific (3 copies). Newspaper published at Honolulu.
9. Resources of Hawaiian Islands. Department Foreign Affairs, Honolulu.



KAUAI
OAHU
NORTH PACIFIC OCEAN
THE HAWAIIAN ISLANDS
Distances
from Honolulu to
MILES
Hongkong
Yokohama
Trade of the United States with the Hawaiian Islands.
Imports 1896
Countries.
Commodities
U.S. PACIFIC
Exports 1896
Countries.
Commodities.
U.S. ATLANTIC
U.S. PACIFIC

THE ANNEXATION OF HAWAII; SOME OF ITS MILITARY AND ECONOMIC ADVANTAGES.

BY LIEUTENANT S. L'H. SLOCUM, EIGHTH CAVALRY.

THIS whole question rests mainly on the fact, whether or not this country is prepared politically, financially and socially to take up the military and economic responsibilities of territorial expansion beyond its immediate borders. I believe it is, and I believe the spirit of unrest and the ceaseless energy which have given England its colonial possessions, and which have ever characterized the Anglo-Saxon race, pervade this country now and clamor for expansion and more intimate relations with the outer world.

Time was when we were so isolated and so absorbed as a people in developing our own immense territory that the affairs of the older countries were of only passing interest.

But now how changed is all this. The Atlantic cables place us within an hour's talk of any of the European centers; eight regular passenger lines send weekly steamers across the Atlantic from New York alone, the fleetest making the voyage in less than six days; and six lines of steamers sail between the North American continent and China, Japan and Australia.

This country is now one of the leading food producers of the world, and our monetary interests abroad are manifold. In almost all industries we are competitors in the great marts of the world. The tentacles of our commercial interests have so grown that they are clinging to almost every country the world over. We can no longer say "we are sufficient unto ourselves, and care not for the affairs of others." A nation in our modern day can not stand still, as China did for centuries; it must progress or recede, and the restless force that has conquered the vastness of, and made productive the United States, raising it in half a century from a fourth class to a first class power in the world, demands other fields for its efforts.

Think of it, gentlemen, seventy millions of people and except Alaska, not a possession worthy the name outside our own borders, and but one coaling station—Pearl Harbor—of which we have exclusive use. We are beleaguered by England along our entire Atlantic coast line, and she threatens the Pacific from the north, and then again we are humiliated by having to send our large battle-ships to a foreign port to be docked.

It is pretty hard on the navy for their own Secretary to tell them when in trouble, "to go to Halifax." England also has tied our hands in the Clayton-Bulwer treaty, under the provisions of which we can neither acquire territory nor the control of any canal in South America.

Sooner or later our vast commercial interests, which are ever increasing, will conflict and bring us to battle with some of the old world powers. With no trans-isthmian canal we require two naval forces, one on the Atlantic and one on the Pacific Ocean.

For the protection of these sea-boards, besides the regular war vessels, the government is now organizing an auxiliary fleet of cruisers from the merchant marine, and claim that within three weeks sixty vessels could be put into the service on the Atlantic coast and twenty on the Pacific.

We absolutely need some point other than our own ports, where these vessels can rendezvous, refit, and resupply. We can not now get it in the Atlantic, but we can in the Pacific. In fact we are having one, the most valuable between the two Hemispheres, —Hawaii—practically thrust down our throats, and I hope that our Senators are built of sterner stuff than to have it act as an emetic.

Under the existing conditions of peace and American control, we are now deriving essentially all the advantages from Hawaii that we would were we in actual possession, but these conditions are of very uncertain tenure, and if we do not annex, England or Japan will, for the Republic cannot endure, and our whole western country will be at the mercy of the hostile fleet which sails from Honolulu recoaled and refitted. Its annexation is a matter of vital *self-protection* for us; we must possess to prevent others possessing.

This is not a new or recent issue for us to meet. Ever since the time of President PIERCE, in 1854, the question of establishing a protectorate, which would mean assuming all responsibilities without power of control, or of annexing the Sandwich Islands, has more or less been under advisement by the different cabinets, and since that time our attitude towards these islands has been one of almost paternal interest, and their civilization, christianization, commerce and general development are the result of American effort.

It is, in every element which enters into the composition of a modern civilized community, a child of America, and is the *only* American colony beyond our borders, and Honolulu is the *only* foreign port the world over where the stars and stripes wave over more ships than all other flags combined.

It would be interesting, perhaps, to go back into the past and quote the expressions of some of our different statesmen in reference to Hawaii.

DANIEL WEBSTER, in 1842, while Secretary of State, in an official paper, stated: "The United States are more interested in the fate of the islands and of that government than any other nation can be."

Secretary of State LEGARE, in 1843, in a dispatch to our Minister in London, said: "Yet there is something so entirely peculiar in the relations between this little Commonwealth, Hawaii, and ourselves that we might feel justified consistently with our principles, in interfering by force to prevent its falling into the hands of one of the great powers of Europe."

Later, in 1851, Mr. WEBSTER said to our Consul to Hawaii, in reference to the threatened French invasion: "I trust the French will not take possession, but if they do they will be dislodged, if my advice is taken, if the whole power of the government is required to do it."

Secretary of State MARCY, in 1854, in a dispatch to our Minister in Honolulu, said: "If any foreign connection is to be formed, the geographical position of these islands indicates that it should be with us."

That great American, JAMES G. BLAINE, while Secretary of State, said in an official dispatch: "This government firmly believes that the position of the Hawaiian Islands is the *key* to the dominion of the American Pacific, and demands, etc." Further on in the same dispatch he stated: "It is too obvious for argument that the possession of these islands by a great maritime power would not only be a dangerous diminution of the just and necessary influence of the United States in the waters of the Pacific, but in case of international difficulty it would be a positive threat to interests too large and important to be lightly risked."

Many of the reasons for annexation I have thus far advanced are sentimental ones, and do not touch its value in dollars, its strategic importance or the determination of our people that Hawaii shall never pass under the control of a foreign power, and that that determination is positive and almost universal in this country is beyond peradventure or doubt.

And if there were no other reasons than sentimental ones, are they not almost sufficient? Shall we decline to help our compatriots, a handful of determined and resolute men, who by their nerve and energy have established the first American colony beyond seas, and are crying to their seventy million brethren, "We cannot hold out much longer, help and save us."

There was a wide spread feeling of indignation toward Mr. SEWARD when he bought Alaska, because it was claimed that externality in our possessions was unconstitutional and also contrary to the Monroe doctrine; but the wisdom of that purchase is no longer doubted nor its constitutionality questioned.

Hawaii is 2,089 miles from San Francisco; but in these days distance is not so much a matter of miles as of hours. California when annexed was two months in time from Washington; Hawaii is now ten and one-half days, and with steamers on the Pacific as fleet as those on the Atlantic, this time would be lessened to eight days.

We have territory much further west than the Sandwich Islands. The Aleutian Islands, reaching almost to the Asiatic coast, extend 1,200 miles west of Alaska, which is itself separated from the United States by a vast foreign territory, and Midway Island is approximately 3,000 miles from our coast. Our geographical center on the same degree of latitude is about the longitude of San Francisco.

Hawaii lies, as you will see by glancing at the map on the blackboard, between 18 and 22 degrees north latitude, and 154 and 160 degrees west longitude. It is 2,300 miles from Victoria, 4,210 from the Nicaragua Canal, 4,665 from Panama, 5,149 from Callao, 5,916 from Valparaiso, 6,379 to the straits of Magellan, all points on the American coast; and from points on the Asiatic coast it is distant from Yokohama 3,399 miles, from Hong Kong 4,917, and from Sydney, Australia, about 4,100 miles. From which it will be seen that it is nearer to San Francisco than to Yokohama by over 1,300 miles, and to Hong Kong by over 2,800 miles.

This group contains eight inhabited islands and a large number of uninhabited ones, of a total approximate area of 7,000 square miles, being nearly the area of New Jersey. The islands are all high and mountainous, rising to a height of 4,000 feet in Oahu, to 10,000 in Maui, and 14,000 feet and perpetual snow in the island of Hawaii. The whole country is volcanic in origin, there being hundreds of extinct volcanoes and two active ones.

Each island consists of one or more mountains seamed with valleys and gorges, with rolling plains lying between the mountains and generally fringed with a comparatively level belt of land along the sea shore. Some portions of the coast are protected by reefs of coral, while others are sheer precipices rising out of blue water to a height of thousands of feet. The soil, consisting mostly of decomposed lava, is fertile, but has to be irrigated in many places. Fertilizers are used in large quantities, thousands of tons per annum being used on the sugar plantations. The climate is mild and even, being of an average weekly maximum of 74° in winter and 82° in summer. The lowest temperature at sea level in winter is about 56° and the hottest in summer about 88°. At higher elevations above the sea almost any desired temperature can be found.

The country at all elevations and throughout the year, is healthy, the death rate among whites being exceptionally small. None of the fevers and other typical diseases of tropical countries are found.

Nothing in the climatic conditions of Hawaii has caused the leprosy which exists there. It was brought from China about thirty years ago, and has attacked a large number of natives. No cases are seen at large and all of the patients are most carefully cared for by the government.

All the Hawaiian born population of all nationalities can read and write English. The number of schools—all English—in 1896 was 187; number of scholars over 12,000. The population was in 1896 about 120,000, of which only 3,000 were Americans, and of these we have reason to be proud. There are two steamship companies engaged in the inter-island transportation, about fifteen steamers being employed in the trade. There are three railroads on the islands, one about thirty miles long on the island of Oahu, another about thirteen miles long on the island of Maui, and the third about twenty miles in length on the Island of Hawaii. The Islands of Hawaii belong to the Postal Union and the three principal islands have telephones to every accessible point.

On Oahu is the capital, Honolulu. It numbers about 30,000 inhabitants. The city is lighted with electric light, there is a complete telephone system, and street cars run along the principal streets. There are three evening daily papers published in English, one daily morning paper and two weeklies; in addition to these there are papers published in the Hawaiian, Portuguese, Japanese and Chinese languages, besides monthly magazines in various tongues.

Mr. LORRIN A. THURSTON, ex-Minister from Hawaii, thus gives succinctly three reasons of public policy to show why we should annex Hawaii: "It will prevent the establishment of an alien and possibly hostile stronghold in a position commanding the Pacific coast and the commerce of the North Pacific, and definitely and

finally secure to the United States the strategical control of the North Pacific, thereby securing its coast and commerce from attack. The conditions are such that the United States must act now to preserve the results of its past policy and prevent the dominancy in Hawaii of a foreign people. It will increase many fold and secure to the United States the commerce of the islands. It will remove Hawaii from international politics and tend to promote peace in the Pacific by eliminating an otherwise certain source of international friction."

Mr. THURSTON goes on to say, which we all know to be a fact, that all the great powers of Europe have coaling stations within steaming distance of our Atlantic coast, but that none of them possesses such a station near enough to the Pacific coast to be available as a base of operations against it; that while there are scores of islands in the Atlantic that can be used as bases for naval supplies and repairs, there is but one spot in the Pacific from the Equator to Alaska, from Japan to the American continent—Hawaii—where coal, bread and water can be obtained. A strong argument, surely, in support of his first reason for favoring annexation.

It is claimed by some that Hawaii being an outlying territory, would be a source of weakness to us; as Mr. Thurston says, "Whether an outlying territory is a source of weakness depends upon circumstances. When England held territory in France, it was a source of weakness to her, but Gibraltar is a tower of strength."

Shut out from coaling at Hawaii, no man-of-war with its limited coal supply could cross the Pacific and return if our ports were hostile.

England's base at Esquimault, in case of war, would prove the *hardest* nut for us to crack in our defense of the Pacific coast, as it is about twenty-five miles from the main land, heavily fortified and armed with the largest guns.

We can not expect to keep all these advantages without some corresponding expense, and fortification will be the main item. Is it to be supposed that any European power possessing territory which, in the hands of an enemy, could threaten its ports as Hawaii might our Pacific coast, would hesitate to fortify it so as to make it impregnable, however costly such an operation might be? Possession would give the right to do so, and the assertion of that right could not possibly be construed as a violation of any of the principles of international law. We can secure that possession now, but what the future may grant is problematical.

As I have before said, it is no longer a question whether Hawaii shall be controlled by native Hawaiians, but by what foreign nation it shall be controlled. One of our holds upon the islands is given by the reciprocity treaty, but that treaty may be terminated by either party upon a year's notice, and other nations are waiting and eager to avail themselves of the opportunity of ousting us from our present advantageous position should it occur.

One argument which is used against annexation is the coolie question. This refers to the Japanese coolies, as the Chinese would be barred by our acts of exclusion already existing, and Article V of the treaty specifically prohibits the immigration of Chinese to the islands.

The Japanese number about 25,000, and previous to their exclusion were coming in at the rate of about 1,000 a month, and in a short time would have practically been in control of the islands; but these coolies are all under contract, and their contract specifies that they shall return home at its termination.

In annexing Hawaii as a territory, which the treaty submitted to the Senate and almost unanimously recommended by the Committee on Foreign Affairs, we assume its national debt—an ominous thought when we think of the debt of the great powers—but the national debt of Hawaii is only $3,900,000, and under the treaty all the property owned by the Hawaiian government would be transferred to the United States and this, exclusive of customs, rents, etc., which largely exceed expenses, amounts to $7,938,000, leaving a clear net profit to the United States in property acquired, of approximately $4,000,000.

Its revenues in 1896 exceeded its expenses by about $70,000, and that under a regime that was struggling for its very existence.

Some people fear it will hurt our beet sugar industry, but this seems to be groundless, as the sugar consumption of the United States was last year about 2,000,000 tons, and Hawaii produces only about 200,000 tons annually, and all of its best cane lands are already under cultivation and will not admit of further increase.

There is yet another and final reason I shall advance for favoring annexation, and that is that American control of the Nicaragua Canal would be in hourly jeopardy were a hostile power to control Hawaii.

Every steamer that would pass through the Nicaragua Canal en route across the Pacific would have to stop at Honolulu to recoal.

I believe the day has gone by when we can ignore our international privileges and obligations, and that the compulsion of events is forcing us to take a place among the great nations of the world, and to adopt every means of maintaining that position. And the annexation of Hawaii I believe is to be one of them.

TEXT OF TREATY OF ANNEXATION.

ARTICLE I.

The Republic of Hawaii hereby cedes, absolutely and without reserve, to the United States of America all rights of sovereignty, of whatsoever kind, in and over the Hawaiian Islands and their dependencies; and it is agreed that all the territory of and appertaining to the Republic of Hawaii is hereby annexed to the United States of America under the name of the Territory of Hawaii.

ARTICLE II.

The Republic of Hawaii also cedes and hereby transfers to the United States the absolute fee and ownership of all public, government, or crown lands, public buildings or edifices, ports, harbors, military equipments, and all other public property of every kind and description, belonging to the government of the Hawaiian Islands, together with every right and appurtenance thereunto appertaining.

The existing laws of the United States relative to public lands shall not apply to such lands in the Hawaiian Islands; but the Congress of the United States shall enact special laws for their management and disposition; *Provided*, That all revenue from or proceeds of the same, except as regards such part thereof as may be used or occupied for the civil, military, or naval purposes of the United States, or may be assigned for the benefit of the inhabitants of the Hawaiian Islands for educational and other public purposes.

ARTICLE III.

Until Congress shall provide for the government of such islands, all the civil, judicial and military powers exercised by the officers of the existing government in said islands shall be vested in such person or persons, and shall be exercised in such manner as the President of the United States shall direct; and the President shall have power to remove said officers and fill the vacancies so occasioned.

The existing treaties of the Hawaiian Islands with foreign nations shall forthwith cease and determine, being replaced by such treaties as may exist, or as may be hereafter concluded between the United States and such foreign nations. The municipal legislation of the Hawaiian Islands not enacted for the fulfillment of the treaties so extinguished, and not inconsistent with this treaty nor contrary to the Constitution of the United States, nor to any existing treaty of the United States, shall remain in force until the Congress of the United States shall otherwise determine.

Until legislation shall be enacted extending United States customs laws and regulations to the Hawaiian Islands, the existing custom relations of the Hawaiian Islands with the United States and other countries shall remain unchanged.

ARTICLE IV.

The public debt of the Republic of Hawaii, lawfully existing at the date of the exchange of the ratifications of this treaty, including the amounts due to depositors in the Hawaiian Postal Savings Bank, is hereby assumed by the government of the United States; but the liability of the United States in this regard shall in no case exceed $4,000,000. So long, however, as the existing government and the present commercial relations of the Hawaiian Islands are continued, as hereinbefore provided, said government shall continue to pay the interest on said debt.

ARTICLE V.

There shall be no further immigration of Chinese into the Hawaiian Islands, except upon such conditions as are now or may hereafter be allowed by the laws of the United States, and no Chinese, by reason of anything herein contained, shall be allowed to enter the United States from the Hawaiian Islands.

ARTICLE VI.

The President shall appoint five commissioners, at least two of whom shall be residents of the Hawaiian Islands, who shall, as soon as reasonably practicable, recommend to Congress such legislation concerning the Territory of Hawaii as they shall deem necessary or proper.

ARTICLE VII.

This treaty shall be ratified by the President of the United States, by and with the advice and consent of the Senate, on the

one part, and by the President of the Republic of Hawaii, by and with the advice and consent of the Senate, in accordance with the Constitution of the said Republic, on the other; and the ratifications hereof shall be exchanged at Washington as soon as possible.

Mr. BERRY, Democratic Congressman from Kentucky, in a recent interview, speaking of the natural beauty of the islands and the value of their products, says: "It is worth the long voyage there to see one of the finest spots on the habitable globe. Every flower and plant that is familiar in this country grows in Hawaii with a luxuriance that challenges the admiration of the pilgrim from the States. We cannot begin to match its wonderful flora. Then the coffee and sugar plantations appeal to the sightseers. I saw a coffee farm of thirty acres which had 1,000 bushes to the acre, each bush good for two pounds of coffee. At seventeen cents per pound the owner gets $340 for every acre in cultivation, which is a good deal better than raising cotton and wheat in the United States."

The administration and advocates of annexation are very anxious to secure the earliest consideration of the treaty. One point which the Committee on Foreign Relations will be called upon to decide is, whether to proceed to ratifying the treaty of annexation or to annex the islands by resolution. A ratification of the treaty would require a two-thirds majority, while in the form of a resolution, in open Senate and House, a majority only would be sufficient.

Texas was admitted by resolution after the Senate had refused to ratify the treaty, and I believe the same course will be adopted in regard to Hawaii, should the members of the Foreign Relations Committee be doubtful of obtaining a two-thirds majority.

Japan's claim against Hawaii for indemnity for treaty violation in excluding the Japanese, seems to be just, and I don't doubt our government will so consider and meet it.

REPRINTS AND TRANSLATIONS.

THE CAMPAIGN AGAINST WEI-HAI-WEI.

In this account of the campaign against Wei-Hai-Wei, I will use information that I received while at Wei-Hai-Wei, from our army officers who were there with the Japanese army, from the Japanese officers who were in the engagement, and from personal observations.

The harbor of Wei-Hai-Wei is very large, and will accommodate a fleet of almost any size. It is protected from storms by the island of Leu Kung Tau. It is also protected by a series of shoals, so that the waves are well broken up before they get into the harbor. The southern part of the harbor is not deep enough for large ships, so that the usual anchorage is on the north side, close to the island of Leu Kung Tau.

It was but a short time ago that the Chinese saw the necessity of doing anything in the way of fortifications, but when they did begin they left nothing undone that would help them, except putting in a large dry dock, and the very important item of getting officers and men qualified to use the guns, and who had grit enough to fight. I was told while on the field that the fortifications cost fifty million yen, or twenty-five million dollars. Of course the Chinese in authority had to get their share first, and that was large, so that considerable of this did not get to the fortifications. Forts were placed wherever there was any possibility of approaching from seaward, and I heard one of the military experts who was there, say, "Give me ten thousand trained soldiers with plenty of provisions, and you can have as many as you please and I will hold my own." He possibly made it too strong, but it is no exaggeration to say that the fortifications were as nearly perfect as man could build them.

We left Nagasaki in December, and while there knew that the Japanese were preparing an expedition against Wei-Hai-Wei, and as the Chinese must have known of it, it is surprising that they did not do more in the way of provisioning the defenses. We went to Chefoo, where we remained until January 6th, when we left for Chemulpo, Korea. On the 21st of January we were anchored

peacefully in that harbor, close to the English squadron. About 9 A. M. we sighted a man-of-war coming in, which proved to be the Aeolus, a British cruiser. She notified us that the Japanese had landed on the Shantung promontory. Quiet reigned no longer. Boats began running from one ship to another to notify other men-of-war in the harbor of their intended sailing; boats were hoisted in, signals were made from ship to ship, steam was gotten up, and almost all men-of-war left at once for Chefoo, as that was the closest port to the seat of war.

We passed the point where the Japanese had landed at night, so that we did not see anything but the lights of some of the picket vessels.

The Japanese found some Chinese troops to oppose them when they landed at the light-house, but these troops did not offer much resistance, and shortly afterward the light-house hauled down the "Dragon" and sent up the "Rising Sun."

The main body landed up the coast nearer Wei-Hai-Wei and soon dispersed the Chinese who were there to keep them off, and when all was in readiness, advanced slowly on the place, and on the 30th they commenced the attack both by sea and by land. The eastern forts were first attacked, and the Chinese replied to the fire with promptness and vigor. The eastern forts were well equipped with modern guns. The parapets were from sixty to one hundred feet thick, the magazines were well arranged and well protected from seaward, and plenty of men were there to handle the guns. Their aim, however, was not good, and the number of hits small.

The Chinese, when the forts were being built, thought they might be driven out of them, so they built small forts in the rear, and provided them with field guns in order that the lower forts could be made untenable by the fire from the others in the rear. They had, however, expected the Japs to "fight fair," but the Japs after the fight had been going on for some time, managed to get in behind and take the rear forts first and soon had their guns trained on the Chinese below, and the result was that in a few minutes one of the magazines was blown up, and then all the forts were deserted, arms were thrown away, and safety everybody's object. Many were in flames who were in the fort that was blown up, and ran until they burned so badly they could go no farther and dropped dead or died later from their wounds, or were frozen by the terrible cold that came on.

It did not take the Japanese long to occupy the deserted forts, and the guns were then turned on their late owners and heavy shell from them was rained on the Chinese batteries on the Channel Island and on the Chinese fleet. But the Japanese received a heavier fire than they could give, for the batteries from the forts on the islands Leu Kung Tau and Channel Island, and the guns from the Chinese fleet commenced a furious bombardment on the recently captured forts, and did some damage, but could not drive out the Japanese though they silenced them for a while.

The Japanese made no advance during the next two days, but on February 2d a scouting party found that all of the western forts had been abandoned and their magazines blown up, but not an armed Chinaman was in sight. These magazines were probably blown up on the 30th during the engagement, so that the Japanese could not distinguish between the firing and the blowing up of the magazines. Wei-Hai-Wei was doomed. All the forts on the coast were in possession of the Japanese, and the Chinese commander probably knew that it was only a question of time before the Japanese would starve them out if they could not be forced out any other way.

The Japanese immediately placed mortars behind the hills and ridges and began dropping shells on the fleet and island forts. The firing was steady, the Japanese fleet taking part occasionally, but leaving a good share of the work to the captured forts.

On the night of the 5th of February the Chinese got a blow they did not expect. The Japanese torpedo boats, eleven in number, made an attack that cost the Chinese their flag-ship, the "Ting Yuen." The admiral was on her at the time but escaped, and transferred his flag to the "Chen Yuen," a sister ship of the "Ting." A couple of the Japanese torpedo boats were badly strained in clearing the obstructions that the Chinese had placed there to prevent such an attack, and one torpedo boat was lost by running ashore, but the loss was nothing comparatively. The next night six of the torpedo boats renewed the attack and this time they got the "Lai Yuen," the "Wei Yuen," a tug, and a junk, that was sunk by mistake. It was very dark, and whenever a torpedo boat got close enough to a vessel they did not stop to investigate. The "Lai Yuen" was a good cruiser of about 2,300 tons and a sister ship of the "King Yuen" which was sunk at the battle of Yalu River. When the torpedo hit her she capsized almost immediately, and two hundred feet of her keel is all that is to be seen of her.

The "Wei Yuen" was a small vessel used as a school ship, and her loss did not amount to much. Another loss the Chinese sustained was the sinking of the "Ching Yuen." She was at anchor in the harbor and riding end on to one of the Japanese forts. By a lucky shot a shell was put into her at the water line that went through her from stem to stern, passing out below the water line. This one shell sunk her as it broke through all the water-tight bulkheads. She sank in about four and a half fathoms, and her forecastle gun points horizontally over the water, but the carriage is invisible at high water, and looks as if it were out there to shoot ducks.

During all this time we were anchored at Chefoo, we could hear the reports of the heavy guns when it was calm, and on the nights of the torpedo attacks we could hear the firing plainly.

The morning after the second attack, about 9 A. M., my attention was called to a torpedo boat that was barely visible just coming in sight through the mist. I was on duty at the time and reported it to the officer of the deck. The torpedo boat did not

have any colors flying, and from the way the smoke was coming from her pipes and from the foam she was making with her bow and screw, it was evident she was losing no time. Many were the surmises we made, some saying it was a Jap, others maintaining that it was a Chinaman, but when another came in sight a minute or two later under like circumstances, we all agreed that it was a Jap chasing a Chinese boat. That it was not a Chinese torpedo boat after a Jap we all knew. We were all mistaken, however, for soon after we saw a vessel showing through the mist that we knew at a glance was the "Yoshino," Japan's swiftest cruiser, and she was followed by the "Tachichido," another swift cruiser. When we saw them we knew that the torpedo boats were Chinese, and that the Japs were in pursuit. They rounded a point near us and soon we heard firing. One boat escaped, but the other was caught in the ice and shot to pieces. Knowing that they would be captured if they remained, they had tried to escape with the above result. The Chinese fort at Chefoo opened fire but did no damage.

It became evident to Admiral TING that he must surrender. Not that the fire was hurting him so much, but his officers were insisting each day that they must surrender or be killed. Day by day he urged them to wait for reinforcements, that he knew would not come, until they would not be held any longer.

On the 12th, therefore, he sent a flag of truce to Admiral ITO, making overtures for the surrender of the place. He received an answer agreeing to the surrender and also agreeing to parole all officers and men, if the place was turned over without further destruction. When Admiral TING saw he could do no more for his officers and men he committed suicide. The general of the army did the same, and no one was left to carry on negotiations. Finally Admiral ITO asked for some one to conclude the surrender of the place, and after much persuasion the "Tauti" went out and arranged the surrender. All the forts, one battle ship, three cruisers, six gunboats, and eleven torpedo boats, were turned over to the Japanese. In return the officers and men were all paroled except an American named HOWIE, who was held for breaking his parole. He had previously been taken off a French vessel and then been released, on his agreeing not to serve against Japan during the war. He was at the time under contract to serve China, and, notwithstanding his pledge to Japan, he proceeded to Wei-Hai-Wei at once and begun work with them. His claim was that Japan did not release his companions, and that this released him. The Japanese held him until the close of the war then turned him adrift. We thought the Japanese would execute him, and from what we heard of the case we thought he ought to be shot. All the foreigners at Wei-Hai-Wei say that he was a very brave man and the life of the defense. When anything dangerous was to be done HOWIE did it, and he gave many examples of heroism—but he violated his oath.

This fighting all took place before we reached Wei-Hai-Wei, but we arrived before the place surrendered. I was attached to the "Baltimore," but had permission to go down as a passenger on the "Charleston" to see what had happened.

On the 16th, as we approached Wei Hai-Wei, we saw two men-of-war guarding the northern entrance. When near them we stopped, lowered a boat and sent a boarding officer to one of them to see what had happened. They said they could give us no information, but that the admiral was with the fleet a few miles beyond. We went there and found all the fleet, many transports and torpedo boats. We found that they had been holding a conference and we decided to remain there. The next day the whole fleet got underway and went out, as we supposed, to make a demonstration, but judge of our surprise and astonishment when we saw them going directly into Wei-Hai-Wei. We wanted to go in then, but Admiral ITO said that there were many torpedoes in different places and that he wished to get them all out before foreigners entered, so the 19th was the day set for entering.

On the 19th, therefore, we went in and anchored and began to look around to see what had happened. The harbor was full of men-of-war and transports, but the things we most wished to see were the captured vessels and what was left of those that had been sunk. Of the one, we saw two hundred feet of her keel sticking up. This was the "Lai Yuen," that capsized after being torpedoed. The "Ting Yuen" was in sight, and looked like a big mass of wreckage, and she was no more than this, and the others that had been sunk were to be seen in other parts of the harbor. We asked permission of Count OYAMA to visit the places ashore, and from Admiral ITO to visit the men-of-war, and as they made no objections we were ready to go to work the next day.

Our party started early on the 21st to the western forts, Lieutenant SHARP, U. S. N., Lieutenant O'BRIEN, U. S. A., and myself making up the party, while Lieutenant WHITE, U. S. N., Lieutenant BEACOM, U. S. A., and Cadet Engineer M. B. PEYQUET, U. S. N., went to the eastern forts. On the map the forts are lettered A, A, B, C, etc., beginning at the west, and I shall use this notation throughout.

The fort lettered A had in it seven Krupp guns in good condition. The parapets were also in good condition and they were from seventy to one hundred feet thick, with the exception of the upper terrace. There were four terraces, each of the lower having two guns while the upper had but one. This was put in the summit of the hill and the parapet on the seaward side was about thirty feet thick, while the harbor side was barely twenty feet. When the Japs took this fort they planted a number of mortars behind the road leading to this gun and the Chinese in trying to destroy these struck the upper parapet twice, but did no damage, except to slightly injure the after transom of the carriage. The fort had not been finished, as the walls had not been completed, and it was evident that work was progressing when the attack was made. To the west was a small bay which was not protected by this fort, so a small fort was put in a considerable distance back from the water, and as it was out of sight no one knew of its existence until the fight was over. It was a long distance, so the others did not care to

go, but I went to see it and was probably the only foreigner who did see it. It has two Krupp guns. The parapets are fully forty-five feet thick and it was very nicely put up. This was the only one of the western forts that was not blown up, and as I could see no ammunition, I took it for granted that the Japs had taken them unawares and that this fort had not been given any ammunition.

The other forts contained large guns, and all were in good condition, but in each case the magazines had been blown up, while dirt, stone and hundreds of first class shell were lying around in indescribable confusion.

It is hard to say at whom I felt the most indignant, the Chinese for deserting such magnificent works without a fight, or the Japanese for continuing this work of destruction by blowing up the guns. They did not wish to leave men enough there to man all the forts, and as they could not transport the large guns easily they had decided to destroy them. They were trying to burst them by putting in guncotton, but beyond twisting the rifling no noticeable damage was done. They found, however, that they could easily destroy the carriage so they used guncotton there as well, and by placing a charge on the loading platform they entirely disabled the gun. They destroyed in this manner all the large guns on the mainland, twenty-seven in number, but those on the island were not injured, I believe.

The next day was the 22d day of February, and we remained aboard ship.

It is a custom when vessels of one nation celebrate, that the vessels in the harbor of other nations assist. This celebration usually consists in decorating the ship with flags, and firing a salute of twenty-one guns at noon with the flag of the nation celebrating at the main. There were about thirty Japanese men-of-war or armed transports, one Russian, one Italian and one Englishman, so that when we had dressed ship it did not look as though we were in the midst of war. At noon, however, when about thirty-five vessels began firing it sounded somewhat like it, about seven hundred and fifty rounds being fired in a few minutes. I might add that many English commanders do not like to celebrate the 4th of July nor the 22d of February, so the day previous to either of these dates they get up anchor, put to sea, returning the day following. By so doing, they do not have to fire a salute to us, and still avoid refusing to do so, as this would cause trouble. This is particularly the case on the 4th of July, but it is done by some commanders on the 22d of February also.

On the evening of the 22d we took a steam launch and went around the harbor to inspect the vessels. The first vessel we visited was the "Chen Yuen," the battle ship. She seemed to be in good condition about the waterline, but needed docking. She had touched shortly before and had put a hole in her bottom, but had had temporary repairs. Her upper works were riddled, while at the battle of the Yalu, the Japanese had given all their attention to the two

battle ships, which altogether received four hundred hits. All the shot holes had been covered over and her side was one mass of patches. No shell had penetrated her vital parts, however, and she was seaworthy. Some heavy shell had hit her armor and turrets, but the protection was fourteen inches, and the shells did not penetrate.

The next ship we visited was the torpedoed "Ting Yuen." A more complete wreck could not be imagined. When struck by the torpedo she had gone into shoal water before sinking and at high tide her upper deck is flush with the water. When she was sunk the Chinese seemed to know that sooner or later she would be captured, and to prevent them raising her they put dynamite down her smoke pipes and blew her up. Her decks are badly torn up and her beams and frames twisted into inconceivable shapes, and repairs are out of the question.

The Japanese captured in this campaign the following vessels. The "Chen Yuen" battle ship of 8,000 tons, the "Ping Yuen" armed cruiser, "Tsi Yuen" cruiser, and "Quong Ping" torpedo cruiser, six gunboats and eleven torpedo boats. Besides losing these vessels the Chinese lost four by being sunk, two of which the Japanese will probably raise. On shore the Japanese captured twelve forts, fifty-one guns of twelve centimeters or over, a large number of field and siege guns, thousands of the finest of shell of all sizes, 150,000 rounds of ammunition (marked U. S. Government and in fact everything that could be used in carrying on war.

The defense at Wei-Hai-Wei was weak—very weak. The only part of the defense that was spirited was on Channel Island. Here there were two eight-inch guns mounted on disappearing carriages, two twenty-four centimeter and two six centimeter guns. Innumerable shell were rained in on this little island and the parapets were eaten away badly, and buildings torn down, but still the fort held its own. When the Japanese would pour their fire in heaviest, the guns on the island would cease firing for a while, but when the fire had slackened a little, the disappearing guns would rise up and send their compliments to the Japs. Finally a shell got into the kitchen and exploded under the cook. When last seen he was sailing heavenward and is supposed to be moving through space now, as the shell sent him so high that the attraction of gravitation had no influence on him. At any rate he has not returned, nor has he sent a message to his friends.

Other parts of the defense did well for a while, where the officers were capable, but in no place was the defense so good as this.

The endurance of the Chinese is wonderful. While at Chefoo I went to the hospitals and saw many badly wounded who had walked from Wei-Hai-Wei, between thirty and forty miles, when the thermometer was from six to fifteen degrees below zero. One fellow had his shoulder splintered and had started to run when another bullet caught him in the back. I saw this bullet extracted. It had lodged in his spine and was wedged in so tightly that it required

an extra hard pull to extract it. Yet this fellow had walked that distance with these two wounds, and this is but one of the many cases they had at the hospital.—*G. L. Holsinger, K. C. at the M. O. of the L. L. of the U. S.*

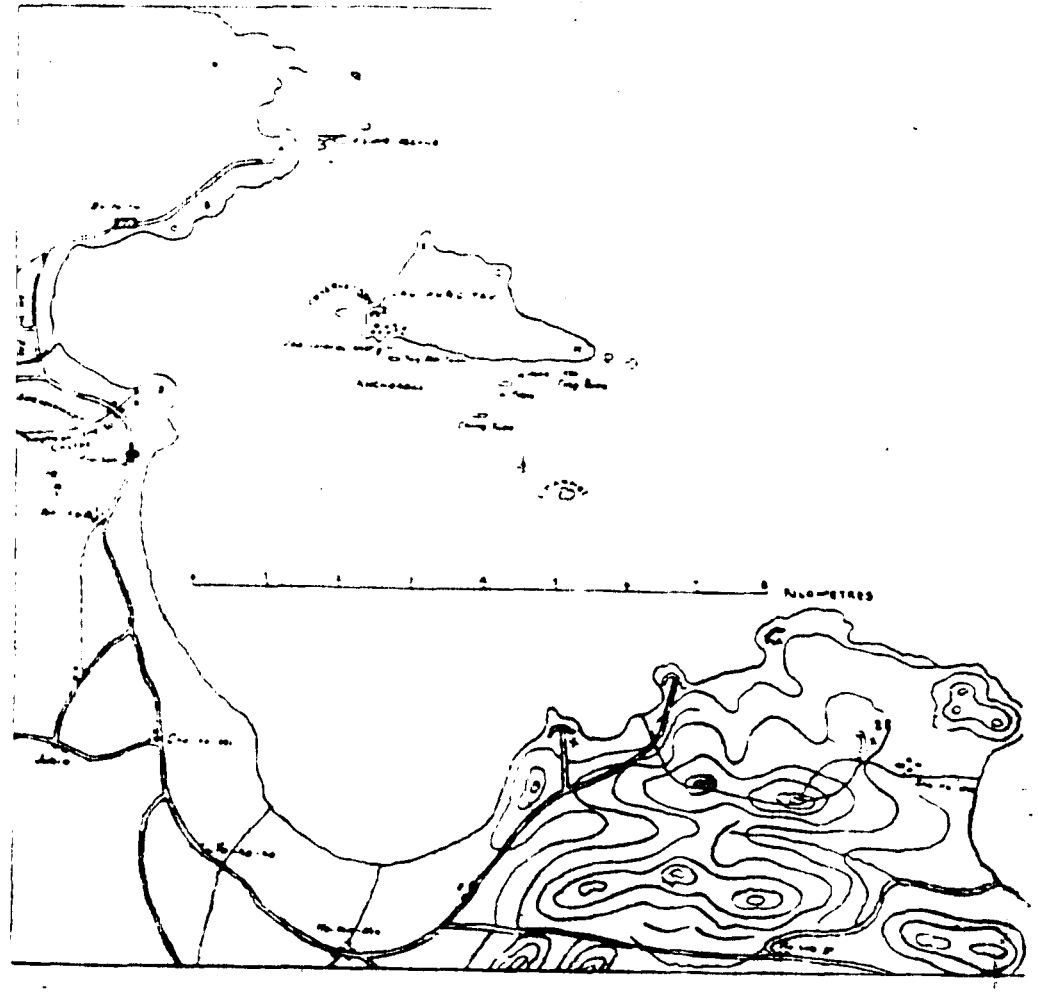
YESTERDAY.

Thinking the reminiscences of a volunteer [illegible] recalling his youthful impressions regarding some of the army officers he met during the war may be of interest, I mention

GENERAL S. D. STURGIS,

who, for a time, commanded our cavalry division in East Tennessee. We had been holding the line of the French Broad River with our cavalry pickets guarding the fords, with LONGSTREET's command on the opposite side of the river. For reasons not known to me General STURGIS withdrew his forces from this line, and that day the entire division of cavalry fell back slowly. At that time I was adjutant of the Seventh Ohio Cavalry. Three companies of my regiment had been on picket duty at the fords of the river. Two of these companies were duly relieved by General STURGIS and reported back promptly to the regiment. The third company did not report. After the division had fallen back some three or four miles, I was much disturbed regarding the safety of this picket command. I and of my regiment, Captain EYLER and Lieutenant DRYDEN. In a hot-headed way I remarked that General STURGIS was sacrificing his pickets in the movement then in progress.

Without my knowledge this remark was carried to General STURGIS, or, at all events, reached him in some way. Soon after a message was received from division headquarters, directing the adjutant of the Seventh Ohio Cavalry to report in person immediately to General STURGIS. I galloped over to the road General STURGIS was marching on, and soon found him sitting on a fence waiting for me. I rode up to him, saluted, and informed him I was the adjutant of the Seventh Ohio Cavalry under orders to report to him. He immediately exploded in language that was plain, asking what in h—l (with a blue and sulphurous vocabulary of adjectives I meant by circulating the report that he was sacrificing his pickets in the movement then in progress. At that time I stood in awe of so great a person as the division commander, and for a few seconds was short of breath to make reply. Now, in those days I had a good vocabulary of picturesque "words" of my own, and as soon as I could get my breath I began letting them out, and told the general in his own language that the explanation of my remark could be found in the fact that one entire company of my regiment under Captain EYLER and Lieutenant DRYDEN was standing picket at Jones's Mill on the French Broad River, now some five miles to our rear, and knowing these two officers as I did I could say to him



that they would stay longer than CASABIANCA had stayed on the burning deck. General STURGIS was about as much surprised with this answer as I had been by his remarks to me, but instantly said to me: "That is all I want of you *now*, I stop the division right here and will send back a regiment after that picket company." He then turned to his inspector-general, and with a flow of "words" took him sharply to task for failure to relieve this picket company, and immediately sent one of the Michigan regiments at a smart gait to bring in Captain EYLER'S company. The entire division was halted, and in due time the regiment came back bringing the picket company with them. General STURGIS said nothing further to me at that time, and I returned to my regiment. The next morning while we were on the march, General STURGIS came over to the road we were moving on. Standing on the roadside he asked for the Seventh Ohio Cavalry, and being informed that we were approaching, he awaited our coming. As I rode up he came towards me, and in a handsome manner raised his hat, and said, "Good morning, Adjutant; I hope you are well." That was all, and that was enough. I always had a liking for General STURGIS from this, our first meeting, described above, till the day he left us.

CAPTAIN MILES KEOGH.

This young Irishman came to us as an aid-de camp on the staff of General STONEMAN, who, for a time commanded our division. At that time we considered ourselves veterans, having served two years, and were a good-deal disposed to resent the presence of newcomers. We did not like the style of Captain MILES KEOGH; there was altogether too much style. He was as handsome a young man as I ever saw, then I should say about twenty-three or twenty-four years of age. He rode a horse like a Centaur. He had a fresh Irish complexion like the pink side of a ripe peach—more like the complexion of a sixteen-year old girl than of a cavalry soldier. His uniform was spotless, and fitted him like the skin on a sausage, if there had been any more of the man, or any less of the uniform, it would have been a misfit. We were told that he was from the Pope's body guard. We were not caring much in those days for the Pope or his body guard, and at all events we did not care much for Captain KEOGH, and particularly did not like his style. We gave him the "cold shoulder," and as he passed us side remarks were passed, such as, "I wonder if his mother cuts his hair?" "What laundry do you think he patronizes?" etc., etc., and nobody permitted him to drink from their canteen. One day not long after KEOGH joined us, we got into an argument with the enemy's cavalry, and found particular difficulty in driving them from a wooded knoll which commanded our position. Two or three unsuccessful efforts had been made, but the enemy continued to hold the position. Soon Captain KEOGH came galloping to our front with an order from General STONEMAN, directing us to drive the enemy from the position referred to. After delivering this order KEOGH said that he

had permission from General STONEMAN to ask for the command of the force that was to carry out this order. A battalion of four companies (nearly 300 men) were placed at his disposal. In column of companies he started at a brisk trot, and getting under fire, raised himself in his stirrups, and with cap in hand, turned to the battalion cried out, "*Hip, Hip, Hurrah, Boys! Here we go!*" and breaking into a gallop, the battalion with KEOGH well in the lead, charged on the enemy capturing all whose fleetness of horse did not permit them to escape. The position was quickly won, and KEOGH ever afterwards was a most welcome guest at every campfire, and every canteen in the regiment was freely proffered to him. Many a volunteer of 1861–1865 sincerely mourned his death when the wires flashed to us the news of the disaster that had occurred on the Little Big Horn, when KEOGH died with CUSTER.

GENERAL A. V. KAUTZ.

When colonel of the Second Ohio Cavalry, General KAUTZ for a time commanded our brigade. He was a most thorough and conscientious commander, and had our unbounded respect and confidence. One day when we occupied the line of the Cumberland River, near Somerset, Kentucky, we crossed to the southern side of the river, then occupied by General PEGRAM of the enemy's force. We gave PEGRAM "a good run for his money" and drove him several miles back into the fastness of the mountains beyond Monticello. We then started on our return to the north side of the Cumberland River. As we approached the river we stopped to rest the men and horses. We were surprised to hear firing by our rear guard, and soon a messenger brought the information that PEGRAM, in full force, was giving the rear guard a double-hand full of fight and a horse race. General KAUTZ threw his command into the saddle and reinforced the rear guard with his entire command. I went into this fight immediately behind General KAUTZ, who pushed his whole force in at once, and met PEGRAM's advance in a dense woods, grown up with underbrush. In an instant the two forces were within pistol shot of one another, and in another instant were hotly engaged at hardly arm's length. There was imminent danger of the two forces being mixed together. One of our sergeants took a prisoner from the other side of the tree the sergeant was using for a breastwork—the two men of contending forces using the same tree for a protection. The fighting continued till dark, when both sides withdrew from the field, it being a drawn fight, and neither side claiming to have done more than hold their own. During the night details from each side visited this dense woods to recover the wounded, and the searching parties worked under a self-constituted truce. This affair was known as the Rocky Hill fight, or the affair at Captain WEST's farm. General KAUTZ, in speaking of this affair after the war, said it was the "hottest little fight" he had ever experienced. One officer of the Second Ohio Cavalry was shot through the body near the lungs. His comrades carried him under a tree where they expected him to die every

minute. Colonel SIDNEY MAXWELL, of Cincinnati, Ohio, who was a newspaper correspondent on this occasion, saw this wounded officer dying. Twenty years afterwards he was very much surprised to meet this officer alive and well, he having recovered from his wound which was supposed to have been fatal.

GENERAL WM. P. SANDERS.

At the time of the raid of General JOHN MORGAN, from Burksville, Kentucky, across the States of Kentucky, Indiana and Ohio, General KAUTZ commanded our brigade. At Buffington Island, Ohio, where we overtook MORGAN, on July 19th, 1863, KAUTZ commanded the advance and attacked MORGAN on sight. Colonel SANDERS at that time commanded a Michigan regiment. General KAUTZ sent the writer of these lines with an order to Colonel SANDERS directing him to charge the enemy with his regiment. In delivering this order to SANDERS I observed that, after sending for his regiment to come to the front (it being a little ways in the rear) he rode his horse to a brook near by, throwing his bridle rein on the horse's neck, and while the horse was drinking SANDERS reached into his pocket and brought out a pair of kid gloves, which he proceeded to put on with the utmost care, pulling the glove over each hand and pressing it down over each finger, as though dressing for some social function. I was quite interested in observing this performance, and wondered if it was the correct and proper thing with regular army officers to lead cavalry charges with their hands carefully dressed in kid gloves. SANDERS had previously demonstrated his gallantry, and we all knew that he was well supplied with "sand," and was a soldier of capacity, courage and the highest merit. I concluded that the glove episode was not indicative of anything, and that he had put on the gloves unconsciously and while preoccupied with the matter at hand. In an engagement with the enemy at Dutton Hill, near Somerset, Kentucky, General SANDERS, then a captain on the staff of our commander, General QUINCY A. GILMORE, gave an evidence of his capacity to seize the opportunity as offered. This was a very interesting cavalry fight, with the peculiar feature that the opposing forces "swapped" positions during the fight, we occupying their original position and they occupying ours. Immediately upon this change taking place, General GILMORE sent an order by General (then Captain) SANDERS for one battalion of our regiment to charge the enemy's position—SANDERS stating to our commander, General ISRAEL GARRARD, that General GILMORE had given permission for him (SANDERS) to ask for the command of the battalion. The Second Battalion of the Seventh Ohio Cavalry was immediately placed at his command, and leading this battalion he drove the enemy quickly from his position, and, taking up the pursuit, disappeared in the near by forest. We could hear his firing growing more and more distant till it died away. He pursued the fugitives until he had captured a large part of the command, and returned to us with three battle-flags and a

big drove of prisoners. General SANDERS' untimely death (killed while opposing LONGSTREET's advance upon Knoxville) lost to the service an officer of the highest merit, and who, had he lived, would have attained the highest rank as a cavalry commander.

GENERAL JAMES H. WILSON.

The volunteers who had the good fortune to come under the command of this brilliant cavalry leader, are always outspoken in their praise of him, and are equally proud of saying they belonged to WILSON's cavalry corps; they are proud of their commander and of their own achievements under his masterly direction. We have been accused of being tender-hearted in our regard for General WILSON, and freely admit the truth of this charge. I think it will apply to every soldier who served in WILSON's cavalry corps. We all had this tender-hearted affection for him. The reason is plain: viz: he always led us to victory; he made us proud of ourselves, and we rewarded him with our confidence and our affection.

The memory of a little episode which introduced me to General WILSON has always been a pleasant recollection.

We had been resisting HOOD's advance into Tennessee just prior to the battles of Franklin and Nashville, in 1864. FORREST, with his cavalry corps, had crossed Duck River above Columbia. Our cavalry division had been holding the line of Duck River, but was then falling back toward Franklin. A lively cavalry engagement was in progress in the valley of Duck River, when at dusk, I was posted with my company of sixty Spencer carbines to cover the retreat of our forces over a rocky ford. I had a strong position and felt myself capable of checking the enemy's advance at this point. One brigade, commanded by Colonel CAPRON, in falling back became a little too hasty, and in their efforts to "advance to the rear," ran over my company at the ford. Naturally I was in a bad humor over this, and was "saying things" to everybody who came within reach or hearing. In the meantime our forces had all passed across the ford; the enemy occupied the opposite side, and my company was keenly alert, watching for the next possible move. It had now grown almost dark. In the gloaming of that November evening a single horseman rode up to my post and began to ask questions, one quickly after another. As stated, I was in an exceedingly bad humor, damning the brigade which had just run over my post, and was not in a humor to carry on an extended conversation with anybody. However, I answered the questions, though not in a very polite language. After a half a dozen moments of vigorous questions my unknown visitor asked who I was. I replied, "I am Captain ALLEN of the Seventh Ohio Cavalry, and don't care a damn who knows it." With this my visitor started to depart, when I halted him and asked, "Who are you? These are times when we are particular." I was surprised when the answer came, saying my visitor was General WILSON.

I explained to the General that I did not think I could give him any more information than I had given him, but if I had known who he was the language would have been more carefully chosen. "Oh! that's all right, Captain," he replied over his shoulder, as he galloped off in the darkness.

At this particular moment my outpost was the most important on our front, and the above incident is mentioned to show that General WILSON was then, as always, on the spot in person, where he could with his own eyes see the first move of the enemy and meet it promptly.

The "subsequent proceedings" of WILSON's cavalry corps, with its intrepid leader, mark some of the most brilliant pages of history. Holding the right of General THOMAS's army in the two day's battle of Nashville, it met with continued success, doubling HOOD's left flank back on itself, and thereby weakening the enemy's entire line, for, if there is one thing more than another that a soldier does not like, it is to have his "flank turned." In this two day's battle at Nashville, WILSON's cavalry corps fought mounted and dismounted, as the nature of the ground necessitated, and met with success both ways, again demonstrating the truth of General WILSON's remark, that his corps was efficient "afoot or horseback," and could be depended upon in any emergency except, possibly, *at sea*. Their efficiency had never been tried in *sea warfare*. In the pursuit of HOOD's army after the battle of Nashville, the cavalry was handled by General WILSON with superb skill, resulting in the capture of great numbers of prisoners, battle-flags, guns and munitions of war. The remnant of HOOD's army never afterward proved effective in preventing the triumphant advance of the victors.

The great raid of this cavalry corps, comprising 12,000 well-mounted and well-armed troopers, ripping the bowels out of the Confederacy, was a brilliant ending of the campaign in the west, and included the capture of 5 fortified cities, 7,000 prisoners, 22 battle-flags, 280 pieces of artillery, and over 100,000 stands of small arms, besides vast quantities of other munitions of war, closing the campaign with the fitting climax in the capture of JEFFERSON DAVIS, the President of the Confederacy. At this time WILSON's cavalry corps formed an armed cordon, reaching from Dalton, in the mountain fastness of North Georgia, to Saint Marks, Florida, on the Gulf of Mexico, a distance of about 300 miles. The entire command was under the control of General WILSON, with his cavalry detachments posted at all cross-roads and at every ferry. As an indication of the alertness of this command at this time, it may be mentioned that, while the capture of JEFF DAVIS fell by the fortune of "good luck" to Lieutenant-Colonel B. D. PRITCHARD, of the Fourth Michigan Cavalry, the flight was so closely under observation that within a few minutes of the actual capture, Lieutenant-Colonel HENRY HAMBDEN, of the First Wisconsin Cavalry, who first discovered the trail, was on the spot ready to make the capture if PRITCHARD had not been luckily a few minutes ahead of him.

The 12,000 troopers who were under General WILSON's command on this campaign composed probably the largest body of well-armed and well-mounted cavalry that ever moved on this continent as one command. The consummate skill and brilliant success with which General WILSON handled this large body of horsemen demonstrated the wisdom of our great commander, General GRANT, in selecting WILSON for this important command.

At this time General WILSON was about twenty-seven years of age, and the 12,000 cavalrymen who swung into their saddles at the sound of his bugle to follow his battle-flag were mostly "youngsters," from twenty to twenty-five years of age, though all seasoned veterans of three or more years' service.

General WILSON was born at Shawneetown, Illinois, graduated from West Point in the first year of "our war," proving that he was born at the right time to enable him to win his major-general's double star within three years from leaving the cadet school room. The troopers who followed his lead were, like himself, "youngsters," who had thrown aside their school books or law books, or dropped the plow or harrow about the time their commander had dropped his school books, and were mostly from Ohio, Indiana, Kentucky, Michigan, Illinois, Wisconsin, Minnesota, Iowa, and other Western States.

No commander ever held a command in "our war" (1861–1865) who had in a greater degree the love, confidence and faith of his command than WILSON's 12,000 cavalrymen freely gave to their leader. A soldier dearly loves a commander who leads to victory; in loving him they honor themselves.

THEODORE F. ALLEN,
Late Captain Co. D, Seventh Ohio Volunteer Cavalry.
Brevet Colonel, United States Volunteers.

PROFESSIONAL NOTES

ROYT'S AUTOMATIC APPLIANCES FOR THE RIDING SCHOOL.

Those who have had much experience in riding school work doubtless fully appreciate the inconveniences resulting from having to keep half a dozen men dismounted in order to replace heads and rings as they are taken off by troopers in "running at heads," as prescribed in paragraphs 398 and 399, Cavalry Drill Regulations. This is particularly inconvenient in recruit drills where the small number of men at drill necessitates a detail of half the squad to replace heads and rings.

The devices described below are the invention of Blacksmith FRED ROYT, Troop "E," First United States Cavalry, and while they may not all be new, I never have seen any of them described in print.

HEAD POSTS.

The posts are hollow, being made of four boards nailed together in an upright position. In the top and supported by a shoulder rests a hard wood block whose upper surface is spherical, and which has a ¾ in. hole running vertically through the center. The lower part of the head is also spherical. It may be of hard wood or be made of sheet copper beaten into proper shape. A ¾ in. hole also extends vertically through the middle of the head. A piece of ¼ in. rope is now passed through the head from top to bottom and knotted at the upper end to prevent its being pulled completely through; the rope is passed on through the hole in the hard wood block and a weight attached to the lower end inside the hollow post. This weight is so adjusted that a cut or thrust will simply push the head to one side; as the rider passes on the head pops back into place by the action of the weight. This device is equally applicable to the tall or short head posts.

RING POST.

This post is also hollow and made in a similar way, but must be about nine feet high. The arm about four feet long which extends out over the track, is made of a piece of half-inch water or gas pipe, and is bent downward at the outward extremity as shown in our

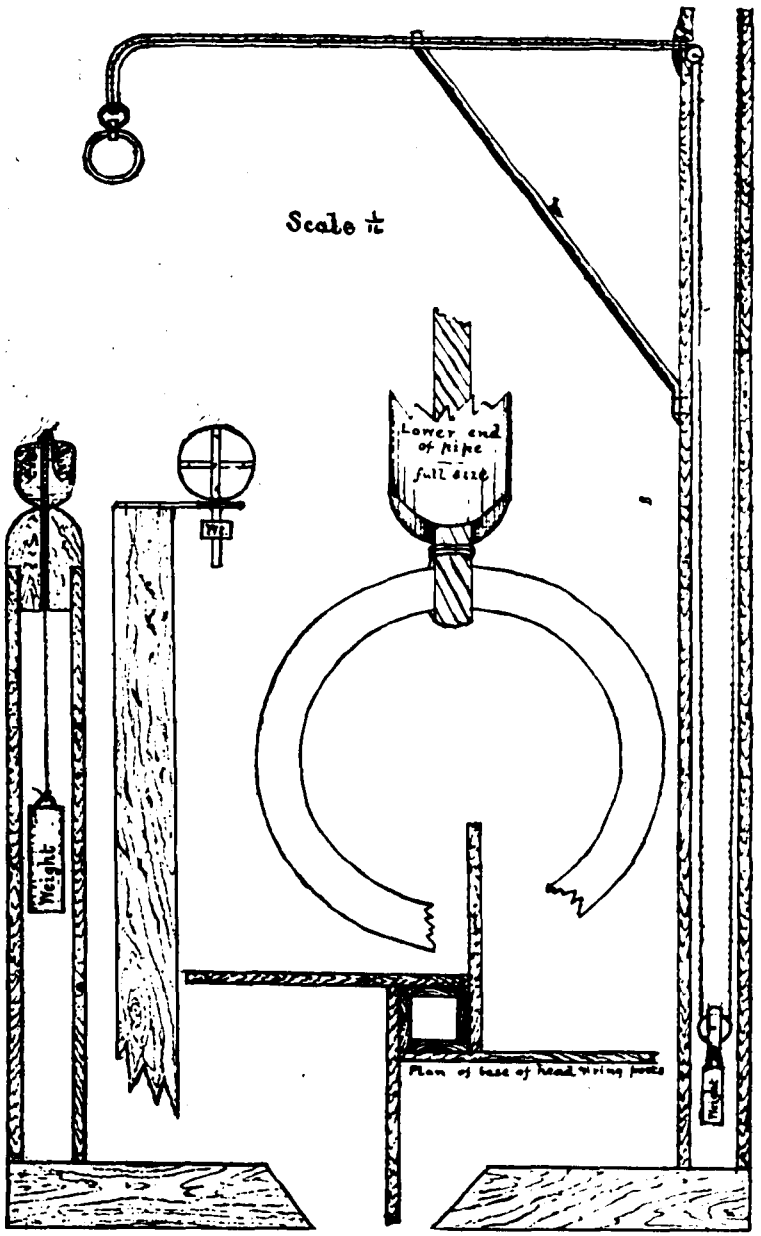


illustration. A notch, whose axis lies in a vertical plane through the pipe, is cut in its extremity and the edges well smoothed off. In order in insure the ring always pulling into the notch, and thereby being held in a plane perpendicular to the track, one lip of the notch is longer than the other as shown in the enlarged illustration.

A small pulley or roller is placed inside the post and opposite the end of the tube. A strong, smooth cord, one which will withstand considerable wear, is now tied to the ring and the free end passed through the tube, over the pulley or roller, down into the post and under a moveable pulley, to which a weight is attached, as shown in the cut, and thence upward and tied to a nail near the top of the post. The trooper in running his saber through the ring will probably carry it a yard or two before a turn of the wrist will enable him to get rid of the ring by sliding it off the saber. The ring when released is immediately pulled back into place by the action of the weight and its upper edge is pulled into the notch or lip cut in the end of the tube which acts to hold the ring in a plane perpendicular to the track.

TARGETS FOR MOUNTED PRACTICE WITH BLANK REVOLVER CARTRIDGES.

Posts, similar to the tail head posts of the riding school, are placed twenty yards apart and about four feet from a straight track outside the riding school. Near the top of each post three-eighths inch iron or steel rod eight inches long is fastened so as to project horizontally and parallel to the track. A collar fits loosely around the rod near the outer end so as to turn freely. A circular tin disc seven inches in diameter is attached to the collar so as to face the track. To the opposite (under) side of the collar (see illustration) a small bar of lead is firmly attached as a weight. This is so adjusted that when the pistol is held a foot or two from the disc, and a blank cartridge fired at it, the force of the discharge will cause the disc to revolve rapidly several times before being brought to rest in a vertical position by the action of the weight. With a set of these targets troopers may be exercised in exactly similar way as is done in the course of mounted revolver firing with ball cartridges. A couple of these posts can be used in the riding school when troopers are exercised with pistol in addition to the saber.

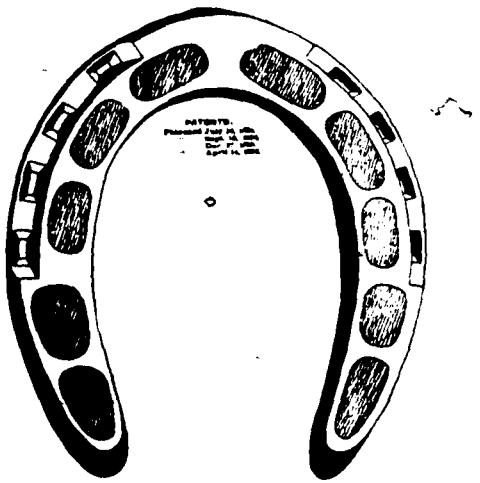
With these appliances a single trooper or squad of four or five can be put in the school and kept continuously on the track for fifteen or twenty minutes, cutting and thrusting, and using the pistol; the heads, rings, and discs being brought back into place automatically as soon as displaced by the troopers.

W. C. B.
First Cavalry.

THE GIBBS PATENTED RUBBER CUSHIONED HORSESHOE.

The Gibbs horseshoe consists of a forged steel frame, pierced with slots through and around which a rubber cushion is vulcanized, forming a compact and solid but elastic shoe composed partly of rubber and partly of steel. It wears practically the same length of

time as an ordinary steel shoe under the same conditions. It answers the purpose of the rubber pad and at the same time is a protection against slipping on slippery pavements, the weight of the horse forcing the rubber through the slots in the shoe each time the foot strikes the pavement, which is a better protection against slipping than calks or any other known device. Rubber pads as used with common shoes are injurious, for the reason that they cover the bottom of the hoof, excluding the air, which is contrary to nature. The Gibbs Shoe covers no more surface on the hoof than the ordinary steel shoe and leaves the hoof as near its natural state as one shod with common shoes. It may be readily shaped to the foot cold, and



is made in sizes to correspond with the regular steel shoes, and being forged from specially selected steel, can be either widened or narrowed and shaped to adapt it to the foot of any horse.

The pad rubber horseshoe consists of a slotted forged steel frame on which is firmly vulcanized a cushion of rubber which passes through the slots, fills a channel on the underside, swelling out at the inside of the heels to form two solid rubber pads.

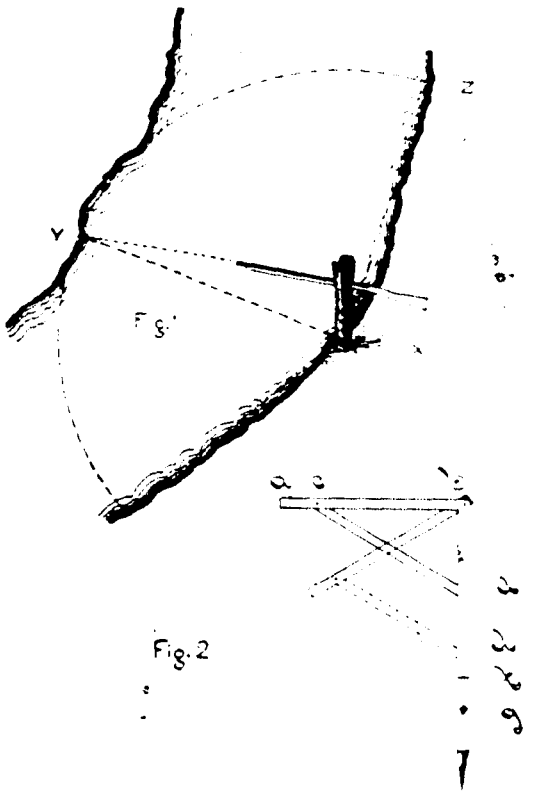
The rubber cushioned horseshoe is quite a new thing, at least as far as use is concerned. The horses of the fire department in many of the large cities are being tried with these shoes, and it is said they are proving satisfactory. The difference in the motion of a horse on pavement shod with the rubber cushioned shoe is very noticeable. There is little or no noise, and apparently no concussion. The adaptability of the shoe to rough roads and trails as yet has not been tried.

A SIMPLE MEANS FOR MEASURING THE WIDTH OF STREAMS

FIGURE 1

Required the width of the stream xy.

A stake sufficiently large is cut about six feet long and split at one end. This stake is set up at the water's edge, x, and assured in a vertical position by a plumb bob, a string with a stone tied



to it). A rifle or carbine is then inserted in the split and aimed at the water's edge on the opposite side. It is important that the piece be held so firmly in the split that the position of the piece will not be easily disturbed after it is thus aimed.

The stake is then revolved until the line of sight intersects the water's edge on the near side, care being taken to keep the stake vertical. Mark the intersection, z, and measure the distance $xz = xy$.

If the stream is wide and the current rapid, revolve also to *z*, measure *xz*; add to *xz* and take half the sum.

Of course any stick with a straight edge may be used instead of the rifle.

FIGURE 2.

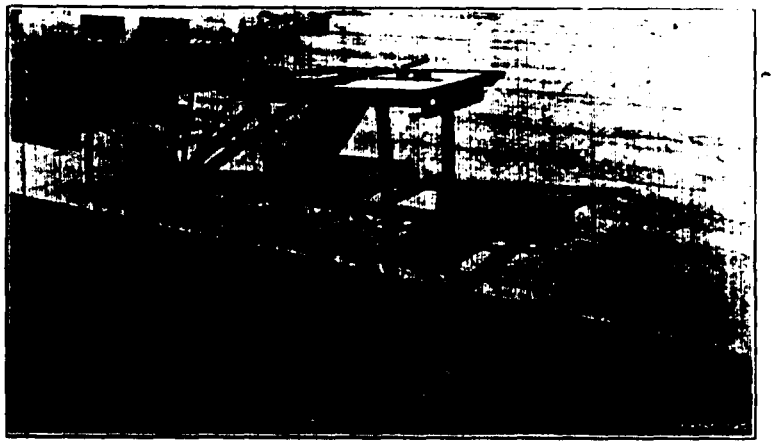
Represents an instrument for making such measurements. It is small, light, easily carried, and can be made at any post. It consists of the upright *b g*, about one inch in diameter and five and one-half feet long, in two sections *b f* and *f g*. The upper section revolves on the lower by means of a dowel fastened into the lower section, and is clamped and unclamped to the dowel by a thumb screw at *f*.

The sighting arm, *a b*, is a straight edge ¼ inch thick, ½ inch wide and 36 inches long, and is fastened to the upright by a screw at *b* so that the arm will have a vertical angular motion as *a b a*¹. The arm has a small flat-headed tack at each end, *a* and *b*, for use in sighting; *c d* is a light brace fastened to the arm at *c* by a screw and to the upright by a clamp spring which holds the arm in position when sighted; *g* is a plumb bob fastened to the upright at *b*.

By loosening the thumb screw the lower section of the upright can be removed, the upper section and arm can then be folded together and all tied in a compact bundle with the plumb bob string.

WILLIAM W. FORSYTH,
First Lieutenant, Sixth Cavalry.

PLANE TABLE PERAMBULATOR.



The device here represented was gotten up by General JAMES RUSH LINCOLN, of the Iowa National Guard, and appears to be an inexpensive and handy combination of the plane table and the wheelbarrow odometer. With a quick leveling device and some method of attaining a motion of the board in a zimuth without moving the entire instrument, it would seem that the usefulness of the apparatus would be increased.

It marks a long step in the right direction, however, since it allows field sketching to be done *on the field*, instead of requiring the map to be compiled in an office from a mass of field notes.

W. D. P.

Editor Journal U. S. Cavalry Association, Fort Leavenworth, Kansas:

DEAR SIR:—I have read with exceeding interest the sketch in the last JOURNAL of General RANALD SLIDELL MACKENZIE, by Captain DORST, and I prize the picture of MACKENZIE very much. In a letter to my father, who knew MACKENZIE in the Civil War, written from Crazy Woman's Forks, November 30, 1876, Thanksgiving Day, I said, speaking of an incident of the fight at Powder River Cañon a week before: "Then there was a very exciting scene; a line of skirmishers on foot was brought up perpendicular to our line, and we, rising, charged with them, without firing until we were close up to the Indians, who had the walls of the cañon at their backs. General MACKENZIE and his orderly were the only mounted men in the movement. He wore his uniform and was, of course, the target for every Indian's rifle; but to see him, one would not have supposed a hostile within a day's march. When we were close up to them he commanded 'Commence firing' and rode away." I thought then that General MACKENZIE was the coolest, bravest man I had ever seen. I think so to-day. I thought he bore a charmed life that a bullet could not hit him. From DORST's sketch I now see that it was not because he had never been hit that he was not afraid, but that he had then been wounded at least eight times.

I remember a little incident which was very funny a few weeks later. We were down in the Belle Fourche Valley, where we were several weeks that winter. The major of the battalion to which I belonged, one of the finest old gentlemen that ever lived, was graduated and an officer in the Second Dragoons before MACKENZIE was a plebe. He was most punctilious in carrying out MACKENZIE's orders to the letter.

We had no fodder for our horses, the snow was quite deep, and to get them roughening for their stomachs we used to cut down cottonwood branches and put them along the picket line so that the horses could scrape off and swallow the bark. One morning, after moving a few miles through the snow, we went into camp. The order was to at once unload the wagons and send them out for cottonwood boughs. Captain WESSELLS was officer of the day, so I was in command of the company. Now, where Company "H" had gone into camp was a magnificent growth of young cottonwoods, so I told the first sergeant not to unpack or send out our wagons, but to have the men cut down the cottonwoods where we were. The old Major noticed I was not obeying orders. He rode over to me

and inquired, "Why not?" I called his attention to the cottonwoods there, and told him I had taken the responsibility of saving the men and horses. The dear old man had learned to swear in the old army before the war and was a past master, and when he got through I saluted and set the men hustling the wagons unloaded and hitching up the teams, and he rode off. MACKENZIE, who was seated on his horse some distance off, overseeing everything that was happening, then rode over to me and asked me what I was going to do. I told him to go after cottonwoods. He asked me if I did not see those close by, and told me that an officer should use common sense, and save his men and horses in every way possible. Yours truly, C. L. HAMMOND

BOOK NOTICES AND EXCHANGES.

As this number of the JOURNAL contains the prize essay, and also many other excellent articles, the Secretary has had a large number printed and can supply any call that may be made for extra copies. Lieutenant Dickman's article on "Patrolling" covers the subject very thoroughly, and will be of undoubted value to all officers of the line. The map to be used in working out the various problems, mounted on cloth, can be obtained from the Secretary for ten cents.

SOME FOREIGN COMMENT ON THE WORKS OF LIEUTENANT H. H. SARGENT, SECOND CAVALRY, U. S. ARMY.

Thinking that the readers of the JOURNAL might be interested in the foreign comments on the most excellent and now standard works of Lieutenant Sargent, some of them are here presented for their perusal. It is very gratifying to know that books written by the officers of our army are so well received abroad, and so uniformly given that credit to which their merit entitles them.

NAPOLEON BONAPARTE'S FIRST CAMPAIGN.

"I have been reading Lieutenant Sargent's book on Napoleon's first Italian campaign all the morning, and was much interested. I hope it may be studied closely by all our young officers, for it is easily understood and tells its own story."—*Lord Wolseley, Commander-in-Chief of British Army, in a letter to the publishers.*

"I hope you will let me express to you how much I admire your work on the first campaign of Napoleon. I do not agree in all your views, but the sketch is most able and interesting. * * You beat us easily in military history, possibly because you have lately had a great war; at least, within forty years."—*William O'Connor Morris, author of "Napoleon: Warrior, Ruler," in a letter to the author.*

"No one, whether he be civilian or soldier, can, after the perusal of this small volume, fail to realize vividly the stupendous genius of Nopoleon Bonaparte as manifested even in the earliest years of his service in the field. * * Valuable as is this book as a treatise on strategy, its worth in this respect is far surpassed by its value as a life-like portrayal of Napoleon, not only the strategist and tactician but the general 'heaven born.'" —*The Times, London.*

"A volume that is well worthy to be ranked with Lord Wolseley's 'Decline and Fall of Napoleon' is 'Napoleon Bonaparte's First Campaign.' We do not know where to find a firmer or better picture of the Italian campaign than in Lieutenant Sargent's volume."—*Army and Navy Gazette, London.*

"The captious critic might be disposed, on reading the title page, to inveigh against a commentary on the greatest commander of modern times by a cavalry subaltern; but the modest, unpretentious style and thorough knowledge of the subject are more than sufficient to disarm any such hostile reviewer."—*Volunteer Service Gazette, London.*

"To the mind which appreciates the real criteria of military genius, Napoleon's first campaign in Italy is the most engrossing and instructive study that is offered by the whole of his brilliant career, and for this reason the volume now before us will be warmly welcomed by the more studious class of readers, although it may perhaps not receive the careful attention which it undoubtedly deserves from that large section of the public, which has become surfeited with the too generous output of Napoleonic literature. * * Neither French nor English writers can ever attain to a severely impartial and judicial spirit in their dissertations upon a man who had so dire an influence in embittering the relations between the two peoples. American critics, however, are far more successful in passing a fair and candid judgment, because they are on this subject better able to write without prepossession or prejudice; and Lieutenant Sargent has, in our opinion, furnished an exceedingly admirable little history, distinguished alike for the clear arrangements of its facts, and the judiciousness of its comments. * * * The author has a ready knack of enshrining the lessons to be deduced from this campaign in very clear language, and the criticisms which follow upon the description of each battle are models of perspicuity."—*The Broad Arrow, London.*

The Campaign of Marengo.

"Lieutenant Sargent, a cavalry officer in the United States army, has just published a little volume describing and commenting on the campaign of Marengo, Bonaparte's first military triumph after he had risen to the First Consulate. With the aid of three excellent sketch maps the author gives a graphic and concise summary of the plans and strategy on both sides, and makes it easy

even for those who are not versed in tactics to follow the daring plans of the great military genius of France. * * * Lieutenant Sargent's book, although small, describes and criticises the campaign with such admirable lucidity that the ordinary reader is able to follow the movements of the armies of both sides during this short but brilliant campaign."—*Westminster Gazette, London.*

"The volume is well worth the attention of the students of military history, and particularly of military strategy. To a brief, but clear and comprehensive narrative of the various phases of the campaign—perhaps the most brilliant in even Bonaparte's career—that ended on the 'tumultuous field' of Marengo, he appends an examination and criticism of the position, plans and operations of the opposing generals and armies."—*Edinburgh Scotsman.*

"Of all Napoleon's campaigns, that of Marengo, of which Mr. Herbert Sargent has just written a wholly admirable monograph, is perhaps the most characteristic. * * * this excellent edition of a military classic."—*Manchester Guardian.*

"The work is written for the civilian as well as the soldier, and both can find much of interest in it, as the writer is not only a keen soldier but a critical student of military history, in this [illegible] not maintaining the character of such writers of his nationality. * * In the execution of this book the author displays precision, study, and a clear method of commenting on historical facts. It is a desirable addition to the works already extant on Napoleon's campaigns."—*United Service Gazette, London.*

"As an exhaustive account of all that led up to the campaign, and in the words of Von der Goltz, not only of that which actually took place but also of what was intended, First Lieutenant Sargent's *Campaign of Marengo* fulfills every requirement, and will prove a welcome addition to the library of the student of military history."—*The Broad Arrow, London.*

"Mr. Sargent is something more than a mere chronicler. His story of the campaign is in four parts, and to each part he appends thoughtful and judicious comments, while a fifth chapter supplies a general sketch of the whole from the point of view of an unbiased critic. The little book is most wisely planned and ably executed."—*The Globe, London.*

"This campaign is one that illustrates perhaps more vividly than any other the breadth of Bonaparte's intellect in originating strategic conceptions. Lieutenant Sargent's treatment of so fine a subject is excellent, and the volume will rank beside his former work on 'Bonaparte's First Campaign,' which was so favorably received some time ago."—*The Morning Post, London.*

A SIMPLIFIED WAR GAME. By Captain Eben Swift, Fifth Cavalry. Hudson-Kimberly Publishing Co., Kansas City, Mo.

The value of the War Game in some form as an adjunct to the theoretical study of military tactics and strategy, has long been recognized in the armies of most of the European nations, and has had many advocates in our own country.

Two different American authors have prepared very complete and elaborate systems, but in each case the success of the game has depended to a great extent upon the familiarity of its director with the complex rules and tables required by the system. The cost of the necessary books and material has also served, in a measure, to prevent its general popularity.

After some years of experience as director of war games at the United States Infantry and Cavalry School, Captain Eben Swift, Fifth Cavalry, became convinced of the desirability of a less complex system for the general use of American students, and after due consideration, decided upon the treatise of General I. von Verdy du Vernois, which he has translated and arranged.

The result of Captain Swift's labors is a little manual called "A Simplified War Game," which has been issued with the necessary maps and material by Hudson, Kimberly & Co. of Kansas City.

The outfit consists of a book containing general instructions as to the manner of conducting an exercise, a problem carefully worked out from the statement of "general and special conditions" to the finish, criticism thereon, and, in the appendices, an illustration of the system of note keeping necessary in the course of the solution.

The accompanying maps are three in number: a large one on a scale of twelve inches to the mile of a section of country, showing a great variety of topographical features; two maps of the same terrain on a small scale for the use of the officers engaged upon the problem, in studying the general situation as presented, before beginning operations upon the large map. There are also two boxes containing celluloid blocks, representing various tactical units from the troop, battery and half battalion, down to a single patrol or scout; also a representation of a line of skirmishers and a pair of pincers for use in picking up and moving the blocks.

The successive steps in the solution of the problem are so completely explained, with all the necessary computations, etc., as to be readily followed. By changing conditions as to time, place, strength and relative composition of opposing forces, a great number of problems, on the map furnished, are possible, and where the players have access to contoured maps which may be enlarged to suitable scale by any of the simple methods, a great variety may be given to the character of the field of operations.

The reasonable price of this work, and the simplicity of the system, commend it to the use of post lyceums and National Guard organizations, where both pleasure and profit could certainly be derived from its use. H. A. G.

THE GENERAL'S DOUBLE; A STORY OF THE ARMY OF THE POTOMAC. By Captain Charles King, U. S. A. Illustrated by J. Steeple Davis. J. B. Lippincott Company, Philadelphia.

The plot of the story is laid during the War of the Rebellion, and deals with scenes and incidents in the battles and maneuvers of the Army of the Potomac. The book is not to be read for the plot, as this merely furnishes an excuse for beautiful descriptions of actual occurrences. The word pictures are fascinating, and in many instances exciting to a degree. Again there is much of practical utility in many parts of the novel.

The Southern family and its actions toward wounded prisoners is given a prominent place, as it is the supposed refuge of a *spy*, the foundation of the story. Visual signaling is alluded to in such a way that one who has not been in actual warfare can comprehend just about what use may be made of it both for good and evil. The description of a battery coming into action, after first describing the ground over which it is to pass, is realistic and interesting indeed.

But it is in the story of Pickett's charge at the battle of Gettysburg that King finds a theme worthy of his greatest effort, and sufficient to draw forth his most eloquent and beautiful powers of description. Many have essayed this task. King has accomplished it. Grand and sublime as was the charge of the "Flower of the Southern Army," the narrative is none the less so and is probably the best thing this author has ever written. The description must be read to be appreciated.

Old Foulweather, the hard drinking, hard swearing, hard riding, and hard fighting major of dragoons, comes in for no little censure in the story. He was a necessity in the old days, and might have been handled more kindly. His type has completely disappeared from the army, but he filled a place in his time and filled it satisfactorily.

Capt. King often spoils an otherwise good description by reciting the full name of the principal at the most exciting point. It makes his otherwise pleasing and simple style appear somewhat stilted.

ANNUAL REPORT OF THE ADJUTANT GENERAL OF THE STATE OF CONNECTICUT.

The JOURNAL is in receipt of the annual report of the Adjutant General of the State of Connecticut, which is a carefully gotten up volume of about 300 pages. It shows that the Connecticut National Guard is well abreast of the times in discipline, drill and instruction. In addition to the report of the Adjutant General himself it contains reports from the heads of the various Staff Departments. The reports of the Inspectors are evidently made without fear or favor, and give praise and censure with perfect impartiality where they are deserved. It speaks very well for the discipline of a command where these reports are so made, and indicates that personal likes and dislikes have no bearing on the subject. The report of the

United States army officer attached to the Governor's staff is also appended.

The report of the Brigade Signal Officer shows that a most commendable amount of attention has been paid to this important service. It shows that a number of stations were established at various points on and near the Connecticut coast, and that communication was kept up for a distance of forty-six and one-half miles altogether. The signal corps is also the bicycle corps, that is, it uses the bicycle as a means of traveling wherever practicable.

It was the privilege of the writer to attend the encampment of the brigade at Niantic, Connecticut, August 16–21, 1897, and he is pleased to be able to add his small tribute to the courtesy, discipline and efficiency of the entire command. Both officers and enlisted men seemed to realize that they were not there for picnic purposes, but to learn as much as possible, in so short a time, of the art and science of war.

The thanks of the JOURNAL are due to General Haven for sending the report, and also a map showing the location of the different companies and regiments constituting the brigade, with means of concentration. Also to Major Giddings, Brigade Signal Officer, for a very correct contoured map of the country in the vicinity of the State camp grounds, made by him under the orders of the Adjutant General, and which will be used in future camps. This map is well drawn and evidently correct, and will be of great assistance in devising problems for future field exercises. A. G. H.

SCALE INSECTS INJURIOUS TO ORCHARDS. By S. J. Hunter. J. S. Parks, Topeka, Kan.

In response to numerous inquiries upon the subject Prof. S. J. Hunter, of the Department of Entomology in the University of Kansas, Lawrence, has just published a full treatise upon "Scale Insects Injurious to Orchards." He has given special attention therein to the San Jose scale, the most pernicious enemy to fruit trees. The progeny of a single female in one season amounts to over three billion individuals, and when these scales are once well spread over an orchard, the only remedy is to burn the trees. To discussions and illustrations are added the laws enacted in the several States, thirteen in all, relating to the extermination of the pest. This publication can be procured by sending address to the author.

While the scale is not yet reported in Kansas, it is highly important that the fruit raisers of this locality examine their orchards now while trees are bare and assure themselves of its absence upon their premises.

ACCURACY IN HISTORY. By John Speer. J. S. Parks, Topeka, Kan. Pamphlet form.

Treats of the importance of accuracy in historical statements, and cites many illustrations from the early history of Kansas.

PREPARATORY BATTLE FORMATIONS. Major General H Bengough, C. B. Gale & Polden, London. Pamphlet Form. Fully Illustrated.

Major-General Bengough, C. B., who was recently in command of the First Infantry Brigade at Aldershot, here propounds a system of what may be called battle drill. Though drill in formation suitable for fighting is strangely neglected in our service it is unquestionably as necessary as ordinary barrack square drill, if not more necessary. In fact, as Major-General Bengough points out, "what is required is a battle drill, to be practiced even more assiduously than barrack square drill," and he submits his system, which he illustrates by diagrams, not as a universal form of battle drill, "but as a form founded on the principles of our regulations and applicable to a great variety of ground and circumstances." It seems to us highly desirable that certain formations suitable for fighting should be practiced, and that it should not be left to a commander to evolve a system of attack out of his inner consciousness at so critical a moment as the beginning of an action. At the present moment in no two commands—one might almost write in no two regiments—are the principles of the drill book carried out in the same manner. Some recognized formations are especially necessary for the service, as so large a portion of our army consists of militia and volunteers, who have neither time nor opportunity for evolving a system themselves. The system here proposed has been well tested by Major-General Bengough, and its merits have been recognized by the Duke of Connaught, who refers to its practical character in his excellent memorandum on field training. The formation proposed by Major General Bengough has undoubted advantages, which are clearly enumerated in the pamphlet, and will commend themselves to the practical soldier. Among the chief of these advantages is the comparative immunity from artillery fire. Major-General Bengough is assured by practical artillerists that a formation of small columns of narrow front and shallow depth would present a more difficult target than a line formation, and he looks forward to practical experiments to settle this important question, presumably at Okehampton. The proposed system well deserves a place in the next edition of "Infantry Drill." "Preparatory Battle Formations" is published by Gale & Polden, Limited, Wellington Works, Aldershot, and 2 Amen Corner, E. C., at a shilling.—*The Aldershot News, February 5, 1898.*

JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION. December 1897; January, February, March, 1898.

1. The French First-Class Armored Cruiser "Pothnau." 2. The Future of the Torpedo. 3. The Psychology of the Battlefield. 4. The Fourth Arm. 5. Schulmeister the Spy. 6. Java Campaign of 1811. 7. The New French First Class Battleship, "Charles Martel." 8. Shiloh; or the Battle of Pittsburg Landing. 9. Discussion on the Military Prize Essays, 1897. 10. The Old Royal Army of

France. 11. Soldiering in the West Indies in the Days of Queen Anne. 12. The Japanese First-Class Battleship, "Yoskima." 13. The Great Siege of Malta. 14. The Federal Defense of Australia. 15. The Fortification of Our Dockyards. 16. Souvenirs Militaries; General Montandon. 17. Lines of Concentration of the German Armies Toward the French Ftontier. 18. Broadside Submerged Torpedo Tubes. 19. Major General Robert Cranfurd. 20. The Army Reorganization. 21. The Training of the Mercantile Marine. 22. The Defensive Strength of Russia. 23. Supplement: The Health of the British Troops in India, and other Foreign Stations. 24. Legislation for the Health of the Troops in India.

PROCEEDINGS OF THE ROYAL ARTILLERY INSTITUTION. December, 1897; January, February, March, 1898.

1. Notes on Artillery, Dictated by Napoleon at St. Helena to Baron Gourgand. 2. The Artillery of Japan. 3. Artillery Under the Stuart Kings. 4. The Maizar Affair. 5. The Services of Lieutenant-Colonel Francis Downman. 6. British Gunners at the Siege and Battle of Narvo in 1700. 7. A Few Plain Remarks on the Positions and Work of the Artillery in the Field. 8. Militia Field Artillery. 9. Methods of Bringing Guns Into Action. 10. The Services of Lieutenant-Colonel Francis Downman. 11. Recruiting. 12. Salmon Fishing in Eastern Canada. 13. Memoir of General W. H. Askwith. 14. Wireless Telegraphy and its Military Possibilities. 15. A System of Comparing Geographical Distances. 16. Outposts for Coast Defense.

REVUE DE CAVALERIE. December, 1897; January, February, 1898.

1. The Influence of Armament on Organization and Tactics: Reforms Necessary. 2. The Infantry Cyclist: Support of the Cavalry. 3. From Bautzen to Plöswitz. 4. Notes on the Training of the Cavalry Horse. 5. Apropos of the Tandem Mounted. 6. The Cavalry in the Maneuvers of 1897. 7. An Inspector-General of Cavalry under the Directory and the Consulate. 8. Notes on the Training of the Cavalry Horse. 9. The German Maneuvers of 1897. 10. The Lancer. 11. The Impossibility of the Union of the Stud and the Remount. 12. Armament and Tactics: Lance and Saber. 13. The Infantry Cyclist: Support of the Cavalry. 14. The Controlling Idea of the Employment of Cavalry. 15. Pieces from the Archives.

JOURNAL OF THE MILITARY SERVICE INSTITUTION. January, March, 1898.

1. Our Volunteer Army. 2. The American Soldier. 3. Officers on the Retired List. 4. Military Departments in Schools. 5. Non-Commissioned Officers. 6. Hasty Intrenchments. 7. The New Carbine. 8. Instruction in First Aid. 9. The Late Revolution in Columbia. 10. Sowing Without Reaping. 11. A Service School for Heavy Artillery.

THE AUTUMN MANEUVERS OF 1896 IN EUROPE. War Department.

1. German. 2. French. 3. Austro-Hungarian. 4. English. 5. Belgian. 6. Swiss. 7. General Observations. 8. German Battalion Formations. 9. The Berthon Folding Boat. 10. General Orders No. 2, Subsistence Department (France). 11 Maps Illustrating Maneuvers.

JOURNAL OF THE UNITED STATES ARTILLERY. January, February, 1898.

1. Confederate Ordnance During the War. 2. Howitzers and Mortars for Field Artillery. 3. National Defenses. 4. History of the Sea-Coast Fortifications of the United States. 5. Ballistic Problems in Indirect and Curved Fire.

PROCEEDINGS OF THE UNITED STATES NAVAL INSTITUTE. No. 84.

1. Homing Pigeons as Messengers of the Fleet. 2. Pyro-Collodion Smokeless Powder. 3. Notes on the Obry Device for Torpedoes. 4. Search Covers. 5. Naval War College. 6. Mechanism of Modern Naval War. 7. Notes on the Literature of Explosives.

ALDERSHOT MILITARY SOCIETY. December, 1897, January, 1898.

1. German and French Military Maneuvers of 1897. 2. Cooperation Between the Army and Navy.

SUBSISTENCE AND MESSING OF ARMIES. War Department.

1. Austria. 2. Belgium. 3. England. 4. France. 5. Germany. 6. Holland. 7. Italy. 8. Switzerland.

IOWA HISTORICAL RECORD.

REVUE DU CERCLE MILITAIRE.

MILITAER WOCHENBLATT.

THE BREEDERS GAZETTE.

THE RIDER AND DRIVER.

THE MILITARY GAZETTE.

OUR DUMB ANIMALS.

ANNUAL MEETING.

Pursuant to notice previously given the annual meeting of the Association was held on January 17, 1898, in Sherman Hall, Fort Leavenworth, Kansas.

The annual election resulted in the choice of the following officers for the year 1898:

President — Major General WESLEY MERRITT.

Vice-President — Major J. A. AUGUR, Fourth Cavalry.

Elective members of the Executive Council — Captain J. B. KERR, Sixth Cavalry; Captain W. D. BEACH, Third Cavalry; Captain A. G. HAMMOND, Eighth Cavalry; First Lieutenant J. T. DICKMAN, Third Cavalry; First Lieutenant A. L. MILLS, First Cavalry.

The consideration of the new Constitution was then taken up, and upon motion the words "not on the active list," Article IV, Section 4, were ordered stricken out. A vote was then taken upon the proposed Constitution as thus amended, and resulted in its adoption by a nearly unanimous vote.*

After listening to the report of the Secretary and Treasurer, which was approved, the meeting adjourned.

E. L. PHILLIPS,
Second Lieutenant Sixth Cavalry,
Secretary.

*The new Constitution having been printed and furnished to the members of the Association in practically the same form as adopted, it is deemed unnecessary to reprint it in the JOURNAL. Copies can be readily obtained, however, by addressing the Secretary.

EXECUTIVE COUNCIL.

WHEREAS, The Board of Award for Essay I of the Historical Series, composed of General J. H. WILSON, General FITZHUGH LEE, Professor MOSES COIT TYLER, have unanimously recommended that the prize be awarded to the author of the essay signed "Dragoon;" and,

WHEREAS, The author of this essay is found to be Lieutenant CHARLES D. RHODES; be it therefore

Resolved, That the prize of one hundred dollars offered by the U. S. Cavalry Association for the best essay upon the subject, "The History of the Cavalry of the Army of the Potomac, including that of the Army of Virginia (POPE's), and also the History of the Operations of the Federal Cavalry in West Virginia, during the War," be and hereby is awarded to First Lieutenant CHARLES D. RHODES, Sixth United States Cavalry, Fort Myer, Va.

(Resolution Executive Council, February 22, 1898.)

THE UNITED STATES CAVALRY.

FIRST CAVALRY—COLONEL ABRAHAM K. ARNOLD.
Adjutant, W. S. SCOTT. Quartermaster, G. H. MACDONALD.
HEADQUARTERS, FORT RILEY, KANSAS.
Troops—*F* and *K*, Fort Riley, Kan.; *A* and *I*, Fort Huachuca, Ariz.; *E* and *H*, Fort Sill, O. T.; *B* and *D*, Fort Reno, O. T.; *C* and *G*, Fort Sheridan, Ill.

SECOND CAVALRY—COLONEL GEORGE G. HUNTT.
Adjutant, R. E. L. MICHIE. Quartermaster, H. H. SARGENT.
HEADQUARTERS, FORT WINGATE, N. M.
Troops—*E* and *K*, Fort Wingate, N. M.; *A*, *C*, *D*, *F*, *G* and *H*, Fort Riley, Kan.; *B* and *I*, Fort Logan, Colo.

THIRD CAVALRY—COLONEL S. B. M. YOUNG.
Adjutant, T. R. RIVERS. Quartermaster, J. W. HEARD.
HEADQUARTERS, FORT ETHAN ALLEN, VT.
Troops—*A*, *B*, *D*, *H*, *I* and *K*, Jefferson Barracks, Mo.; *C*, *E*, *F* and *G*, Fort Ethan Allen, Vt.

FOURTH CAVALRY—COLONEL CHARLES E. COMPTON.
Adjutant, C. STEWART. Quartermaster G. H. CAMERON.
HEADQUARTERS, FORT WALLA WALLA, WASH.
Troops—*A* and *G*, Fort Walla Walla, Wash.; *E*, Vancouver Barracks, Wash.; *F*, Boise Barracks, Idaho; *B*, *C*, *I* and *K*, Presidio of San Francisco, Cal.; *D* and *H*, Fort Yellowstone, Wyo.

FIFTH CAVALRY—COLONEL L. H. CARPENTER.
Adjutant, J. M. JENKINS. Quartermaster, J. T. HAINES.
HEADQUARTERS, FORT SAM HOUSTON, TEXAS.
Troops—*C*, *E*, *G* and *K*, Fort Sam Houston, Tex.; *B*, Fort McIntosh, Tex.; *H* and *I*, Fort Clark Tex.; *F*, Fort Brown, Tex.; *D*, Fort Ringgold, Tex.; *A*, Fort Bliss, Tex.

SIXTH CAVALRY—COLONEL SAMUEL S. SUMNER.
Adjutant, R. L. HOWZE. Quartermaster, J. A. HARMAN.
HEADQUARTERS, FORT MYER, VA.
Troops—*A*, *E*, *G* and *H*, Fort Myer, Va.; *B*, *C*, *F* and *K*, Fort Leavenworth, Kan.; *D* and *I*, Fort Robinson, Neb.

SEVENTH CAVALRY—COLONEL EDWIN V. SUMNER.
Adjutant, W. A. HOLBROOK. Quartermaster, W. H. HART.
HEADQUARTERS, FORT GRANT, ARIZONA.
Troops—*B*, *C*, *E* and *F*, Fort Grant, Ariz.; *I* and *K*, Fort Huachuca, Ariz.; *A* and *D*, Fort Bayard, N. M.; *G* and *H*, Fort Apache, Ariz.

EIGHTH CAVALRY—COLONEL J. M. BACON.
Adjutant, M. F. STEELE. Quartermaster, C. C. WALCUTT.
HEADQUARTERS, FORT MEADE, S. D.
Troops—*A*, *B*, *D*, *E*, *F*, *G*, *H*, *I* and *K*, Fort Meade, S. D.; *C*, Fort Yates, N. D.

NINTH CAVALRY—COLONEL DAVID PERRY.
Adjutant, W. S. WOOD. Quartermaster, J. H. GARDNER.
HEADQUARTERS, FORT ROBINSON, NEB.
Troops—*A*, *C*, *E*, *G*, *H* and *K*, Fort Robinson, Neb.; *B* and *F*, Fort Du Chesne, Utah; *D* and *I*, Fort Washakie, Wyo.

TENTH CAVALRY—COLONEL GUY V. HENRY.
Adjutant, M. H. BARNUM. Quartermaster, L. HARDEMAN.
HEADQUARTERS, FORT ASSINNIBOINE, MONT.
Troops—*C*, *D*, *F*, *G*, *H*, *I* and *K*, Fort Assinniboine, Mont.; *A* and *E*, Fort Keogh, Mont.; *B*, Camp Merritt, Mont.

The Adjutants of Regiments will please notify the Editor of changes in the Regimental Staff, and in stations of Troops.

CAVALRY OF THE NATIONAL GUARD.

NOTE.—The following have no mounted troops: Alaska, Arizona, Connecticut, Delaware, District of Columbia, Florida, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Missouri, Nevada, North Carolina, South Dakota, West Virginia, Vermont, Wyoming.

ALABAMA.

FIRST CAVALRY SQUADRON—MAJOR JAMES T. BECK.
Adjutant, Captain A. G. Forbes. Quartermaster, Captain J. F. Burns
HEADQUARTERS, CAMDEN.
Troop "A," Montgomery. (Vacancy.) Troop "B," Camden, Captain Stonewall McConnico. Troop "C," Selma, Captain V. P. Atkins; Troop "D," Birmingham, Captain J. B. Morson.

ARKANSAS.

Troop "A," Panola, Major M. C. House. Troop "B," Jacksonville, Captain S. W. Murtishaw.

CALIFORNIA.

Troop "A," San Francisco, Captain Marius Burnett. Troop "B," Sacramento, Captain John Cooke; Troop "C," Salinas, Captain Michael J. Burke; Troop "D," Los Angeles, Captain Charles H. Howland.

COLORADO.

FIRST SQUADRON OF CAVALRY—MAJOR JOHN CHASE.
Adjutant and Acting Quartermaster, First Lieutenant A. H. Williams.
HEADQUARTERS, DENVER.
Troop "A," Leadville, Captain C. H. Macnutt; Troop "B," Denver, Captain Wm. G. Wheeler; Troop "C," Denver, Captain James H. Brown.

GEORGIA.

FIRST REGIMENT OF CAVALRY—COLONEL WILLIAM W. GORDON.
Adjutant, Captain Wm. G. Harrison. Quartermaster, Captain Albert S. Eichberg.
HEADQUARTERS, SAVANNAH.
FIRST SQUADRON, FIRST REGIMENT—MAJOR PETER W. MELDRIM.
HEADQUARTERS, SAVANNAH.
Troop "B," McIntosh, Captain Willard P. Walte; Troop "E," Johnston Station, Captain Joseph W. Hughes; Troop "G," Darien, Captain Benjamin T. Sinclair; Troop "I," Jesup, Captain Harry W. Whaley.
SECOND SQUADRON, FIRST REGIMENT—MAJOR JAMES J. BREWER.
HEADQUARTERS, OLIVER.
Troop "A," Savannah, Captain Beirne Gordon. Troop "C," Springfield, Captain Daniel G. Morgan; Troop "D," Sylvania, Captain Jesse T. Wade; Troop "H," Waynesboro, Captain William H. Davis.
FIRST BATTALION OF CAVALRY (INDEPENDENT)—MAJOR JOHN M. BARNARD.
Adjutant, First Lieutenant John D. Twiggs. Quartermaster, First Lieutenant Robert Dohme.
HEADQUARTERS, LAGRANGE.
Troop "A," Augusta, Captain Albert J. Twiggs; Troop "B," Atlanta, Captain J. Stapler Dozier; Troop "C," LaGrange, Captain Thomas J. Thornton; Troop "D," Hamilton, First Lieutenant John M. Bruce.

ILLINOIS.

CAVALRY SQUADRON—MAJOR EDWARD C. YOUNG.

Adjutant, First Lieut. Alvar L. Bournigne. Quartermaster, First Lieut. Milton J. Foreman.

HEADQUARTERS, CHICAGO.

Troop "A," Chicago, Captain Paul B. Lino; Troop "B," Bloomington, Captain Will P. Butler; Troop "C," Chicago, Captain Metullus L. C. Funkhouser; Troop "D," Springfield, Captain John S. Hurt.

MASSACHUSETTS.

FIRST BATTALION OF CAVALRY—MAJOR WILLIAM A. PERRINS.

Adjutant, First Lieut. Albert E. Carr. Quartermaster, First Lieut. Walter C. Wardwell.

HEADQUARTERS, BOSTON.

Troop "A," Boston, Captain D. A. Young; Troop "D," Boston, Captain John Perrins, Jr.; Troop "F," (Independent), North Chelmsford, Captain Elisha H. Shaw.

MISSISSIPPI.

FIRST SQUADRON OF CAVALRY—MAJOR J. H. COOKE.

Adjutant, First Lieutenant B. B. Hardy. Quartermaster, First Lieutenant D. A. Outlaw.

HEADQUARTERS, ARTESIA.

Troop "A," Crawford, Captain J. J. Prowell; Troop "B," Sessumsville, Captain A. F. Young.

MONTANA.

Troop "A," Billings, Captain J. C. Bond; Troop "B," Bozeman, Captain J. F. Keown.

NEBRASKA.

Troop "A," Milford, Captain Jacob H. Culver.

NEW HAMPSHIRE.

Troop "A," Peterborough, Captain Charles B. Davis.

NEW JERSEY.

First Troop, Newark, Captain Frederick Frelinghuysen; Second Troop, Red Bank, Captain John V. Allstrom.

NEW MEXICO.

FIRST BATTALION OF CAVALRY—MAJOR FRITZ MULLER.

Adjutant, First Lieut. Sherrard Coleman. Quartermaster, First Lieut. Leon Hertzog.

HEADQUARTERS, SANTA FE.

Troop "C," Aztec, Captain Lawrence Welsh; Troop "E," Santa Fe, Captain W. E. Griffin; Troop "F," Los Lunas, Captain Maxamiliano Luna.

NEW YORK.

SQUADRON "A"—MAJOR CHARLES F. ROE.

Adjutant, First Lieut. John Isaac Holly. Quartermaster, First Lieut. Louis V. O'Donohue.

HEADQUARTERS, NEW YORK CITY.

First Troop, New York City, Captain Oliver B. Bridgman; Second Troop, New York City, Captain Howard G. Badgley; Third Troop, New York City, Captain Latham G. Reed; Troop "C," (Independent), Brooklyn, Captain Bertram T. Clayton.

OHIO.

Troop "A," Cleveland, Captain Russell E. Burdick.

OREGON.

Troop "B," Gresham, Captain Charles Cleveland.

NOTE.—Another troop, to be called Troop "A," will soon be organized, and a squadron organization will be completed.

PENNSYLVANIA.

Philadelphia City Troop, Philadelphia, Captain John C. Groome; Governor's Troop, Harrisburg, Captain Frederick M. Ott; Sheridan Troop, Tyrone, Captain C. S. W. Jones.

RHODE ISLAND.

FIRST SQUADRON OF CAVALRY—MAJOR GEORGE S. TINGLEY.

Adjutant, First Lieut. Leo F. Nadeare. Quartermaster, First Lieut. Lucius H. Newell.

HEADQUARTERS, PAWTUCKET.

Troop "A," Pawtucket, Captain Edward T. Jones; Troop "B," Providence, Captain Wm. A. Maynard.

SOUTH CAROLINA.

FIRST BRIGADE OF CAVALRY—BRIGADIER GENERAL JOSEPH L. STOFFELSEIN.

Adjutant-General, Major T. G. Disher. Brigade Quartermaster, Major R. H. Sweeney.

HEADQUARTERS, SUMMERVILLE.

FIRST REGIMENT OF CAVALRY—COLONEL W. J. CAUSEY.

Adjutant, Captain A. R. Speaks. Quartermaster, Captain T. E. Ulmer.

HEADQUARTERS, HAMILTON.

Troop "A," Brunson's, Captain R. A. Brunson; Troop "B," Varnville, Captain W. M. Steinmeyer; Troop "C," Brunson's, Captain G. M. Bowers; Troop "D," Stafford's, Captain R. M. Daley; Troop "E," Stafford's, Captain K. S. Long; Troop "F," Peeples, Captain H. E. Peeples; Troop "G," Gillisonville, Captain J. E. Robinson; Troop "H," O'Kaile, Captain W. N. Barnes; Troop "I," White Hall, Captain S. A. Marvin.

SECOND REGIMENT OF CAVALRY—COLONEL G. P. ALLEN.

Adjutant, Captain R. C. Roberts. Quartermaster, Captain W. A. Collett.

HEADQUARTERS, ALLENDALE.

Troop "A," Barnwell, Captain J. A. Hays; Troop "B," Dunbarton, Captain F. M. Carter; Troop "C," Allendale, Captain A. W. Owens; Troop "D," Edgefield, Captain L. R. Brunson; Troop "E," Edgefield, Captain J. R. Blocker; Troop "F," Orangeburg, Captain J. A. Riley; Troop "G," Cedar Grove, Captain R. T. Newman; Troop "H," Hamburg, Captain J. P. Delaughter.

THIRD REGIMENT OF CAVALRY—COLONEL J. B. SPARKMAN.

Adjutant, Captain H. L. Smith. Quartermaster, Captain W. C. White.

HEADQUARTERS, GEORGETOWN.

Troop "A," Bonneau's, Captain J. A. Harvey; Troop "B," St. Stephens, Captain E. T. Guerry; Troop "C," Georgetown, Captain H. T. McDonald; Troop "D," Jedburg, Captain C. H. Wilson; Troop "E," Conway, Captain L. D. Long; Troop "F," Lake City, Captain J. J. Morris; Troop "G," Georgetown, Captain J. H. Detyens.

SECOND BATALLION OF CAVALRY—LIEUT. COLONEL D. W. BRADSHORE.

Adjutant, Unknown. Quartermaster, Unknown.

HEADQUARTERS, PANOLA.

Troop "A," Eutawville, Captain Jeff D. Wiggins; Troop "B," Panola, Captain R. C. Richardson; Troop "C," Silver, Captain J. H. Dingle; Troop "D," Holly Hill, Captain R. F. Way, Jr.

NORTH DAKOTA.

Troop "A," Dunseith, Captain George W. Tooke.

UTAH.

Troop "A," Salt Lake City, Captain Joseph E. Caine.

TENNESSEE.

Cavalry Troop, Nashville, Captain George F. Hagar.

TEXAS

FIRST CAVALRY REGIMENT—COLONEL J. R. WATIES.

Adjutant, First Lieut. James M. Burroughs. Quartermaster, First Lieut. Frederick Rhodes.

HEADQUARTERS, HOUSTON.

Troop "A," Austin, Captain L. H. Younger; Troop "B," Houston, Captain C. Towles; Troop "E," Dallas, Captain F. V. Blythe; Troop "F," Denison, Captain E. A. Hammond; Troop "H," Gainesville, Captain H. S. Teffler.

VIRGINIA.

Troop "A," Richmond, Captain E. J. Euker; Troop "B," Surry, Captain Geo. A. Savedge.

WASHINGTON.

Troop "A," North Yakima, Captain Marshall S. Scudder; Troop "B," Tacoma, Captain Everett G. Griggs.

WISCONSIN.

Troop "A," Milwaukee, Captain William J. Grant.