

ANNUAL REPORT

OF THE

SUPERINTENDENT

OF THE

UNITED STATES MILITARY ACADEMY.

1899.

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HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., September 21, 1899.

SIR: I have the honor to submit the following report for the Military Academy for the year ending September 1, 1899:

Under my appointment as superintendent United States Military Academy, I assumed my duties here September 19, 1898, and, with the exception of a leave of absence from August 1 to August 21, 1899, was continuously employed therewith throughout the year.

PERSONNEL.

The number of officers and instructors on duty at West Point September 1, 1899, was: Seven professors, 1 associate professor, 51 commissioned officers, 1 chaplain, 1 sword master, 1 teacher of music; a total of 62. (See roster marked "A.") The number September 1, 1898, was 55, several of the officers detailed for duty at the Academy not having joined by that date. During the year 7 officers were relieved owing to the expiration of the period for which they were detailed for duty, and 27 were relieved, due to the exigencies of the service following the war with Spain. Their places have been filled by the detail of other officers, all of whom had reported by the beginning of the academic year, save two who have been temporarily detained owing to the necessities of the service.

Prof. Edgar W. Bass was retired from active service, on his own request, on the 7th of October last, after more than twenty years' service as professor of mathematics, in which capacity he had always labored with signal success and conspicuous ability for the best interests of the cadets and of the Academy. He was succeeded by Prof. Wright P. Edgerton, the associate professor of mathematics, whose vacancy was filled by the appointment of Lieut. Charles P. Echols, of the Corps of Engineers, as associate professor of mathematics.

THE CORPS OF CADETS.

The present academic year opens with 357 cadets on the rolls of the Academy, the largest number ever belonging to it at one time. Of the number, three are foreigners, one each from Costa Rica, Venezuela, and San Salvador, who are receiving instruction at their own expense under special authority of Congress. The number of cadets September 1, 1898, was 325, including one foreigner.

The following changes occurred during the year in the strength of the corps of cadets:

Discharged for deficiency in studies, 23; for deficiency in discipline, 2; for physical disability, 2; dismissed, 3; resigned, 11; graduated February 15, 1899, 72; candidates admitted during the year, 145.

Under the order of the War Department, due to the exigencies of the service, the class of 1899 was graduated February 15, 1899, four months in advance of the usual time.

Examinations for the admission of candidates holding the appointment of the War Department were held at Fort Meade and at West Point in March, and at West Point in June and in August. Before these boards appeared 264 candidates, including alternates, of whom 30 were found not qualified physically and 15 were not required to undergo the mental examination, having previously been cadets and having previously passed the mental examination for admission.

This left 219 to be examined mentally, of whom 63 were found not qualified, leaving 156 qualified for admission. A number of these were alternates for whom there were no vacancies, as their principals had also passed.

Of the 145 candidates admitted, 2 were from foreign countries and were admitted under special resolutions of Congress.

HEALTH.

The health of the corps of cadets on the whole has been good throughout the year, the ailments that have occurred being confined as a rule to bruises, sprains, and the simple complaints. Exceptions, however, to this rule were an epidemic of influenza, which attacked the battalion during the winter, but from which no serious illness followed, and during the summer encampment an outbreak of scarlet fever, the origin of which could not be traced. Rigorous quarantine and other measures confined the scarlet fever to 11 cadets, all of whom now, due to the skillful and careful attention they have received, have happily recovered from this dreaded disease.

Both outbreaks forcibly demonstrated the entire inadequateness of the present cadet hospital accommodations and the necessity for promptly adding to the hospital the south wing the plan of the building contemplated. At present the hospital has no isolation ward for the treatment of infectious diseases, and had it not been that the battalion of cadets were fortunately in camp when the outbreak of scarlet fever occurred, enabling the empty cadet barracks to be used for promptly isolating exposed cadets, the consequences undoubtedly would have been most serious. A wise foresight should promptly provide for the construction of the south wing of the hospital and for an appropriate building in rear of the hospital for the treatment of definite cases of contagious diseases and for the isolation of suspected cases. As the present appropriation provides for an operating room in the hospital and for other improvements, the building as it is will shortly be in a complete and satisfactory condition.

Attention is asked to the surgeon's report hereto appended, marked "B." In connection with the prevalence of eye strain among cadets, the recommendation that the cadet barracks be equipped with Welsbach burners will be followed by inserting the proper item in estimates submitted.

ACADEMIC INSTRUCTION.

The academic instruction of cadets continues in the high state of efficiency and thoroughness that has marked it for many years, and

signally shows the earnest work the heads of the different departments give to their duties. In the march of improvement a number of changes in text-books have been made during the past year. In the department of mathematics, C. Smith's Conic Sections and Solid Geometry has replaced Church's Analytical Geometry. In the department of civil and military engineering, Wagner's Organization and Tactics, and Security and Information, and Fieberger's Field Fortifications have been introduced, replacing the books formerly used in connection with these subjects. In the department of law and history, Andrew's Manual of the Constitution has been replaced by Flanders's Constitution of the United States, and Fisher's Outlines of Universal History has been replaced by Fisher's Brief History of the Nations.

The early graduation of the class of 1899 necessarily curtailed somewhat the course prescribed for the first class, but by suspending its semiannual examination in January, and making use of all available time after receipt of the orders for its early graduation, the essentials of the course were covered.

Of the cadets found deficient in studies during the year, 23 were discharged from the Academy, and 6 were recommended to be turned back, and have been allowed to again go over the course they failed to master. Of the cadets discharged, 6 have been named for reappointment by their Congressmen, and on the recommendation of the academic board have returned to the Academy in the fourth class.

An important change in the curriculum of studies went into effect with the commencement of the present academic year by the transfer from the second-class to the fourth-class course of the recitations in the elementary part of infantry and artillery drill regulations, in security and information, and in the small-arms firing regulations. This change will be of advantage in permitting an extension of the theoretical instruction in drill regulations and minor tactics of the second class, and of the practical instruction in the third-class camp. Also cadets discharged by failure in studies during their first year at the Academy will acquire a fuller tactical training, an advantage, if their services are afterwards required by the country.

PRACTICAL INSTRUCTION.

The course of practical instruction embodied under the heads of "Drill and training in infantry," "Cavalry and artillery," "Minor tactics," "Target practice and military administration" has been considerably extended during the year. For a description of the work accomplished in this instruction attention is invited to the report of the commandant of cadets appended, marked "C," which gives in detail the very valuable work done. Other improvements in practical instruction are contemplated, as equipment and time become available, to enhance the military efficiency of the graduated cadet and fit him as perfectly as the course of the Academy can for the command and responsibilities he is so frequently called upon to exercise, immediately after graduation, as a commissioned officer of the Army.

A most important change recognizing military efficiency and soldierly deportment in the graduating standing of the cadets from which, I believe, the most beneficial results will flow, went into effect June 1. The project was proposed by the commandant of cadets, and after a practical trial of five months was recommended by the academic board and adopted by the War Department.

In the past for many years, in the final merit roll, the only index of the purely soldierly qualities of the cadet has appeared under the heads

of "Discipline" and "Drill Regulations." The former having a weight of 200, determined only by the amount of demerit the cadet received during the last two years at the Academy; and the latter, a weight of 100, found from the value given to recitations in "Drill regulations." By the change, these qualities are expressed in the final merit roll under the heads: "Conduct," with a weight of 125; "Drill regulations" and the "Service of security and information" (recitations in), a weight of 115; "Military efficiency," 130; "Soldierly deportment and discipline," with a weight of 20, the total weight for the subjects being 390, as against 300 in the past. Conduct as now determined is based upon the proposition that the longer a cadet is at the Academy the better his behavior or conduct should be and the fewer his demerit. It is given a weight in the standing of each class being greatest for the first class and decreasing proportionally for each class below the first, the final standing in conduct being computed from the standing in each year.

This recognition of military efficiency and soldierly deportment has already had a marked effect on the zeal and intelligence with which duty is performed. The members of the first class are detailed in turn according to roster for the various duties as officers at drills, parades, tactical exercises and as officer of the day, etc., and are marked on their performance of these duties. In this way each member of the class is given credit for his efficiency in the performance of military duty and his display of qualities essential in the make-up of an officer. The mark for "soldierly deportment" is determined by the combined personal estimate of the commandant of cadets and each of his assistants, together with recorded delinquencies affecting soldierly deportment and discipline.

DISCIPLINE.

During the current year a policy combining strict discipline with largely increased privileges has been followed, and with beneficial results, I believe.

In precision of movement and general excellence in all drills and military exercises in which instruction is given, the discipline of the battalion of cadets has been all that could be desired throughout the year. In the higher requirements of discipline, those demanding cheerful compliance with the proper wishes of authority, the usual satisfactory response of cadets has been wanting in the single matter of the treatment accorded new cadets by older cadets. In recent years a system of interference with new cadets, or hazing, has come into existence at the Academy which is harmful both to the name and work of the Academy, and in cases has been carried to a cruel and brutal extreme.

In the endeavor made to stop the practice a spirit of resistance was shown among older cadets, not creditable to proper discipline. The spirit first showed itself in two serious acts of insubordination, committed by members of the first class, and which would have included probably a majority of the class had not summary action repressed it. Sixteen cadets, numbering among them the six highest cadet officers, were directly involved, and their conduct emboldened the members of the third class, the cadets who usually engage in the obnoxious practice. The matter is treated at length in the report of the commandant of cadets, hereto appended. While strict measures and severe punishment decreased and controlled hazing, they did not completely stop it. They, however, with other measures under consideration, together with the growing opposition of cadets themselves, will, it is believed, put an absolute end to any treatment of the new cadet which will do harm to a proper self-respect, insult him, or endanger his physical well being.

GYMNASTICS—ATHLETIC SPORTS.

The course of physical training, embracing military gymnastics, fencing, and swimming, is now highly developed and of the greatest benefit to cadets in their physical development and general health.

Athletic sports have received reasonable encouragement throughout the year. The interest cadets show in the games of baseball, football, polo, golf, and tennis is gratifying in the extreme and can not but be beneficial in fitting them for their profession as well as a needful relaxation from the mental strain the acquirement of the academic course entails.

For the first time, this year the physical training of new cadets was placed under the direction of the master of the sword, with most gratifying results, which are shown in the appended report of the commandant of cadets.

I request attention to, and renew the repeated recommendations of former superintendents and boards of visitors concerning the status and recognition due the Academy's master of the sword, Mr. Herman J. Koehler, who has filled this post since 1885, and has developed a system of gymnastics, winning the admiration of all who see the results it accomplishes. His system was early adopted by the War Department for general use in the Army, and it is a reasonable assertion that to Mr. Koehler's teachings and work is primarily due the superb physical condition of our Regular Army at the outbreak of war with Spain. Mr. Koehler is morally, intellectually, and physically qualified for a commission. In his instruction of cadets he is required to preserve discipline and exercise control, but, being a civilian, he is without legal authority to command, even to the extent of giving orders to the enlisted men detailed to assist him in the performance of his duties, making an anomalous position in the military service, which is injurious to proper discipline, and would impair the efficiency of any less capable and tactful man. I earnestly ask the War Department to recommend to Congress legislation giving the Academy's master of the sword the military rank his efficient service in the past and the great importance of his department merit.

EQUIPMENT FOR INSTRUCTION.

The equipment on hand for the instruction of cadets is up-to-date and well adapted for its purpose. During the year a model target range, for the instruction of cadets, has been completed and the following new equipment has been received: A complete new siege battery, consisting of four 5-inch guns and two 7-inch howitzers, with their carriages and platforms; a complete battery of six 7-inch steel breech-loading mortars; two 3.2-inch guns and carriages to complete the foot battery; six caissons and limbers for the field battery, as well as ammunition, other stores, and material. Attention is invited to the appended report of the instructor of ordnance and gunnery, marked "D," and appreciative thanks are expressed to the Ordnance Department of the Army for the interest it has shown in meeting the needs of the Academy.

Steps have been taken to procure a battery of mountain guns with traction and pack equipment, so that cadets can have this most valuable instruction, the importance of which our Indian service and the campaigns in Cuba, Porto Rico, and in the Philippines have fully demonstrated. A model seacoast battery of two guns is also under consideration, and when located and equipped will make complete the means for artillery instruction.

SUPPLY AND SUBSISTENCE DEPARTMENT AND CADET PAY.

Attention is invited to the report of the quartermaster and commissary of cadets, marked "E."

The quality of the work done for cadets and of the supplies furnished during the year has been satisfactory, and successful efforts have been made to secure a better class of goods at reduced cost to cadets. The laundry has been much improved and work there facilitated by the addition of a new metal drying-room and several new pieces of machinery. A few more additions in the laundry are needed and will be included in the annual estimate.

The quality of food furnished cadets has been of the best. The daily bill of fare is constantly changed, so as to afford a pleasing variety. During the year the cost of subsistence at the mess has been 53 cents per cadet per day. The early graduation of the first class, as was the case last year, together with an increase in the price of food products, has increased slightly the cost of living over former years, though a reduction has been made over last year. The cold-storage and ice-making plant, now just completed, is a welcome improvement in the cadet mess and will prove a valuable addition in every way.

PAY OF CADETS.

I beg leave to invite attention to the pay of cadets and to recommend that they be placed upon the same pay footing as their brother cadets of the Naval Academy. The pay of the army cadet is \$540 per annum; that of the naval cadet is \$500 per annum and a daily ration commuted at 35 cents, a difference of \$69.50 per annum in favor of the latter. The pay of the army cadet is expected to provide for his support at the Academy and his equipment as an officer when he graduates and enters the Army. It is inadequate for these purposes without other assistance, and the small increase recommended would be a great relief to many cadets who find themselves often embarrassed during their cadetship and for some time after entering the Army. Out of his pay the army cadet pays for his food, clothing, laundry, cost of policing barracks, baths, shoe blacking, varnishing, gas, his social amusements, athletic games, literary society, text-books (many of which, being purely technical, are costly), drawing instruments (costing \$23.05, more than one-half month's pay), his expenses to and from home on the furlough granted at the end of two years, and, in fact, for everything incidental to his maintenance at the Academy except the actual heating of the buildings he occupies and his tuition.

Some of these items, it is often claimed, Congress never intended the cadet should be charged for, and the desired relief could be given by covering such by a separate item in the Academy appropriation bill. I think, however, the charges now made should continue and the relief given as recommended. Out of the cadet's pay \$4 per month is retained as an equipment fund, to provide his equipment as an officer when he graduates. This sum is entirely insufficient for the purpose, and the consequence is the young graduate, if without means of his own, usually enters on his new career in debt. The additional pay recommended would relieve this embarrassment completely. Though a rigid economy is exacted of all cadets, many can not avoid debt, and the operation of getting out is a difficult, slow, and often an embarrassing one, especially so for those unable to make the required deposit of \$100 toward paying for their first equipment when entering the Academy. I hope the necessary legislation will meet the approval and recommendation of the Department.

THE MILITARY ACADEMY BAND.

Under authority of the War Department 16 privates have been added to the enlisted strength of West Point for assignment to the Academy band during the period the strength of the Army remains at its present limit. This action temporarily meets a necessity that former superintendents of the Academy and boards of visitors have constantly urged should be recognized. I now beg to renew their recommendations, and to urge that these 16 men be permanently transferred to the band, and the latter given an organization such as befits this national Academy and the great importance of good music in the cultivation of military spirit. I recommend that the band be organized with 12 musicians at \$34 per month, 12 musicians at \$25 per month, and 16 musicians at \$17 per month, an arrangement which, it is believed, will insure permanent and fair musicians.

THE DETACHMENT OF ARMY SERVICE MEN, QUARTERMASTER'S DEPARTMENT.

The men of this detachment have throughout the year performed in a very satisfactory manner their multifarious duties, which embrace the general care and police of West Point, the manufacture of gas and care of fuel, ordinary repairs of buildings, roads, fences, etc.; attendance in academic departments, clerks in adjutant's and quartermaster's office, etc. Though regularly enlisted, these men are not soldiers in the ordinary meaning of that word, but are overseers, mechanics, printers, laborers, clerks, watchmen and janitors, under discipline and military control; they work eight hours a day, but are subject to call on emergency at any hour of the day or night. The detachment is a very efficient one for its purpose, and results in the greatest economy to the Government compared with the expenditure that would be necessary to accomplish the same work with hired labor.

Since the organization of the detachment and until the war with Spain its members have drawn extra-duty pay. When enlisted, they were informed, as an inducement to enter the detachment, that extra-duty pay was given, and this they believed to be a part of the contract they entered into in enlisting as much as the Regular Army pay, their rations, or clothing allowance.

In the Military Academy appropriation bills and in the Army appropriation bills, Congress has continued to appropriate money for extra-duty pay of the detachment, but the provisions of the act of April 26, 1898, prohibiting the payment of extra-duty pay to the Army during the war with Spain having been construed to apply to this detachment, its members have received, and continue now to receive, only the ordinary pay, with the 20 per cent war increase given all soldiers. This has worked, and continues to work, a real hardship, for the majority of the detachment are married men, with families to support, and their present pay is inadequate for the purpose.

During the year the war lasted the men of the detachment bore their reduction of pay with cheerfulness and patriotism, but since the conclusion of peace they can not see the justice of the decision which still withholds from them the promised extra-duty pay. As I believe the granting of the pay is vital to the continued efficiency of the detachment, a reconsideration of the decision withholding it since peace was declared is respectfully urged. The detachment is in no sense a part of the fighting line of the Army, and Congress has appropriated the necessary funds to pay its members.

COMPANY E, BATTALION OF ENGINEERS.

This company has also performed throughout the year, and in a most satisfactory manner, the many important duties with which it is charged, which are enumerated in the appended report of the instructor of practical military engineering, marked "F."

Increased barrack accommodations for this company is now urgent, and it is hoped will be provided for during the coming session of Congress. The present barrack was originally constructed for 50 men and a set of officer's quarters. Subsequently, when the strength of the company was increased to 100 men, the officer's quarters and attic of the building were utilized as barrack space, but were not sufficient, and the men were too crowded. As the authorized enlisted strength of the company is now 150 men, and as it is essential for it to be kept at its maximum strength—additional barrack room is imperative.

THE DETACHMENT OF CAVALRY.

The combination of cavalry and light artillery duties this detachment with its horses is called on to perform in connection with cadet instruction do not give the desired results. This is because the duties of the detachment are so continuous and exacting, there is not sufficient time to properly train its members in the dual duties of cavalymen and artillery drivers, and because cavalry horses are ruined as such when used also as draft artillery horses. The detachment numbers 75 men and 102 horses. If the detachment was increased by 36 artillerymen (6 noncommissioned officers and 30 privates) and 48 artillery horses, the present system could be made far more efficient and the instruction given in these two important branches would be more nearly on a par with that in other branches at the Academy. The increased expense would be justified by the benefits received. Under present and past conditions cadets graduate without having before them as a continuous object lesson, a high state of efficiency of men and horses. This is especially unfortunate in light-battery instruction.

POST, GROUNDS, AND BUILDINGS.

The general health of the post has been good throughout the year. During the winter an epidemic of influenza occurred, but was not of a serious nature, and in May there was an outbreak of measles in the families of several soldiers and employees, which by careful quarantine was confined to the sections where it appeared. The disease, it is altogether probable, had its origin in a neighboring town.

Much attention has been given during the year to the sanitary police of the reservation, which in future will be more easily maintained in consequence of the erection by the quartermaster's department of a crematory for solid wastes—a long-needed improvement.

Attention is invited to the report of the quartermaster of the Academy appended, marked "G," for the improvements made and work accomplished during the year. The grounds at the main entrance of the Academy, in the vicinity of the south dock and railroad station, have received needed attention and are greatly improved in appearance.

The railroad and telegraph companies have cooperated in this work and have also made their properties more sightly. The new south dock and ferry slip have been completed, and a convenient sidewalk has been built from it along the road to the walks of the plain. Considerable

work has also been done in clearing off the Kinsley addition to the reservation, which is now used as a maneuver ground in the instruction of cadets.

WATER SUPPLY.

The supply of water for the year has been sufficient for present demands, and when the water system, as planned, is completed, a whole-some supply will be insured. Work on the system has made much progress during the year, but owing to the heavy increase in the cost of material is not as far advanced as it was expected it would be by this time. Attention is invited to the appended report of the instructor of practical military engineering, marked "F," for the work already done on the water system and what will be necessary to complete it, estimates for which are submitted.

When the present system is completed, all sources of supply of good water in the vicinity of West Point will have been acquired, except one, Long Pond, one-fourth of a mile south of Round Pond. The supply, if it continues as it now exists, will probably be sufficient for present demands, but in the event of any considerable enlargement of the Academy, it is very doubtful if it will then be sufficient. A wise foresight, therefore, would be to secure Long Pond, which will afford an abundant amount of water for all eventualities, and it is recommended that steps be taken to that end. The property can now be acquired for a fair price.

THE LIBRARY.

The actual work of renovating the library building, for which Congress made the asked-for appropriation at its last session, has not yet begun, due to the heavy advance in the price of building material since the appropriation was made. Although many responsible builders were invited to compete for the work only two proposals were received, and both were considerably in excess of the appropriation. A modification of the plans so as to insure a bid within the appropriation having been found impracticable, I have asked that the Academy itself be authorized to undertake the work of renovation. If the authority is given, it will insure this very necessary and long-desired improvement being made without further assistance from Congress.

The condition of the library is given in appended report, marked "H," of the librarian.

THE CULLUM MEMORIAL HALL.

The construction of this handsome and imposing edifice is now complete and its interior decoration is finished. Congress having most generously provided the funds, the necessary measures for furnishing and lighting the building have been taken, and in a few more weeks it will be ready for the purposes its distinguished donor proposed for it.

THE WEST POINT HOTEL.

This hotel, which, on account of the situation of West Point, is a necessary adjunct to the Military Academy, was erected from funds procured from the sale of timber on the military reservation seventy-five years ago. Since then it has been enlarged from time to time and kept in repair by the rental received from it. This is now no longer practicable, and the building is in such condition it should be either

remodeled or replaced by a new one. From a careful examination made, it is believed the former is practicable and will be much less costly than the latter. Congress has never appropriated funds for the building. The interior of it is now so antiquated in design and so obsolete in its appointments, it is impossible for those who are compelled to come to West Point to find in the hotel the ordinary conveniences and comforts which a building owned by the United States should furnish. As the primary purposes of the hotel are for the accommodation of the boards of visitors to the Academy and other officials of the Government, and for the accommodation of the parents and guardians of cadets, it is obvious the house should be remodeled and refitted. Estimates to do this will be submitted and the War Department's approval of them to Congress is urged.

OFFICERS' MESS.

A building for a bachelor officers' mess is now a necessity at the Academy. There has never been a suitable building or place for this purpose. For years the south end of the cadet mess hall has been used as a mess for officers, but it has been a situation that has been recognized always as an undesirable one, and the position of the building allotted for it has been entirely unsuitable for the purpose. The entire cadet mess hall building is now needed for the use of cadets, and provision must be made for an officers' mess as is done in all our modern military posts. At present there is no unoccupied building at the Academy that can serve the purpose. A very important reason also why such a building is especially needed here and should be given exists in the constantly increasing number of foreign officers and distinguished visitors who come to West Point and the obligation of our officers to entertain them. The War Department's favorable action on the estimate for this building is earnestly recommended.

ESTIMATES.

The estimates for the next fiscal year have been carefully prepared and are submitted herewith. Considerable needed new construction has been asked for, which makes the total appropriation much larger than in previous years; in other respects, the estimates are essentially the same as in the past. The necessity for each new item in the estimate is explained in the remark following it.

CONCLUSION.

In conclusion, I wish to express to the War Department the Academy's thanks for the firm and cordial support it has invariably received during the year; also, personally, to record my deep obligation to the professors and officers of the Academy for the assistance they have given me in the performance of my duties.

Very respectfully, your obedient servant,

A. L. MILLS,

Colonel, U. S. Army, Superintendent.

The ADJUTANT-GENERAL UNITED STATES ARMY,
Washington, D. C.

A.

UNITED STATES MILITARY ACADEMY,

WEST POINT, NEW YORK.

SUPERINTENDENT.

Col. A. L. MILLS, United States Army.

MILITARY STAFF.

First Lieut. WILLIAM C. RIVERS, First Cavalry, adjutant of the Military Academy and of the post; recruiting officer; commanding band and detachment of field music.

First Lieut. MALVERN-HILL BARNUM, Tenth Cavalry, quartermaster of the Military Academy and of the post; disbursing officer; commissary and treasurer; in charge of post exchange.

Maj. CHARLES B. HALL, Second Infantry, treasurer of the Military Academy, and quartermaster and commissary of cadets.

Maj. JOHN M. BANISTER, surgeon, U. S. A., surgeon.

First Lieut. FRANKLIN M. KEMP, assistant surgeon, U. S. A.

ACADEMIC STAFF.

Professors whose service at the Academy as professors exceeds ten years have the pay and allowances of colonel, and all other professors the pay and allowances of lieutenant-colonel.

DEPARTMENT OF TACTICS.

Lieut. Col. Otto L. Hein, captain, First Cavalry, commandant of cadets and instructor of tactics (June 15, 1897).

Capt. George H. Sands, Sixth Cavalry, senior instructor of cavalry tactics.

Capt. Granger Adams, Seventh Artillery, senior instructor of artillery tactics.

First Lieut. Edmund M. Blake, Fourth Artillery, assistant instructor of tactics, commanding company of cadets.

First Lieut. Edward Anderson, Seventh Cavalry, assistant instructor of tactics, commanding company of cadets.

First Lieut. William Lassiter, First Artillery, assistant instructor of tactics, commanding company of cadets.

First Lieut. Julian R. Lindsey, Tenth Cavalry, senior instructor of infantry tactics, commanding company of cadets.

DEPARTMENT OF CIVIL AND MILITARY ENGINEERING.

Gustav J. Fieberger, professor (May 4, 1896).

First Lieut. Jay J. Morrow, Corps of Engineers, assistant professor.

First Lieut. James P. Jerve, Corps of Engineers; First Lieut. Edwin R. Stuart, Corps of Engineers, instructors.

DEPARTMENT OF NATURAL AND EXPERIMENTAL PHILOSOPHY.

Peter S. Michie, professor (February 14, 1871).

Capt. Henry C. Davis, Seventh Artillery, assistant professor.

First Lieut. Wilmot E. Ellis, Fourth Artillery; First Lieut. George G. Gately,¹ Fifth Artillery, instructors.

First Lieut. Joseph T. Crabbs, Ninth Cavalry, in charge of observatory and astronomical observations.

¹Not yet joined.

UNITED STATES MILITARY ACADEMY.

DEPARTMENT OF MATHEMATICS.

Wright P. Edgerton, professor (October 7, 1898).

Charles P. Echols, associate professor (October 7, 1898).

First Lieut. George Blakely, Second Artillery, assistant professor.

First Lieut. Frank W. Coe, First Artillery; First Lieut. George F. Hamilton, Tenth Cavalry; First Lieut. Robert E. Callan, Fifth Artillery; First Lieut. Clarence H. McNeil, Fifth Artillery; First Lieut. James W. Hinkley, jr., Fifth Artillery; First Lieut. John B. Christian, Ninth Cavalry; Second Lieut. Francis H. Pope, Second Cavalry; Second Lieut. George E. Mitchell, Seventh Cavalry, instructors.

DEPARTMENT OF CHEMISTRY, MINERALOGY, AND GEOLOGY.

Samuel E. Tillman, professor (December 21, 1880).

First Lieut. Richmond P. Davis, Second Artillery, assistant professor.

First Lieut. George F. Landers, Fourth Artillery; First Lieut. Samuel G. Jones, Fifth Cavalry; First Lieut. William Chamberlaine, First Artillery, instructors.

DEPARTMENT OF DRAWING.

Charles W. Larned, professor (July 25, 1876).

First Lieut. Jens Bugge, Third Infantry, assistant professor.

First Lieut. Andrew Hero, jr., Fifth Artillery; First Lieut. Frederick W. Lewis, Seventeenth Infantry, instructors.

DEPARTMENT OF MODERN LANGUAGES.

Edward E. Wood, professor (October 1, 1892).

Capt. Charles H. Hunter, Third Artillery, assistant professor of the Spanish language.

First Lieut. Wirt Robinson, Fourth Artillery, assistant professor of the French language.

First Lieut. Girard Sturtevant, Twenty-third Infantry; First Lieut. James M. Williams, Seventh Artillery; First Lieut. Joseph L. Knowlton, Second Artillery; First Lieut. Eugene P. Jervey, jr., Fifth Cavalry; Second Lieut. William Kelly, jr., Second Cavalry, instructors.

DEPARTMENT OF LAW AND HISTORY.

George B. Davis, lieutenant-colonel and deputy judge-advocate-general, U. S. A., professor (August 20, 1895). By assignment under act June 6, 1874.

First Lieut. Frank G. Mauldin, Seventh Artillery, assistant professor.

First Lieut. Mathew C. Smith, Second Cavalry; First Lieut. Herbert A. White, Sixth Cavalry; First Lieut. Nathan K. Averill, Seventh Cavalry, instructors.

DEPARTMENT OF PRACTICAL MILITARY ENGINEERING, MILITARY SIGNALING, AND TELEGRAPHY.

Capt. George W. Goethals, Corps of Engineers, instructor (November 15, 1898).

First Lieut. Harry Burgess, Corps of Engineers, senior assistant instructor.

DEPARTMENT OF ORDNANCE AND GUNNERY.

Capt. Lawrence L. Bruff, Ordnance Department, instructor (August 17, 1891).

First Lieut. Jay E. Hoffer, Ordnance Department, senior assistant instructor.

First Lieut. William R. Smith, First Artillery, assistant instructor.

CHAPLAIN.

Rev. Herbert Shipman (April 22, 1896).

Herman J. Koehler, master of the sword (February 1, 1885).

George Essigke, teacher of music (October 15, 1895).

¹ Associate professor with the pay and allowances of captain.

List of officers at the United States Military Academy.

Names.	Corps or regiment.	On duty at Academy since—
<i>Colonels.</i>		
Mills, Albert L	Superintendent, captain, First Cavalry	Sept. 20, 1898
Michie, Peter S	Professor (Feb. 14, 1871)	Apr. 23, 1867
Larned, Charles W	Professor (July 25, 1876)	Aug. 28, 1874
Tillman, Samuel E	Professor (Dec. 21, 1880)	Aug. 28, 1879
<i>Lieutenant-colonels.</i>		
Wood, Edward E	Professor (Oct. 1, 1892)	Aug. 28, 1889
Davis, George B	Professor (Aug. 20, 1895)	Aug. 20, 1895
Fiebeger, Gustav J	Professor (May 4, 1896)	May 30, 1895
Hein, Otto L	Commandant of cadets, captain, First Cavalry	June 15, 1897
Edgerton, Wright P	Professor (Oct. 7, 1898)	Jan. 28, 1889
<i>Majors.</i>		
Banister, John M	Surgeon, Medical Department	Oct. 27, 1898
Hall, Charles B	Second Infantry	May 5, 1898
<i>Captains.</i>		
Bruff, Lawrence L	Ordnance Department	Aug. 17, 1891
Goethals, George W	Corps of Engineers	Nov. 15, 1898
Sands, George H	Sixth Cavalry	Aug. 21, 1899
Adams, Granger	Seventh Artillery	July 15, 1895
Hunter, Charles H	Third Artillery	Aug. 20, 1896
Davis, Henry C	Seventh Artillery	Aug. 29, 1898
Echois, Charles P	Associate professor	Dec. 27, 1898
Shipman, Herbert	Chaplain (Apr. 22, 1896)	Apr. 25, 1896
<i>First lieutenants.</i>		
Davis, Richmond P	Second Artillery	Aug. 29, 1898
Barnum, Malvern-Hill	Tenth Cavalry	Dec. 19, 1893
Robinson, Wirt	Fourth Artillery	Aug. 21, 1899
Landers, George F	do	Aug. 20, 1897
Rivers, William C	First Cavalry	Aug. 14, 1899
Blake, Edmund M	Fourth Artillery	Aug. 21, 1899
Anderson, Edward	Seventh Cavalry	Aug. 25, 1898
Morrow, Jay J	Corps of Engineers	Aug. 20, 1898
Ellis, Wilmot E	Fourth Artillery	Aug. 29, 1898
Kemp, Franklin M	Assistant surgeon	Sept. 7, 1899
Jones, Samuel G	Fifth Cavalry	Aug. 31, 1899
Jervey, James P	Corps of Engineers	Jan. 4, 1899
Lassiter, William	First Artillery	Aug. 20, 1898
Mauldin, Frank G	Seventh Artillery	Aug. 20, 1896
Gatley, George G. I	Fifth Artillery	Sept. 7, 1896
Crabbs, Joseph T	Ninth Cavalry	Sept. 7, 1896
Bugge, Jens	Third Infantry	Aug. 20, 1898
Burgess, Harry	Corps of Engineers	Dec. 7, 1898
Stuart, Edwin R	do	Aug. 21, 1899
Sturtevant, Girard	Twenty-third Infantry	Aug. 29, 1898
Hero, Andrew, jr	Fifth Artillery	Aug. 21, 1899
Hoffer, Jay E	Ordnance Department	Aug. 20, 1896
Lewis, Frederick W	Seventeenth Infantry	Aug. 29, 1898
Blakely, George	Second Artillery	Aug. 20, 1896
Lindsey, Julian R	Tenth Cavalry	Nov. 27, 1896
Coe, Frank W	First Artillery	Sept. 1, 1898
Smith, William R	do	Nov. 11, 1895
Chamberlaine, William	do	Aug. 21, 1899
Smith, Mathew C	Second Cavalry	Aug. 20, 1897
Williams, James M	Seventh Artillery	Aug. 20, 1896
Hamilton, George F	Tenth Cavalry	Jan. 7, 1899
White, Herbert A	Sixth Cavalry	Aug. 29, 1898
Knowlton, Joseph L	Second Artillery	Do.
Averill, Nathan K	Seventh Cavalry	Aug. 21, 1899
Callan, Robert E	Fifth Artillery	Apr. 20, 1899
McNeil, Clarence H	do	Aug. 21, 1899
Hinkley, James W., jr	do	Aug. 30, 1898
Jervey, Eugene P., jr	Fifth Cavalry	Aug. 31, 1898
Christian, John B	Ninth Cavalry	Aug. 30, 1899
<i>Second lieutenants.</i>		
Kelly, William, jr	Second Cavalry	Oct. 19, 1898
Pope, Francis H	do	Aug. 21, 1899
Mitchell, George E	Seventh Cavalry	Aug. 31, 1899

¹ Not yet joined.

UNITED STATES MILITARY ACADEMY.

TROOPS.

BATTALION OF CADETS.

Lieut. Col. Otto L. Hein, captain, First Cavalry, commanding.
 Company A, First Lieut. Edmund M. Blake, Fourth Artillery, commanding.
 Company B, First Lieut. William Lassiter, First Artillery, commanding.
 Company C, First Lieut. Julian R. Lindsey, Tenth Cavalry, commanding.
 Company D, First Lieut. Edward Anderson, Seventh Cavalry, commanding.

DETACHMENT OF HOSPITAL CORPS.

Maj. John M. Banister, surgeon, U. S. A., commanding.
 First Lieut. Franklin M. Kemp, assistant surgeon, U. S. A.

UNITED STATES MILITARY ACADEMY DETACHMENT OF ARMY SERVICE MEN.

First Lieut. Malvern-Hill Barnum, Tenth Cavalry, acting assistant quartermaster,
 U. S. A., commanding.

COMPANY E, BATTALION OF ENGINEERS.

Capt. George W. Goethals, Corps of Engineers, commanding.
 First Lieut. Harry Burgess, Corps of Engineers.

UNITED STATES MILITARY ACADEMY DETACHMENT OF ORDNANCE.

Capt. Lawrence L. Bruff, Ordnance Department, commanding.
 First Lieut. Jay E. Hoffer, Ordnance Department.

UNITED STATES MILITARY ACADEMY DETACHMENT OF CAVALRY.

Capt. George H. Sands, Sixth Cavalry, commanding.
 First Lieut. Julian R. Lindsey, Tenth Cavalry.

UNITED STATES MILITARY ACADEMY BAND AND DETACHMENT OF FIELD MUSIC.

First Lieut. William C. Rivers, First Cavalry, commanding.

B.

CADET HOSPITAL,
West Point, N. Y., July 15, 1899.

SIR: I have the honor to submit the following report of the work done by the
 medical department at this post during the fiscal year ending June 30, 1899:

Cases treated in the cadet hospital, 1 officer and 503 cadets; 22 officers treated in
 quarters.

Cases treated at the soldiers' hospital (in hospital and quarters), 678.

Civilians treated (members of soldiers' families, servants, etc.), 1,289.

Number of prescriptions filled at the cadet hospital, 4,239.

Number of prescriptions filled at the soldiers' hospital, 4,118.

Number of recruits examined, 237.

Since my arrival at this post, and dating from December 5, 1898, the following
 surgical operations have been performed here:

Bassini operations for the radical cure of hernia, 8 cases (1 officer, 3 cadets, and 4
 enlisted men).

Operations for varicocele, high open method, 3 cases (2 cadets and 1 soldier).

Operation (Volkman's) for radical cure of hydrocele, 1 case (cadet).

Operations for strabismus (ocular deviations, "squint"), 2 cases (1 soldier and 1
 civilian).

Removal of pterygium from eyeball by excision, 2 cases (1 operation both eyes,
 cadet; and 1 single operation, soldier).

Operation upon lachrymal apparatus (slitting canaliculus), 2 cases (both civilians
 living at post).

Excision of chain of lymphatic glands of groin, 1 case (soldier).

Excision of tumor of upper eyelid, 1 case (civilian employed at post).

Operations for chalazia, 2 cases (civilians).

Circumcision for phimosis, 2 cases (cadets).

Amputation of leg for senile gangrene, 1 case (retired soldier).

Curettement of uterus, 2 cases.

Amputation of finger, 1 case.

Besides the operations enumerated above a number of minor operations were performed, such as excision of ingrowing nails, etc., which are not specially mentioned. All of these operations were eminently successful.

Great care has been taken since my assuming charge of the medical department here in training the members of the hospital corps in the practical details of aseptic technique in the operating room and in dressing surgical cases.

This instruction was intrusted to Asst. Surg. D. F. Duval, who has also had charge of the course of instruction in first aid and nursing, which has been faithfully given. The men of the hospital corps have also received the required instruction in litter and ambulance drill.

I have secured from the Surgeon-General, for the operating room at the cadet hospital, the latest and most improved appliances in the way of sterilizers, cabinets, operating table, etc.

An appropriation for fitting up the room amounting to \$2,390 was secured from the last Congress, and this sum is now available. The plans are ready, and it is hoped that the cadet hospital will soon be provided with a complete, elegant, and modern operating room, which is urgently needed.

I have performed eighteen surgical operations in the cadet hospital since December 5, 1898, four being serious abdominal operations for the cure of hernia, or rupture.

The prevalence of eye strain among the cadets has been a source of trouble during the year. I have during the last scholastic year examined the eyes of 18 per cent of the cadets to detect and correct errors of refraction, which were responsible for severe eye strain.

Being a specialist in ophthalmology in my private capacity, I have corrected these ocular defects, and all of these cadets, except three, have been enabled, by the use of the glasses prescribed, to continue their studies.

The three cadets excepted were suffering from such condition of hyperæsthesia of the retina that they were unable to use their eyes and were granted sick leaves.

I am of the opinion that the lighting of the cadet barracks is at fault. Each room is lighted by three gas burners, a central Argand burner, and two lateral ordinary burners, suspended above the table placed in center of the room.

I believe that one Welsbach burner, with green porcelain shade in a stand on the table in the form of a droplight, would give a far better light than is furnished by the three burners now in use, and would be a great preventive as regards eye strain.

These burners would likewise be a great saving in the matter of gas consumption, burning 3 cubic feet per hour to the 15 cubic feet consumed by the three burners at present used.

I have, in addition to the above-mentioned ophthalmological work, measured and corrected refractive errors in 65 official cases occurring among officers, enlisted men, and members of their families.

I desire to call attention to the fact that the cadet hospital is too small, and to urge the building of a south wing corresponding to the present north wing, as contemplated in the original plan.

There is no isolation ward in the building for the treatment of infectious diseases, and no means of caring for suspicious cases, except in the general wards. I called attention to this in a previous report to the superintendent just before the meeting of the Board of Visitors, in June, and then made the statement that if an epidemic of some serious infectious disease, as measles, scarlet fever, or diphtheria, should attack the corps of cadets matters would assume a very serious aspect, owing to our limited accommodations for such cases at the cadet hospital.

The calamity referred to has befallen us, and the corps of cadets is now threatened with a serious epidemic of scarlet fever. There are nine cases of this disease at present in the hospital, and we are compelled to place them in a room, intended for convalescents, with no sewerage or water connections. If a few more cadets should have the disease there would be no room in this hospital for them. I earnestly recommend the construction of a detached building in the rear of the cadet hospital for the treatment of infectious diseases. Such a building should contain two wards (one for definite cases of infectious disease and one for suspected cases) together with dining room, kitchen, attendants' room, and water-closets. It would be manifestly out of the question to put suspicious cases in the same ward with well-marked cases of contagious disease, as such action would almost certainly cause infection of the former, if not already infected, and, on the other hand, it would, on obvious grounds, be dangerous to the other patients to place these suspicious cases in the general wards.

We have been compelled to run this danger during the present invasion of scarlet fever, in so far as the general ward has been concerned.

Very respectfully,

J. M. BANISTER,
Major and Surgeon, U. S. A.

The ADJUTANT, UNITED STATES MILITARY ACADEMY.

6434—2

C.

HEADQUARTERS UNITED STATES CORPS OF CADETS,
West Point, N. Y., August 20, 1899.

SIR: In compliance with Circular No. 56, headquarters United States Military Academy, current series, I have the honor to submit the following report on the work of the department of tactics, during the instruction year ending August 28, 1899. This, in general terms, embraced instruction in drill and tactics, in discipline, and in military administration.

INSTRUCTION IN DRILL AND TACTICS.

(1) *Practical.*—The course of practical military instruction comprised the following branches: (a) Infantry, cavalry, and artillery; (b) tactical and minor tactical exercises; (c) target practice; (d) practice marches; (e) fencing, gymnastics, and swimming; (f) fire drills.

The course began on September 1, embracing the months of September and October, last two weeks of March, the months of April and May, last two weeks of June, and the months of July and August—a total of seven months.

During the autumn and spring terms the time allotted for practical instruction averaged about one hour daily, four days each week, and during the summer term from two to two and one-half hours on Monday, Tuesday, Wednesday, and Friday, and about one hour and ten minutes on Saturday of each week, and from seven to eight hours on Thursday (practice march) of each week. Target practice was held on the target range about three hours and ten minutes, four days each week, during the summer encampment, and one hour, four days of each week, during the autumn and spring terms. All of the drills and exercises during the summer term were held between 7 and 10.10 a. m.

(a) INFANTRY, CAVALRY, AND ARTILLERY INSTRUCTION.

Infantry.—This consisted of drill and exercises in the school of the soldier, company and battalion. The members of the first class were detailed in turn to command the companies and platoons at the company and battalion drills, after the first few drills, under the supervision of the commandant of cadets and tactical officers. During the summer encampment, one or more companies of infantry were formed for the daily drills, with details of officers from the first class, and of noncommissioned officers from the third class, the rank and file consisting of members of the third and fourth classes. Instruction was given in the manual of arms and bayonet exercise, from the 15th to the 31st of March (held in the gymnasium in bad weather); company and battalion drills were held during the month of September and one month during the spring term.

Cavalry.—Cavalry instruction during the past year consisted of equitation in the riding school, drills in the school of the trooper, squad, troop and squadron (in close and extended order), and dismounted cavalry, also the ceremonies. Considerable attention was devoted to instruction in bits and biting, seats and saddles and saddling, and to packing; and the first class also had an opportunity to learn to ride on the ordinary civilian saddle, so that in case of necessity they would find themselves at home on that unaccustomed saddle. The latter was also used by cadets in playing polo, which essentially cavalry sport was given much encouragement.

Exercises were held in cavalry outposts, advance and rear guards, and reconnoitering (enemy and country), and lectures were delivered on the anatomy, age, and defects and blemishes of the horse. Stable duties (grooming, watering, feeding, and bedding down), as in the cavalry service, were performed by the first class on the return from the practice marches.

The members of the first class were detailed in turn to command the platoons and troops at the troop and squadron drills.

Artillery.—The 3.2-inch standing gun drill of the fourth class was held during the months of July, August, and October, and from April 15 to May 15, alternating with siege-gun drill.

The chiefs of platoon of this instruction battery were detailed from the first class, and gunners from the third class. The scope of this course has been considerably enlarged and now not only comprises the drill proper, but the below-mentioned exercises, in preparation of the fourth class for their advance to the school of the light battery. This gives a more useful, practical, and advanced course, and is subdivided as follows:

First period.—School of the cannoneer—service of the piece.

Second period.—Instruction in aiming: (a) Setting the sights for indicated

ranges and for indicated deflection; (b) practice in aiming—bringing into line of sight a disk moved over the face of a target set up a short distance from the gun.

Third period.—Instruction in fuse setting: (a) Explanation of the nature and working of the fuse, by model fuse exhibited; (b) practice in fuse setting by use of dummy shrapnel, with holes (to indicate time train) and pins.

Fourth period.—Fire discipline: Instruction in the duties of the personnel and in the service of the guns in action. Finding the range; establishing the long and short brackets; finding the length of the fuse.

A target and range being given, all the details are carried out of loading the guns (dummy ammunition being used), aiming, and firing. After each fire the instructor indicates whether the shot is supposed to have fallen short or over, and gives the range for the next round. When by means of bracketing the correct range is assumed to have been found, the battery passes to assumed shrapnel fire; fuse cuttings are given, and the cutting indicated on the dummy shrapnel by the appropriate cannoneer. In brief, in obedience to the appropriate commands of the battery and platoon commanders, all of the details of the service of the battery in action are performed or assimilated. This instruction is preparatory to that which may be carried out during the field practice of a battery, where projectiles are used and the conditions made more realistic.

Siege-gun drill.—This instruction was given to the fourth class, with gun commanders detailed from the first class, during the summer, autumn, and spring terms, alternating with 3.2-inch standing gun drills. It comprised the service of the piece, also instruction in nomenclature and general features of the piece (rifling, breech mechanism), aiming (practical laying by open sight, correction of aim by observed results, use of sight and quadrant in conjunction, indirect laying), ammunition (weights, velocities), penetration, etc., effects of fire.

Light and horse artillery.—This instruction comprised the school of the battery, with the first class as officers, during the summer, autumn, and spring, and cannoneers detailed from the third class during August and the two last-mentioned terms. It also embraced the school of the driver, fitting of harness, use of the coupling rein, whip, and bridling reins of off horse, instruction by pairs and teams unhitched, to post teams with their carriages, to hitch and unhitch, and instruction by teams hitched. Target practice and ranging, under service conditions (approximately), was held during the summer (18 rounds of shrapnel and 117 rounds of shell were fired, range estimated 2,400 yards, and percentage of hits 75). Lectures to the first class on projectiles and the employment of artillery in the field were held on days unsuitable for outdoor work.

Instruction of the first class in mechanical maneuvers was held during the last two weeks of August.

Coast artillery.—Instruction in this branch was given to the third class in October and to the second class in the spring, with gun commanders detailed from the first class. The guns used were the 8-inch B. L. R. gun and 12-inch B. L. R. mortar. It was impracticable to have target practice with those guns or with the siege guns, the range being unsafe. It is recommended that an equipment for subcaliber practice be furnished both in the coast and siege batteries. Gun practice at any possible ranges here must necessarily be with greatly reduced charges and corresponding loss of accuracy of fire, and the firing from the instruction batteries would be attended with considerable danger, due to possible glancing from the target of projectiles and splinters.

A more complete, advanced, and useful course in coast artillery is, in my opinion, necessary. Instruction in this branch at the Military Academy now embraces only the bare details of loading the guns, details which in service fall to the private soldier. These details are purposely made as simple as possible, and it requires but a short time for cadets to be instructed in them. The more complex duties which fall to the officer, and which embrace the details of directing and controlling the fire of guns, are not touched upon here at all. As these are the duties which will fall at once to those who graduate and enter the artillery arm of the service, it is thought that instruction of this nature should be held at the Academy. With this end in view the requisite artillery equipment is recommended.

Mountain and machine artillery.—A course of practical instruction of the second class in machine gun (10-barrel Gatling gun, model of 1895) battery drill will be carried out in the autumn drill period, and it is hoped that a 4-gun mountain battery (1.65-inch Hotchkiss guns, carriages, limbers, and harness) will be furnished in time for the spring drill period. The necessity and desirability of a practical course of instruction in mountain and machine guns is obvious, and confirmed by the experiences of our troops in the campaigns in Cuba and Manila. The summer, autumn, and spring terms are ample for the prescribed artillery instruction of the first, third, and fourth classes, while the proposed course of the second class in mountain and machine artillery, approved by the superintendent, will take place in the autumn and spring terms.

(b) TACTICAL AND MINOR TACTICAL EXERCISES.

These exercises were held during the summer encampment, on the maneuver terrain south of the post and on the Government reservation and contiguous territory. They consisted of the attack and defense of a position (sometimes intrenched), of a defile, woods, etc., and battle exercises in the open; exercises of advance guards, rear-guards, and reconnoissances (of enemy and country), etc. Some of the exercises were carried out by infantry and cavalry singly, and, during the month of August, by the three arms in combination.

Lectures were given to the third and fourth classes in the service of security and information during the encampment.

(c) TARGET PRACTICE.

Rifle.—The course of rifle target practice carried out during the instruction year consisted of—

- I. Sighting, position, and aiming drills, and gallery practice.
- II. Short range, 100, 200, and 300 yards; midrange, 500, 600 yards; and long range, 800 and 1,000 yards.
- III. Skirmish firing, 600 to 200 yards.

Lectures were given on the motion of bullets, the trajectory and atmospheric conditions, and the effects of fire.

Practice in volley firing at 700, 800, 900, and 1,000 yards will be included in the course hereafter.

It is recommended that authority be obtained from the War Department for cadets to be allowed to qualify for marksmen and sharpshooters in the record practice at the Military Academy, with the same percentages as those required of cavalrymen for qualification in practice with the carbine.

The record practice of cadets now consists of twenty shots at each of the ranges above mentioned, and two skirmish runs. It is also recommended that for such cadets as make the necessary qualifying per cent as marksmen and sharpshooters in their record practice the usual certificates and badges be granted, and that each year during the month of August a competition be held among twenty-four cadets of the first and third classes, selected according to highest totals at record practice; the competition to be conducted (in the latter part of August) according to the rules laid down in the Small Arms Firing Regulations for department infantry competitions, and that the successful competitors be awarded the prescribed medals (Par. 489 Firing Regulations, Small Arms), viz: One gold, two silver, and three bronze medals.

Revolver practice.—The course of revolver practice during the past year consisted of—

- I. Position and aiming drills, snap shooting, and firing with blank ammunition.
- II. Dismounted practice at 10, 20, and 50 yards.
- III. Mounted practice at a walk and gallop at the prescribed ranges.

(d) PRACTICE MARCHES.

June 15.—First class—Cavalry practice march and field exercise, stable duties performed on return; duration, nine and three-fourths hours; distance marched, 13 miles. First and third classes—Infantry practice march, advance guards, and outposts; duration, nine hours; distance marched, 11 miles.

June 22.—First class—Cavalry practice march and field exercise; stable duty; duration, nine and three-fourths hours; distance, about 15 miles. First and third classes—Infantry practice march and field exercise; duration, about ten hours.

June 30.—First class—Light artillery practice march (with cadet drivers) and stable duty; duration, nine and three-fourths hours; distance, about 11 miles. First and third classes—Infantry practice march and field exercise; duration, ten hours; distance, 11 miles.

July 6.—First class—Cavalry practice march and field exercise in heavy marching order; duration, about nine hours and thirty-five minutes; distance, about 30 miles. First, third, and fourth classes—Infantry practice march and field exercise; duration, seven and one-half hours.

July 14.—First class—Light artillery practice march (with cadet drivers) and afternoon stable duties. First, third, and fourth classes—Infantry practice march and field exercises.

July 20.—First class—Cavalry practice march and field exercises in heavy marching order; stable duty; duration nine and three-fourths hours. First, third, and fourth classes—Infantry practice march and field exercise; duration seven hours.

July 28.—First class—Light artillery practice march and target practice; duration nine hours. First, third, and fourth classes—Infantry practice march.

August 3.—First, third, and fourth classes—Practice march and field exercise (cavalry and light artillery against infantry and light artillery); duration seven hours.

August 10.—First, third, and fourth classes—Practice march and field exercise (infantry and light artillery against cavalry and light artillery); duration about seven hours.

August 17.—Practice march of the corps of cadets (organized as a battalion of infantry and troop of cavalry) to the New York State camp ground at Peekskill, N. Y.; bivouac over night, returning on the morning of the 18th instant. The equipment for infantry comprised the blanket roll, haversack, tin cup, mess kit and canteen, intrenching tools (spade or pick), and 40 rounds of ammunition; for cavalry, carbines and sabers, 40 rounds of ammunition, five intrenching spades attached to the saddle, and packed saddles. A field ambulance with hospital steward and attendants accompanied the command, and the subsistence transported comprised the march ration.

The uniform worn consisted of campaign hats, gray shirts, gray trousers and leggins.

The field exercise on the 17th consisted of the attack of an intrenched position, and the reconnaissance and attack of a defile.

The supervision and direction of the movements of the opposing forces was intrusted to two tactical officers, who gave the necessary instructions and directions to the cadet commanders to carry out the maneuvers according to the directions given by the acting commandant of cadets.

The commanders of companies, battalion, and troop were detailed cadets of the first class.

(2) *Theoretical.*—Theoretical instruction during the past academic year consisted of the United States drill regulations of infantry, cavalry, and light and heavy artillery, and of the service of security and information, firing regulations, etc., the latter during the summer encampment, by means of the lectures previously mentioned.

Insufficient theoretical knowledge of the two latter subjects upon the part of cadets, especially members of the third and fourth classes, has rendered it hitherto impossible to successfully carry out field exercises in the service of security and information, but under the provisions of paragraph 87, Regulations United States Military Academy, requiring the theoretical instruction of the fourth class in this subject during the academic year (which have just been adopted), it is believed that this important practical instruction will hereafter be attended with the best results.

The new course of theoretical military instruction will be as follows:

- | | | |
|--|---|---|
| (a) United States infantry drill regulations. | } | 4th class.—As far as and including school of the company. |
| | | 2d class.—School of the battalion and remainder of drill regulations. |
| (b) United States artillery drill regulations. | } | 4th class.—School of the cannoneer. |
| | | 2d class.—School of the battery and remainder of drill regulations. |
| (c) United States heavy artillery drill regulations. | } | 4th class.—School of the cannoneer. |
| United States cavalry drill regulations. | | 2d class.—Entire drill regulations. |
| (d) United States firing regulations. | } | 1st class |
| Lectures during summer encampment. | | 3d class |
| | | 4th class |
| (e) Service of security and information. | } | 4th class |
| Lectures during summer encampment. | | 1st, 3d, 4th classes |
| (f) Company, post, and staff administration. | } | 2d class. |
| Customs of service and military etiquette. | | 1st class. |

The transfer of the elementary part of the infantry and artillery drill regulations from the second to the fourth class course now prescribed will go into effect in September, and this will result in a more advanced course for the second class, while permitting the members of the fourth class to acquire much-needed knowledge which will be of great benefit not only to those who pass the fourth class course successfully, but also cadets who are discharged by reason of failure during their first year at the Academy.

INSTRUCTION OF NEW CADETS.

The instruction of the new cadets began on June 12 and ended on July 2 (eighteen drill days), and consisted of the following subjects:

School of the soldier and squad, extended order drills; preliminary target practice (sighting and position and aiming drills; gallery practice); preliminary dismounted

revolver practice and physical exercises and setting up drill. Lectures were delivered to the new cadets on the academic regulations, blue book, service of security and information, and firing regulations. The new cadet drill instructors were specially selected members of the first class, acting under the immediate supervision of an assistant instructor of tactics, and their athletic instruction was imparted by the master of the sword. By using only careful, patient, and painstaking first classmen for their purely military instruction, and the able and experienced master of the sword for their gymnastic training, the new cadets made remarkable and exceptional progress in their most important preliminary education, and were able to enter the ranks of the battalion, well set up and well drilled young soldiers after a course of recruit instruction lasting only eighteen drill days.

LECTURES IN COMPANY, POST, AND STAFF ADMINISTRATION.

With the approval of the superintendent, a course of lectures upon the methods pursued in company, post, and staff administration as required by regulations, United States Army, was delivered to the second class every Friday, from 2 to 3 p. m., from October 14 until December, and from January 18 until March 3, on days when not attending drawing.

This course consisted of 18 lectures, as follows:

Two lectures on instruction of recruiting officers and reports and returns pertaining to recruitment.

Two lectures on the duties of the post adjutant and post treasurer, and reports and returns pertaining thereto, and on the post exchange.

Two lectures on company returns, reports, and records.

Two lectures on property accountability.

Two lectures on the ration.

Two lectures on duties pertaining to the Quartermaster's Department.

Two lectures on the Subsistence and Ordnance departments.

Two lectures on company organization, and how to obtain and dispose of enlisted men.

Two lectures on money accountability.

Printed lectures in pamphlet form were issued to the class before the course began, and the particular lecture of the day was announced in advance, for discussion, and cadets were required to prepare themselves to be questioned.

This important course of lectures, to be of greater and more lasting benefit, should be delivered to the first class a short time before their graduation, rather than to the second class, as much of the knowledge acquired by the latter from this course can not be retained, owing to the great lapse of time ensuing before they leave the Academy.

LECTURES ON THE CUSTOMS OF THE SERVICE AND MILITARY ETIQUETTE.

With the approval of the superintendent, four lectures were delivered to the members of the first class during the month of January, on Fridays after 4.10 p. m., on the following subjects: Uniforms and equipment, horse equipment and field outfit, customs of the service, and military etiquette.

Instruction on the last-mentioned subjects would be greatly facilitated if a suitable reference manual on customs of the service and military etiquette could be prepared for cadets. This would not only be of great use to cadets at the Military Academy, but would also assist the young graduate before and after he joins his regiment or corps.

ARTILLERY MATERIAL.

Field.—The field battery of instruction for the fourth class now consists of six 3.2-inch B. L. R. guns—the two additional guns needed and asked for for its completion having been furnished in time for the summer instruction. Twelve dummy cartridges and projectiles—the latter to imitate shrapnel (the time train indicated by a series of numbered holes, with pins to indicate fuse cutting)—were furnished upon request, for use in this instruction battery; also two Pratt range finders, and fuse board, to show construction of fuse.

Mountain artillery.—The mountain-gun equipment (four 1.65-inch Hotchkiss mountain guns, carriages, limbers, etc.) needed for the instruction of the second class has not been received, but it is hoped that material will be forthcoming in time for the spring term.

Machine-gun artillery.—The machine-gun equipment (two 10-barrel Gatling guns, model 1895, with carriages, limbers, harness, etc.) requested in my letter of June 22, is now on hand and available for the autumn instruction of the second class.

Siege material.—The siege battery now consists of four 5-inch B. L. R. guns, and two 7-inch B. L. siege howitzers, and will be shortly augmented by the six 7-inch B. L. siege mortars requested, and be available for the autumn term of instruction.

Coast material.—It is recommended that a model battery of two guns, 8-inch B. L. R. coast gun, and 12-inch B. L. mortar, with all that is needed for the proper instruction of cadets in this branch of artillery be constructed, for which purpose the following equipment is needed: One model emplacement for 8-inch rifle, containing magazine, shot hoists, and the complete equipment provided at seacoast works for the service of this gun, also battery commander's station and equipment complete, this to include Lewis range and position finder, dial indicator or other electric communication with guns, equipment for vessel tracing, etc. In general, all the instruments and devices employed in coast fortifications for fire direction and control.

CAVALRY AND ARTILLERY HORSES.

My recommendations with reference to horses for cavalry and artillery instruction, submitted in annual report of last September, are urgently renewed.

(e) GYMNASTICS, SWIMMING, AND FENCING.

Gymnastics.—The course of physical training of cadets was carried out in accordance with the prescribed programme, with the exception of some important modifications made in the method of imparting this instruction to the new cadets.

The preliminary physical drill of the new cadets (similarly as last year) was taken out of the hands of instructors detailed in turn from the third-class, young men who, at best, have but a very imperfect notion of the object of this training and none whatever of the important rôle this training plays in the building up of the young soldier, and intrusted to the instructor of physical training, assisted by the new cadet instructors of the first class.

The results accomplished during the past year were highly gratifying, the new cadets upon taking up their work in the gymnasium being at least an entire month in advance of any class trained under the old system. They possessed a better carriage, had a better sense of rhythm, were more exact in all movements, and, what was even of greater importance, had no faults due to faulty instruction, which was invariably the case with men instructed by third classmen. This condition made it possible for the instructor to revise and improve the plan of instruction. Instead of devoting a large part of the first period, October to January, to free exercises, as heretofore, that time was added to that devoted to the preliminary training on machines, with the result that at the end of the year the class had had the benefit of nine months systematic and progressive instruction, and all under the direction of a professional instructor, who was not handicapped by the errors resulting from training imparted by instructors not qualified to take charge of the work.

The figures given below in the table of strength tests, than which there is no better criterion, attest the remarkable improvement made by the class of 1902, and which, according to the report of Mr. Koehler, is superior to that of any other class on record at the Academy.

	Pull up.	Dip.	Right fore-arm.	Left fore-arm.	Lung capacity.	Back.	Legs.	Chest.
Class of 1892:								
October, 1898.....	6.52	5.84	254	133.87	124.81	367.32	505.34	118.51
May, 1898.....	12.38	11.49	258.16	142.27	131.18	486.33	662.10	125.00
Gain.....	5.86	5.65	4.16	8.90	6.37	119.01	156.76	6.49

Table showing difference in favor of class of 1902, due to change in method of instruction.

	Pull up.	Dip.	Right fore-arm.	Left fore-arm.	Lung capacity.	Back.	Legs.	Chest.
Average last measurements after a year or more of training:								
Class of 1902.....	12.38	11.49	142.27	131.18	258.16	486.33	662.10	125.00
Classes of 1899, 1900, 1901.....	10.11	9.14	133.61	124.96	244.63	401.12	591.09	134.45
Difference in favor of class of 1902.....	2.27	2.35	8.66	6.22	13.53	85.21	71.01	9.45

"Pull up" represents the number of times a cadet, hanging by his hands, arms extended, can pull himself up until his chin is on a level with the bar; "dip," how often he can lower and raise his body on the parallel bars by bending and extending his arms. Strength of "forearms," "chest," "back," and "legs" is represented in pounds, "lungs" in cubic inches.

In my opinion the advantages of the present plan are very great, and the latter will be adhered to hereafter.

Measurements.—As in former years, the anthropometric measurements of all classes were taken, and those who were given deficiency cards were again ordered to report to the instructor for special training. Forty-two cadets received deficiency cards; of these, 17 belonged to the second class and 25 to the third class. No measurements were made of the first class, on account of premature graduation. At the end of the winter 22 made up their deficiencies, while all of the others showed more or less improvement.

Swimming.—Instruction in this branch was given to the entire fourth class, and to 7 men in the first class and 13 men in the third class, who did not qualify in swimming during their fourth class year. The experience of troops in the field during the past year has demonstrated the increased importance of this branch of instruction to the soldier.

Fencing.—Instruction in fencing was imparted to the members of the fourth class in accordance with the prescribed programme, and did not differ in details from the schedule as outlined in my report of last year.

(f) FIRE DRILLS.

The fire drills of the battalion of cadets, required by paragraph 372, Regulations United States Military Academy, began on September 7, and continued until the companies had acquired sufficient knowledge of these exercises to render their action efficient in case of fire.

DISCIPLINE.

The discipline of the corps of cadets was strictly enforced in accordance with the requirements of the Academic Regulations United States Military Academy and Standing Orders United States Corps of Cadets (Blue Book) and showed marked improvement during the year, with the exception of a large number of breaches of the regulations forbidding hazing, and one serious act of insubordination during the summer encampment. The latter resulted from the unwillingness of certain members of the first class (believed to have been acting under bad advice), who had been regularly detailed in turn according to roster to perform the duty of company commander, to comply with an order having partly for its object the more stringent enforcement of the regulations forbidding hazing, and to sign a report upon the completion of the duty (similarly as in case of inspectors of subdivisions) that they had performed the duty of company commander in compliance with said order.

It may be added that stricter repressive measures against hazing had become necessary, as a number of cases of brutal hazing had been perpetrated and those outrages were believed to be on the increase. These measures consisted of a large augmentation of the guard and sentinels' posts in the company streets of the camp, on the flanks of the latter, over the sinks, etc., with strict orders to the sentinels to carefully observe and report every case of harassing or annoyance of new cadets; the placing of the tents of fourth classmen off limits for upper classmen, and those of the latter off limits for the former; and details of company commanders, who were given orders to "permit no annoyance of or interference with new cadets or fourth classmen, and to report all infractions of these orders," and to report in writing their performance of the duties of company commander, in accordance with the orders given them.

The tactical officers were required to make frequent inspections of the camp, for the special purpose of breaking up the practice of hazing, and the instruction of new cadets, as before mentioned, was placed entirely in the hands of reliable instructors.

These measures resulted in the punishment of a large number of cadets, and decrease of hazing, but did not succeed in stamping out the practice. In my opinion the only effectual way to suppress this evil is to make the punishment for those found guilty of it summary dismissal, and to require all candidates for admission to the Academy to subscribe to an oath that they will abstain from the practice of any form of hazing while at the Academy.

The general improvement in discipline, with the above-mentioned exceptions, can be traced to the policy of intrusting a larger share of responsibility and command to the members of the first class while acting in the capacity of officers and assistant instructors in the performance of purely military duties; also to the wise policy inaugurated of combining stricter discipline with greatly increased privileges and to the revival of the wise regulation promulgated by General Thayer, who for so many years was the renowned Superintendent of the Military Academy and sur-named its father, which required all excuses of cadets for delinquencies to be in writing, and to be made in no other manner, which regulation constantly teaches cadets to be careful and accurate in their statements, subserves a juster administra-

tion, and is more, in accordance with the customs and requirements of the service in the matter of explanations.

The important modifications of paragraphs 339 and 344, Regulations United States Military Academy, which make the action of the commandant of cadets final on the explanations of cadets for offenses and which fix a definite period within which appeals for reconsideration of reports must be made to the superintendent, have greatly strengthened the hands of the commandant—the officer immediately responsible for the discipline of the corps of cadets—in the enforcement of discipline.

The requirement of the cadets of the first class of each company to perform in turn the duties of company commander, the tours of duty beginning at retreat and ending at retreat on the following day, and to act as inspectors of subdivisions and commandants of tables in turn, has also had a salutary effect upon discipline, while serving at the same time to train the members of the first class in the exercise of command and responsibilities.

The unenlightened, generally obsolete, and vicious practice of hazing has not been suppressed, but it is believed to be on the wane, in consequence of the more vigorous methods which have been taken to eradicate it, and it is hoped and believed that the growing opposition of cadets themselves to this unmanly and unsoldierly practice will finally result in its complete extinction.

MILITARY EFFICIENCY.

The project recommended by the commandant of cadets on November 30, 1898, for giving members of the first class credit by means of marks (similarly as in case of academic work) for their attention to duty and for their efficiency in the exercise of command and responsibilities devolving upon them as officer of the day and guard, inspector of subdivision, for efficiency as officer and assistant instructor at drills and tactical and minor tactical exercises, for horsemanship, target practice, and for soldierly deportment and discipline, went into operation tentatively, with the approval of the superintendent, last December. After being subjected to a thorough trial for some months, it was submitted to the academic board for its consideration, and upon their recommendation was adopted by the War Department on May 22, and as now authorized by the Academic Regulations, gives a value of 130—officer of the day, 15; officer of the guard, 10; inspector of subdivision, 10; commandant of table, 5; drill or exercise (officer or instructor), 30; minor or tactical exercises (officer or instructor), 30; horsemanship, 20; target practice, 10; and for soldierly deportment and discipline, 20. As adopted, the scheme went into operation on June 1.

The members of the first class have been detailed in turn, according to roster, as officer of the day and guard (averaging once in fifty-four days), as commandant of table and inspector of subdivision (weekly tours), and were marked for their performance of these duties. At all drills and tactical and minor tactical exercises and practice marches they have performed the duties of captain and lieutenant in turn, under the superintendence of the officers of the department of tactics, and a record of marks was kept upon the efficiency shown. During the summer encampment the first classmen of each company have in turn exercised command of the company, the tour of duty beginning at retreat and ending at retreat on the following day, making its inspection, commanding it at parade and in marching to and from the mess hall, superintending the police of its camp, and being held responsible for the preservation of good order, etc., in the company during his tour (averaging once in about fourteen days.) Company commanders were also required to use their utmost endeavor to prevent all cases of hazing during their tour.

Marks on soldierly deportment and discipline, based upon the character and degree of soldierly qualities of each cadet of the first class, as determined by the personal estimate of the commandant of cadets and each of his assistants, and upon delinquencies affecting soldierly conduct, have been recorded. These marks were submitted periodically to the superintendent.

Thus it will be seen that each member of the first class has been marked and given credit for his efficiency in the performance of his military duties and for his display of those qualities that are essential parts of an officer's value.

I have pleasure in reporting that there has been a very marked improvement in the zeal and intelligence displayed by the members of the first class when acting as officers, and in all positions of responsibility, since the introduction of this system.

CONCLUSION.

In conclusion it affords me pleasure to express my highest appreciation of the able, earnest, and intelligent assistance received from the officers of my department: Capt. Granger Adams, Seventh Artillery; Capt. S. L. Faison, Thirteenth Infantry (relieved); First Lieut. E. Anderson, Seventh Cavalry; First Lieut. W. Lassiter,

First Artillery; First Lieut. R. L. Howze, Sixth Cavalry (relieved); First Lieut. J. R. Lindsey, Ninth Cavalry; First Lieut. F. W. Coe, First Artillery, and First Lieut. W. R. Smith, First Artillery, temporarily attached to the department of tactics during the summer encampment, and also from Mr. H. J. Koehler, master of the sword.

Very respectfully,

O. L. HEIN,
Lieutenant-Colonel of Cavalry, Commandant of Cadets.

The ADJUTANT, UNITED STATES MILITARY ACADEMY.

D.

WEST POINT, N. Y., July 11, 1899.

SIR: In compliance with instructions, I have the honor to submit the following report of the principal operations in the department of ordnance and gunnery at the United States Military Academy during the fiscal year ended June 30, 1899:

LABORATORY.

The routine work at the laboratory includes the care and preservation of two light batteries, the seacoast battery and Battery Knox, and the siege and mortar batteries. The guns and carriages belonging to these batteries have been painted, lacquered, and kept in repair during the year.

The rapid fire and machine guns have been kept in the ordnance museum, where they are exhibited and used for cadet instruction and where they can be kept in better condition.

The routine work also includes the preparation of ammunition for gallery practice and necessary targets for cadet practice, and attendance upon the same, repairs of cadet arms and equipments, and the care and preservation of the trophy guns.

In addition to the above routine work, the following has been done: The new equipments for cadets, haversacks, canteens, knapsacks, etc., have been marked with distinguishing numbers. The walls and ceiling of barrack room have been painted and boathouse finished; firing house and pendulum house painted; wooden projectiles prepared for 5, 7, 8, and 12 inch rifles and howitzers for drill purposes. The walls of the middle building have been braced and secured by two steel rods running through and clamped on exterior. The walls of this building showed indications of giving way, owing to settling of foundations, which are over the West Shore Railroad tunnel. It is believed, however, that they are now secure. A new siege battery has been put in, the platforms having been laid and parapets prepared by the department of practical military engineering, and the guns and carriages put in place by the ordnance department.

The four heavy bronze mortars at the north end of Trophy Point having been moved to Memorial Hall, their beds were removed to Fort Clinton and the Armstrong gun and carriage which formerly stood near the middle of the plateau was moved to the position occupied by the mortars.

A Whitehead torpedo taken from the Spanish cruiser *Vizcaya*, and presented to the Military Academy, has been placed in the position formerly occupied by the Armstrong gun and surrounded by a pipe railing.

MUSEUM.

No work has been done here beyond the necessary repairs of models and the cleaning and keeping in order of the various trophies, flags, etc.

During the year a complete catalogue of the museum, which was prepared by Capt. John T. Thompson, ordnance department, my former assistant, has been printed and bound, and is now in use. It is proposed to proceed at once with the numbering of all the articles exhibited in the museum in accordance with this catalogue, and the numbers on brass plates are already on hand.

During the year the ordnance department has furnished the museum: One United States magazine rifle, caliber .30, model 1898; one Spanish Mauser rifle, caliber .276, and to the post for cadet instruction a complete new siege battery consisting of four 5-inch guns and two 7-inch howitzers with their carriages and platforms complete, and with all the necessary implements and equipments.

It has also furnished a battery of six 7-inch steel breech-loading mortars, with their carriages and platforms, and all implements and equipments; six caissons and limbers for the 3.20-inch field battery to replace old 3-inch caissons; two 3.20-inch guns and carriages to complete the foot battery, and in addition the following

stores for cadet instruction: 1 telescopic sight, 350 3.2-inch shell filled and fused, 20 3.2-inch shrapnel filled and fused, 16 iron targets with stands for gallery practice, 6 sliding targets 6 by 6 feet, 4 sliding targets 6 by 12 feet.

MODELS.

The following models have been received during the year: One 12-inch mortar, one-tenth size; one 12-inch mortar carriage, one-tenth size (E and A); one artillery-store wagon (field), one-tenth size.

For purposes of cadet instruction, the department has been and is now engaged in the manufacture of working models of the principal machines, tools, and appliances taught in the course and used in ordnance construction. The appropriation by the last Congress has enabled the Department to procure the services of a skilled machinist and model maker, by whose assistance, it is hoped, most, if not all, of these models can be supplied.

Work is also constantly in progress on the drawings for the course, which are used in the recitation room.

I have no recommendations to offer.

Very respectfully, your obedient servant,

LAWRENCE L. BRUFF,

Captain, Ordnance Department, U. S. A., Instructor Ordnance and Gunnery.

The ADJUTANT, UNITED STATES MILITARY ACADEMY.

E.

OFFICE OF TREASURER,
QUARTERMASTER AND COMMISSARY OF CADETS,
West Point, N. Y., August 2, 1899.

SIR: In compliance with instructions contained in circular No. 56, current series, headquarters United States Military Academy, I have the honor to make the following report in relation to the departments under my charge, viz: (1) Treasurer United States Military Academy; (2) quartermaster of cadets; (3) commissary of cadets—during the fiscal year ended June 30, 1899.

TREASURER UNITED STATES MILITARY ACADEMY.

Paragraph 1347, Army Regulations, states as follows: "Payments on muster and pay rolls and final accounts will be made to the cadets at the Military Academy by a paymaster, who will turn over the net amount of the rolls and accounts to the treasurer of the Academy."

The regulations of the Academy require that cadets and candidates upon reporting shall deposit with the treasurer any and all moneys in their possession, and also that "no payment shall be made on account of any cadet without the authority of the Superintendent." The treasurer is consequently made the custodian of all moneys received on account of cadets and is responsible for all payments made for them.

The amount of money received and disbursed as above amounts, approximately, to \$200,000 annually and involves the careful keeping of an extensive set of books, much labor and responsibility. It is necessary that a debit and credit account be opened with each cadet in order that his financial standing may be seen at any time, and also the keeping of twenty-eight different accounts, which are enumerated below. (Statement No. 1.)

For twenty-seven years the clerical work of this department has been performed in a most capable manner by Mr. J. E. Wilson. His long service certifies to the absolute correctness of his accounts, and as he now receives but \$1,500 a year salary, which amount is appropriated by Congress, it is proper, and I feel it my duty, to recommend an increase in his pay to \$2,000 a year and urge that it be allowed.

The treasurer's accounts are settled every two months and inspected by an officer detailed by the superintendent, to whom the result of the inspection is reported. The last inspection for the fiscal year ending June 30, 1899, was made July 24, 1899, and the result is shown in statement No. 2, below.

UNITED STATES MILITARY ACADEMY.

Statement No. 1.

	Disbursements.	Receipts.
1. Assistant treasurer	\$171,160.86	\$166,696.04
2. Athletic association	1,089.39	1,074.25
3. Balances paid	15,291.11	15,214.16
4. Barber	526.20	526.20
5. Cadet cash	13,397.76	13,364.26
6. Hospital	2,690.23	2,690.23
7. Cadet laundry	10,115.04	10,555.38
8. Cadet store	77,739.93	73,782.19
9. Cadet mess	59,376.87	56,444.76
10. Confectioner	124.00	124.00
11. Corps of cadets	190,248.83	189,646.51
12. Damages, ordnance	21.80	21.80
13. Dancing	517.00	517.00
14. Dentist	828.00	828.00
15. Deposits	19,391.95	19,196.45
16. Dialectic society	811.88	319.00
17. Equipment fund	13,624.00	12,782.00
18. Expressage	33.30	33.30
19. Gas fund	1,140.50	1,145.30
20. Hops and german	2,025.69	2,116.86
21. Miscellaneous fund	32.49	21.41
22. Miscellaneous items	989.75	759.65
23. Oath	36.05	36.05
24. Paymaster	158,807.51	171,210.05
25. Periodicals	84.60	77.20
26. Photographer	159.50	159.50
27. Policing barracks, etc	5,525.69	5,525.69
28. Young Men's Christian Association	406.82	429.00

Statement No. 2.

Assistant treasurer	\$7,335.02	Cadet laundry	\$1,805.63
Cadet cash	152.00	Cadet store	4,406.38
Dialectic society	388.88	Cadet mess	1,264.94
Reserve fund	20,000.00	Corps of cadets	1,492.13
Cash on hand	2,059.53	Equipment fund	20,722.00
		Gas fund	159.05
		Miscellaneous fund	9.86
		Young Men's Christian Association ..	75.44
	29,935.43		29,935.43

On account of the reorganization of the Army during the last session of Congress orders were received to graduate the first class on the 15th of February, 1899, and the members (72) were paid, on settlement of accounts, the sum of \$12,833.02, an average of \$178.24 each.

In June, 1899, the members of the furlough class (75) were paid, prior to departure, the sum of \$6,040.10, an average of \$80.54 each. One hundred and twelve new cadets entered at the commencement of this academic year and deposited \$11,425.83, an average of \$102.02 each; the smallest individual deposit was 50 cents, and the largest \$252.13. This class was in debt on settlement of accounts June 30 last \$3,588.10.

I desire to renew my recommendation of last year that the treasurer be authorized to insist upon a deposit of \$100 being made by each candidate upon admission to the Academy. Instances again occurred this year where candidates, admittedly well able to make the deposit, did not do so, giving as a reason that while they knew a deposit of \$100 was one of the requirements and so stated in the official notice sent out from the Headquarters United States Military Academy, they were informed it was not insisted upon. Subsequently, upon being shown the great advantage derived from the deposit by the candidate, the \$100 deposit was made by several. When this deposit is not made, the cadet is constantly in debt and necessarily suffers in comparison.

During the last year there was paid to discharged and resigned cadets the sum of \$3,794.24, of which \$1,899 was for travel pay and \$492.25 for "transportation," the latter amount having been received from the Quartermaster's Department for the purpose.

On June 30 last the corps of cadets was in debt to the cadet store \$17,461.85, on account of issues of uniforms, general supplies, and furlough clothes, and there was due to cadets (those out of debt) \$1,492.13.

CADET QUARTERMASTER DEPARTMENT.

During the year all articles required by cadets have been supplied by this department, and successful efforts have been made to secure a better class of goods and at the same time to reduce the cost to cadets.

Purchases are made in open market, all bills for goods discounted, and advantage taken of all depressions in prices; merchants know that they must furnish the best of goods at the lowest possible rates, and that if goods do not come up to the required standard they lose the trade of the department.

The following list shows the large number of articles manufactured and repaired in the department:

Articles.	Manufactured.	Repaired.
Dress coats	236	294
Overcoats	146	304
Fatigue coats	480	786
White jackets	2	3
Gray trousers	581	1,030
White trousers	922	849
Flannel trousers	149	24
Riding trousers	84	10
Officer's trousers	114	70
Officer's white trousers	39	.....
Officer's blouses	84	55
Civilian coats	6	.....
Civilian vests	6	.....
Civilian trousers	7	.....
Officer's overcoats	10	5
Officer's dress coats	6	3
Officer's capes	1	2
Waiver jackets	34	.....
Chevrons .....	.....	385
Civilian suits .....	.....	89
Tags on socks .....	.....	4,643
Shoes repaired .....	.....	1,509

The number of white shirts and underwear required by each cadet, under paragraph 219, Regulations for the United States Military Academy, is excessive, in my opinion, based on observation, and I recommend a reduction of from eight to six white shirts and from eight to four pairs of winter drawers (or suits of underwear, as is issued). The cost of these articles makes quite a heavy charge against the cadet's account.

I also recommend that a board of officers be convened to determine the "allowance of clothing" to be issued to cadets during each year at the Academy. Such a list would be of great advantage, as it would be a guide to the cadet in making requisitions and would teach him economy; it would also, in a great measure, relieve the quartermaster of cadets from the responsibility of deciding as to the quantity of clothing, etc., to allow cadets.

CADET LAUNDRY.

The following table shows the number of articles laundered during the year:

Bathing suits	10	Pillowcases	12,935
Belts, shoulder	15,662	Sheets	22,244
Belts, sword	2,971	Shirts, white	27,611
Belts, waist	17,891	Shirts, night	12,157
Blankets, single	275	Shirts, under	36,033
Coats, fatigue	19	Socks	35,945
Clothes bags	2,196	Towels	60,271
Collars	107,902	Trousers, gray	68
Comfortables	114	Trousers, white	24,597
Cuffs	79,551		
Drawers	32,950	Total pieces	609,717
Gloves	46,661	Total pieces, 1897-98	602,096
Handkerchiefs	70,799		
Jackets, white	854	Increase over last year	7,621

The following shows the number of articles laundered for the cadet hospital during the year:

Bandages	22	Tablecloths	331
Bedspreads	413	Towels	4,282
Blankets, single	17		
Mattress covers	1	Total pieces	13,103
Napkins	3,624	Total pieces last year	15,341
Pillowcases	1,937		
Sheets	2,093	Decrease from last year	2,238
Shirts, hospital	383		

The table linen for the cadet mess is also laundered, but no charge is made nor account kept of it.

Great improvement in machinery, etc., has been made during the year. A new metal drying-room has been put in on the first floor, and several new pieces of machinery. The location of the engine has been changed and shafting relined.

A new mangle of the largest size is now needed, the old one in use being too small and not able to do the work. It has been in use for fifteen years. A new drying-room is required on second floor.

As the amounts charged cadets for laundry at each bimonthly settlement varies so greatly, ranging from \$3 to \$16 for the May and June settlement, and from \$1 to \$7.50 for March and April, I recommend that a limit be placed on the number of articles a cadet can send each wash-day. Many cadets do not care what their laundry costs, and send in pieces that are, in many cases, not at all soiled.

CADET SUBSISTENCE DEPARTMENT.

During the past year the cost of subsistence at the mess has been 53 cents per cadet per day; the cost to each cadet for the subsistence of cadets in hospital has been 2.575 cents per cadet per day; the total cost of subsistence in both mess and hospital has been 55.575 cents per cadet per day. The same cost for fiscal year ending June 30, 1898, was 56.286 cents.

The early graduation of the first class this year has, as it did last year, a tendency to increase the cost per day of subsistence since the graduation.

The bill of fare is constantly changed so as to afford a pleasing variety. Great care is exercised in the selection of all food, and only the best of meat, potatoes, butter, eggs, poultry, and flour is purchased.

All the bread and cake used is baked at the mess.

It may be of interest to many to know the quantity of some of the principal articles of food consumed by cadets during the past year. They are:

Beef	pounds..	150,015	Poultry	pounds..	18,294
Fish	do....	13,681	Butter	do....	18,818
Flour	barrels..	376	Eggs	dozens..	11,008
Milk	gallons..	30,580	Coffee	pounds..	4,860
Potatoes	bushels..	1,940	Sugar	do....	48,480

An appropriation has been made for a cold-storage and ice-making plant, and the work is now under way.

Very respectfully, your obedient servant,

CHAS. B. HALL,
Major, Second Infantry, Treasurer U. S. Military Academy,
Quartermaster and Commissary of Cadets.

The ADJUTANT, UNITED STATES MILITARY ACADEMY.

OFFICE OF TREASURER,
QUARTERMASTER AND COMMISSARY OF CADETS,
August 18, 1899.

SIR: I have the honor to request that the following be added to my report of the 2d instant, called for by Circular No. 56, current series, headquarters United States Military Academy.

It is my desire to invite attention to certain charges now made—and which I am informed have always been made—against the accounts of cadets, and which I think the cadets should be relieved from, on the ground that the charges are unjust, in my opinion, and I do not believe the Government ever intended the accounts should be collected from them.

These accounts are "for account books," in which are kept the cadets' account current with the treasurer, for "policing barracks, baths, and shoe blacking," and for "gas."

The account books cost 60 cents each at wholesale and are sold to cadets at cost.

For "policing barracks, baths, and shoe blacking" means that cadets are charged for the pay given to certain men, called "policemen," who are hired by the commandant of cadets, and whose duties are to keep in a cleanly condition the barracks, area of barracks, the water-closets and bathrooms (all public buildings and grounds and all occupied by cadets), to carry water to the cadets' rooms and remove slops, to clean the shoes, and to varnish the black belts of cadets.

Under this head the cadets are also charged for curtain fixtures and curtains for their rooms, for globes for gas-burners, for soap and other cleaning material used about the hall ways, windows, etc., in barracks, also the water-closets and bathrooms, for shoe brushes and shoe blacking, varnish for leather, and water-closet paper and fixtures for same.

During the last fiscal year the sum of \$5,525.69 was collected from the pay of cadets on this account, an average of \$1.62 per cadet per month.

The charge for "gas" is for the gas consumed in the cadet's rooms, where he prepares his lessons and where he is required by orders to remain for certain hours in the evenings; also for the gas used in lighting hall ways, bathrooms, and water-closets.

During the last fiscal year the sum of \$1,145.30 was collected from the pay of cadets on this account, an average of 35 cents per cadet per month while the rooms were occupied.

Probably no other public buildings in the country are cared for at private expense, certainly none of the many other at this post.

I am of the opinion that either the post quartermaster or the quartermaster and commissary of cadets should be directed to estimate for the amounts required, as above, believing as I do that the Military Committee of the House will at once recommend the appropriation.

Very respectfully,

CHAS. B. HALL,

*Major, Second Infantry, Treasurer of the Military Academy,
Quartermaster and Commissary of Cadets.*

The ADJUTANT.

F.

WEST POINT, N. Y., August 15, 1899.

SIR: I have the honor to submit the following report on the different branches of work assigned to me for the period November 15, 1898, date of my assignment to duty here, to July 31, 1899.

PRACTICAL MILITARY ENGINEERING.

As the class of 1899 was graduated in February, 1899, instruction during April, 1899, was confined to the class of 1900 and limited to the construction of a bridge by successive pontoons and to military signaling.

During July, 1899, the classes of 1900 and 1902 received instruction in the construction of fascines, hurdles, gabions (brush and iron), gabion (brush and iron) revetment, fascine revetment, sand-bag revetment, simple trench and its enlargement so as to include fourth stage of progressive intrenchments, gun pits, flying trench (full scale), simple trench (full scale), single deep sap (full scale).

COMPANY E, BATTALION OF ENGINEERS.

This company has furnished a daily guard detail of two noncommissioned officers and eleven privates; has kept its barrack grounds in repair and police; cultivated its garden; put in new revetment to the siege battery, remodeling the battery for the new guns; laid new siege-gun platforms; kept the batteries on the reservation in good order; assisted in the construction of new rifle ranges, and for six months during the period mentioned furnished the old guard for general police. It has assisted in the instruction of the cadets in practical military engineering, preparing the bridge and siege material, and furnished markers for cadet rifle practice.

Details of greater permanency consisted in one noncommissioned officer as overseer of working parties in connection with the extension of water supply, three

school teachers for the post school for soldiers' children and two for the post school for enlisted men, one noncommissioned officer and one private to supervise construction of rifle range and telephone lines in connection therewith, and one private as assistant to assistant librarian.

On May 30 the company joined the battalion in New York City and participated in the Memorial Day parade, returning to West Point the same day.

The physical condition of the men has been good, though sickness has been very prevalent among the men who participated in the Santiago campaign.

There have been six desertions since I assumed command of the company, and in each case the company has been the gainer.

The necessity for increased barrack accommodation is urgent, and it is hoped that the necessary appropriation for the desired extension may be made at the coming session of Congress.

WATER SUPPLY.

Work was resumed September 21, 1898, after the return of the company from Cuba.

(1) FILTER BEDS.

A large ledge of rock, extending diagonally across the site, was removed by blasting; the center and west walls, the valves and water chambers, and thirty piers for supporting the roof, were built; the floors of beds and chambers were concreted; seventy-two steel beams for carrying the roof arches were set and the concrete placed between them; the centers for arches placed and the arches of the north filter bed and about half of the south bed completed; these arches are five center ovals, built of brick, one and one-half brick thick, the haunches strengthened by concrete; the whole is so constructed that only the bottoms of flanges of beams and tie rods are exposed. Earth filling to the depth of 2 feet at crowns of arches will be required to protect against frost, but funds available will not permit of this being done until Congress makes further appropriation.

(2) NECESSARY IMPROVEMENTS.

The entire south parapet of the main dam, Lusk Reservoir, 250 feet long, and 180 feet of the north parapet, exclusive of coping, is finished, adding materially not only to the appearance of the dam, but also to the safety of parties using it as a passageway. The completion of the north parapet wall is essential and funds for this purpose are urgently requested. The concrete conduit from the spillway is finished and filled in, and low places along the west side of Lusk Reservoir filled in, earth being held up by dry walls that are completed.

(3) CROW NEST PIPE LINE.

Appropriations for connecting Crow Nest Reservoir with Lusk Reservoir were made at the last session of Congress, but, due to the increase in cost of pipe, the work could not be completed. The entire quantity of pipe is on hand and the pipe is laid to the old water house below Delafield Reservoir. The connection with Lusk Reservoir should be made and an estimate will be submitted for laying the rest of the pipe.

A new intake has been constructed at the Cascade and the Cascade and Crow Nest catch basins have been enlarged to the extent that available funds would permit.

(4) WATERWORKS.

Round Pond, Delafield Reservoir, and Crow Nest and Cascade catch basins were inclosed by barbed-wire fences, the filtering material in old filter house washed and replaced, watchman's house repaired, grounds graded, and earth filling placed on pipe line from old water house to Lusk Reservoir.

An appropriation of \$1,000 was made for keeper's house near the site of the filter beds. The estimate for this item, submitted by Captain Winslow, was \$3,000. No expenditure was made from this item and none is contemplated until the total amount required is available.

The work remaining to be done on the present system is the construction of a water house for the storage of filtered water, the laying of 8-inch pipe from the old water house to the Lusk Reservoir so as to connect the latter and Crow Nest direct, the completion of the north parapet wall of the main dam, the earth covering for the filter beds, the building of a keeper's house, and the laying of a 12-inch pipe from Cascades to Lusk Reservoir.

In addition, considerable work can be done in getting rid of a quantity of decaying vegetable matter and to prevent drainage from the road along the north and west sides of reservoir contaminating the water, and for such purpose a small appropriation will be requested.

LIBRARY BUILDING.

By letter dated headquarters United States Military Academy, July 20, 1899, I am put in charge of the work of remodeling the library building. Bids for this work are to be opened on September 4, 1899, and thus far nothing has been done except the preparation of plans and specifications by the architect, R. H. Hunt.

Very respectfully,

GEO. W. GOETHALS,
*Captain, Corps of Engineers, Instructor of Practical Military Engineering,
 United States Military Academy.*

The ADJUTANT, UNITED STATES MILITARY ACADEMY,
West Point, N. Y.

G.

OFFICE OF THE QUARTERMASTER AND DISBURSING OFFICER,
West Point, N. Y., August 7, 1899.

SIR: In compliance with instructions from your office, per circular No. 56, dated the 7th ultimo, I have the honor to submit herewith the following report, in triplicate, of the operations in the quartermaster's department of the Military Academy, Quartermaster's Department, United States Army, and as director of the gas works, United States Military Academy, for the fiscal year ending June 30, 1899.

QUARTERMASTER'S DEPARTMENT, UNITED STATES MILITARY ACADEMY.

My duties in this branch are defined in paragraph 15 of the United States Military Academy Regulations.

Contracts entered into during the year and made in previous years and remaining in force in part or for the whole of the fiscal year to which this relates were as follows:

No.	Contractor.	Date.	Purpose.
1	Probst Construction Co.....	May 22, 1896	Memorial Hall.
2	Dickson & Eddy	Apr. 21, 1898	4,600 tons anthracite coal.
3	Westmoreland Coal Co.....	Apr. 26, 1898	2,000 tons gas coal.
4	B. F. Jones	June 3, 1898	New dock and ferry slip.
5	Charles Millar & Son.....	Apr. 29, 1899	Cast-iron water pipe.
6	Troy Laundry Machinery Co., Limited.	May 1, 1899	New drying-room, cadet laundry.
7	J. H. Gautier & Co.....	June 3, 1899	One floor bench.

All of the above contracts have been completed.

The most important of the contracts referred to were for the construction of Memorial Hall and for new dock and ferry slip.

Of the sum bequeathed by General Cullum for Memorial Hall, amounting to \$250,000, \$3,903.77 was deducted for inheritance tax, leaving a balance of \$246,096.23, which was supplied as required on proper requisition.

The disbursements made under this bequest are as follows:

Probst Construction Co.....	\$51,851.25	
American Surety Co., of New York	159,759.08	
Paid by contractors to superintendent of construction, on account of extension of contract	1,500.00	
Paid by contractors for architects' fees	162.42	
		\$213,272.75
Superintendent of construction during period of contract ...	3,870.00	
Architects' fees and expenses	11,814.45	
Advertising	411.25	
Supplies	185.69	
Services	477.92	
Transportation	1.20	
		15,760.51
Total disbursed.....		229,033.26
On hand June 30, 1899		17,062.97
Total.....		246,096.23

From this balance available at the close of the fiscal year the following payments will be made:

Balance		\$17,062.97
Due contractor, amount withheld.....	\$4,000.00	
Bronze work.....	1,075.00	
Decorations	8,301.00	
		<u>13,376.00</u>

Balance, unexpended.....	3,686.97
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The new dock and ferry slip was completed April 26 and accepted May 13 of the current year.

The following improvements and repairs have been made by special appropriations or from appropriations proper for such purpose.

IMPROVEMENTS.

- Grading, sodding, new granolithic pavement and gutters at cadet barracks.
- Sixty-horsepower engine in place of one of 20 horsepower, and new smokestack, 70 feet high, for cadet laundry.
- Stone and brick bridge at soldiers' hospital.
- Granolithic floors, wainscoting for bath room of field music; new bath tubs, etc.
- Six thousand eight hundred and four square feet granolithic sidewalk from quarters No. 30 toward southern boundary.
- New sidewalk on road leading to West Shore station.
- New shed, for convenience of passengers and storage of freight, at south wharf.
- Sewers, paved gutters, and macadamized road in rear of cadet mess.
- Rebuilding stone retaining wall on road leading to post cemetery.
- Stone walls were built at the junction of main road and back road near new guard-house; at south dock and road leading to cemetery.
- New steam underground tunnel and pump room from boiler house to cadet mess and hospital.
- Trees and shrubs for hospitals.
- One hundred and sixty loads dead timber and underbrush removed from hills east of post adjoining river.
- Breast-high wall built at old guardhouse; road leading to railway station macadamized.
- Removing walls on reservation near southern boundary for maneuver terrain.
- Removing of old guardhouse and filling in ground at same.

REPAIRS.

- Academic building: Roof repaired, mason and carpenter work.
- Cadet barracks: Roof repaired, carpenter work on porches, 160 rooms overhauled, glazing, mason and carpenter work done wherever necessary, 96 of the rooms painted and calcimined two coats.
- Cadet hospital: Painting, plumbing, mason and carpenter work.
- Cadet laundry: Plumbing, mason and carpenter work.
- Cadet mess: Plastering, painting, and carpenter work.
- Cadet store: Painting and carpenter work.
- Cavalry barracks: Roof repaired and plumbing.
- Cavalry stable: Twenty stalls repaired.
- Freight house, south wharf: Carpenter work.
- Headquarters: Painting and calcimining.
- Officers' mess: Painting.
- Quarters enlisted men: Renewing roofs of eight sets; glazing and general carpenter work where necessary.
- Quarters for officers: No. 5, painting, mason and carpenter work; No. 7, papering and painting; No. 11, papering, painting, and carpenter work; No. 12, painting and calcimining; No. 14, painting and carpenter work; No. 16, carpenter work; No. 19, painting, papering, plumbing, and carpenter work; No. 21, painting, papering, plumbing, mason and carpenter work; No. 23, painting, papering, mason and carpenter work; No. 25, painting and papering; No. 27, painting; No. 29, painting and carpenter work; No. 31, painting and carpenter work; No. 33, painting, calcimining, papering, and carpenter work; No. 35, carpenter work; No. 37, painting and papering; No. 39, painting, papering, plumbing, and carpenter work; No. 40, painting, calcimining, and papering; No. 41, painting; No. 47, painting; No. 51, painting; No. 53, painting; No. 63, painting and papering.
- Soldiers' hospital: Painting, calcimining, plumbing, mason and carpenter work.
- Walls, roads, and grounds of post cemetery.

Heating apparatus in all public buildings was overhauled and necessary repairs made.

One thousand three hundred cubic yards granite stone were crushed for repairs to roads and for concrete pavements.

Roads were drained and macadamized at the following places: Road to southern boundary of reservation, main road to post cemetery, main road in rear of library and headquarters building, and back road leading to reservoir.

Statement of the receipts and disbursements for the fiscal year ending June 30, 1899, accompany this report, "marked A."

QUARTERMASTER'S DEPARTMENT, UNITED STATES ARMY.

The duties pertaining to this department are enumerated in paragraph 972, Army Regulations, 1895.

The following contracts were entered into and satisfactorily fulfilled:

No.	Contractor.	Date.	Purpose.
1	Clark & Wilkins	Apr. 11, 1898	100 cords each, hard and soft wood.
2	Dickson & Eddy	do	2,000 tons anthracite coal.
3	Chas. L. Rickerson	Sept. 7, 1898	220,000 pounds straw.
4	Wm. W. Enos	do	700,000 pounds oats and 30,000 pounds middlings.
5	Horace Ingersoll	Sept. 9, 1898	30,000 pounds bran.
6	American Fire Engine Co.	Oct. 6, 1898	Repair of 2 fire engines.

The amounts received, disbursed, etc., under the various heads are shown in accompanying statement, marked "B."

DETACHMENT ARMY SERVICE MEN, QUARTERMASTER'S DEPARTMENT.

This organization up to 1890 was assigned as detachment of artillery.

The men of the army service detachment, Quartermaster's Department, at this post have, I am informed, drawn extra-duty pay with the exception of about sixteen months during the civil war, from 1829 to April 26, 1898, when the Spanish-American war broke out. At that time an act of Congress prohibited the continuance of this pay during the war. In April of the current year the treaty of peace was signed, when it was expected that extra-duty pay would be restored to these men; such, however, has not been the case.

These men, when enlisted for the detachment, were told that extra-duty pay was given, and this was a part of the contract which they entered into in serving the United States, as much as the Regular Army pay or their ration or clothing allowance.

During the year that the war lasted these men bore the reduction with patriotism and cheerfulness, but now that the war is over they can not understand why it is not restored to them, and I am unable to explain or make them see the justice of the nonpayment.

These men work eight full hours six days in the week, and are subject to call during other hours of the day or night and on Sundays when needed to extinguish forest fires, check damage by wind and rain, or to clear roads and walks after heavy storms.

This detachment of men stands apart from the line of the Army. Congress has appropriated the necessary money to pay them, and I therefore earnestly recommend and urge that legislation be secured restoring the extra-duty pay to them instead of the 20 per cent increase of army pay.

GAS WORKS, UNITED STATES MILITARY ACADEMY.

As director of the gas works I am charged with providing the necessary illuminating gas for the needs of the post.

Officers and civilians residing on the post, connected with the Academy, pay 75 cents per thousand feet for the gas they use, which charge is taken as the cost of the manufactured gas. Each cadet pays 35 cents per month for the use of gas.

The Quartermaster's Department of the Army pays 75 cents per thousand feet for gas used in lighting buildings devoted strictly to the use of that Department.

Coke is sold at \$1.17 per 18 bushels, and tar at 3 cents per gallon.

The revenue derived from the sale of gas, coke, and tar is applied to payment of civilian employees at the gas works and for miscellaneous expenses not provided for by annual appropriations of Congress.

UNITED STATES MILITARY ACADEMY.

During the year 15,881,600 cubic feet gas were manufactured; 3,796,700 pounds Westmoreland gas coal and 6,826 gallons oil were used for this purpose.

One bench of retorts, six in number, was renewed.

Owing to lack of proper storage facilities for tar at the gas works it frequently overflowed; a contract has therefore been made, at a cost of \$645, for a tank to hold 200 barrels.

The receipts and disbursements are shown in statement of special contingent fund, marked "C."

SPECIAL CONTINGENT FUND, UNITED STATES MILITARY ACADEMY.

This fund is derived from the rent of hotel, stables, restaurant, and post-office, and from miscellaneous receipts, such as the sale of junk, etc.

Expenditures for the repair of the buildings which pay rent are made, under the direction of the superintendent, out of funds derived from the rentals.

During the fiscal year the following expenditures were made to buildings which pay rent:

Hotel: Hired labor, \$199.53; labor furnished by Department during the year, estimated cost, \$177.80; total labor, \$377.33; material, \$102.03; total, \$479.36.

Post-office cottage: Material, \$256.31; labor, \$546.09; total, \$802.40.

Stables: Labor, \$72.57.

In addition to the above, this fund may be used, under the direction of the superintendent, for subscription to periodicals and for incidentals not otherwise provided for.

Statement of the receipts and disbursements under this head are included in statement marked "C."

Very respectfully,

MALVERN-HILL BARNUM,

First Lieutenant, Tenth Cavalry, Quartermaster Military Academy,

Post Quartermaster, and Director of Gas Works.

The ADJUTANT, UNITED STATES MILITARY ACADEMY,

West Point, N. Y.

A.—Statement showing receipts and disbursements, etc., of funds pertaining to the appropriations for the support of the United States Military Academy for the fiscal year ending June 30, 1899.

Date.		Current and ordinary expenses.	Miscellaneous and incidental expenses.	Buildings and grounds.	Memorial Hall.	Total.
	Cr.					
July 1, 1898	Balance on hand, fiscal year—					
Do	1896	\$2,761.32	\$433.01	\$7.06		\$3,201.39
Do	1897	5,030.78	113.14	8,557.20		13,701.12
Do	1897-98			8,414.46		8,414.46
Do	1898	7,697.98	3,054.95	5,329.81		16,082.74
Do	1898-99		1,675.00	8,759.44		10,434.44
Do	Balance on hand, Memorial Hall.				\$21,630.75	21,630.75
June 30, 1899	Received since fiscal year—					
Do	1898-99			36,383.00		36,383.00
Do	1899	60,000.00	15,000.00	14,600.00		89,600.00
Do	1899-1900	123.30	10,210.00	18,000.00		28,333.30
Do	Received since, Memorial Hall.				21,096.23	21,096.23
	Total	75,618.38	30,486.10	100,050.97	42,726.98	248,882.43
	Dr.					
June 30, 1899	Deposited, fiscal year—					
Do	1896	2,761.32	432.01	7.06		3,201.39
Do	1897	2,274.99	113.14	844.00		3,232.13
Do	1897-98			7,698.46		7,698.46
Do	1898-99		1.35			1.35
Do	Transferred, fiscal year 1897	2,745.79				2,745.79
Do	Disbursed, fiscal year—					
Do	1897	10.00				10.00
Do	1897-98			716.00		716.00
Do	1898	3,811.02	2,036.47	4,964.70		10,812.19
Do	1898-99		1,673.65	39,406.28		41,079.93
Do	1899	57,271.47	11,646.79	13,613.56		82,531.82
Do	1899-1900		200.00	2,810.99		3,010.99
Do	Disbursed, Memorial Hall				25,664.01	25,664.01

A.—Statement showing receipts and disbursements, etc.—Continued.

Date.		Current and ordinary expenses.	Miscellaneous and incidental expenses.	Buildings and grounds.	Memorial Hall.	Total.
Dr.—Continued.						
	Balance on hand, fiscal year—					
June 30, 1899..	1897.....			\$7, 713. 20		\$7, 713. 20
Do.....	1898.....	\$3, 886. 96	\$1, 018. 48	365. 11		5, 270. 55
Do.....	1898-99.....			5, 736. 16		5, 736. 16
Do.....	1899.....	2, 728. 53	3, 353. 21	986. 44		7, 068. 18
Do.....	1899-1900.....	128. 30	10, 010. 00	15, 189. 01		25, 327. 51
Do.....	Balance on hand, Memorial Hall.				\$17, 062. 97	17, 062. 97
	Total	75, 618. 38	30, 486. 10	100, 050. 97	42, 726. 98	248, 882. 43

MALVERN-HILL BARNUM,
First Lieutenant, Tenth Cavalry, Quartermaster and Disbursing Officer,
United States Military Academy.

WEST POINT, N. Y., August 7, 1899.

B.—Statement of funds pertaining to the Quartermaster's Department, United States Army, for the fiscal year ending June 30, 1899.

Balance on hand July 1, 1898..	\$9, 338. 81	Disbursed:	
Received since:		Regular supplies	\$31, 505. 44
Regular supplies	25, 147. 84	Incidental expenses	3, 741. 85
Incidental expenses	3, 694. 90	Army transportation	2, 671. 46
Army transportation	3, 217. 39	Clothing and equipage ..	20. 00
Clothing and equipage ...	20. 00	Shooting galleries	23. 00
Shooting galleries	338. 44	Deposited	8, 343. 20
Sales to officers	4, 226. 73	Balance on hand June 30,	
Sales at auction	1, 374. 35	1899.....	1, 053. 51
Total to be accounted for	47, 358. 46	Total	47, 358. 46

MALVERN-HILL BARNUM,
First Lieutenant, Tenth Cavalry,
Acting Assistant Quartermaster, United States Army.

WEST POINT, N. Y., August 7, 1899.

C.—Statement of receipts and expenditures pertaining to the special contingent fund, United States Military Academy, from July 1, 1898, to June 30, 1899.

	Gas works.	Rents, etc.	Total.
Balance on hand July 1, 1898	\$1, 810. 98	\$831. 49	\$2, 642. 47
Received since:			
By rent of—			
West Point Hotel		1, 500. 00	1, 500. 00
Post-office		150. 00	150. 00
Stable		300. 00	300. 00
Restaurant (store)		137. 50	137. 50
By sale of—			
Gas	4, 659. 36		4, 659. 36
Coke	635. 72		635. 72
Coal tar	273. 09		273. 09
Miscellaneous.....		317. 47	317. 47
Total to be accounted for	7, 379. 15	3, 236. 46	10, 615. 61
Disbursed.....	4, 623. 58	3, 070. 61	7, 694. 19
On hand June 30, 1899	2, 755. 57	165. 85	2, 921. 42

MALVERN-HILL BARNUM,
First Lieutenant, Tenth Cavalry, Director of Gas Works and
Treasurer Special Contingent Fund, U. S. Military Academy.

WEST POINT, N. Y., August 7, 1899.

H.

LIBRARY UNITED STATES MILITARY ACADEMY,
West Point, N. Y., August 30, 1899.

SIR: In accordance with the provisions of Circular No. 56, headquarters United States Military Academy, West Point, N. Y., July 8, 1899, I have the honor to submit the following report.

The increase of the library during the past year is exhibited in the following statement:

Number of volumes in library August 31, 1898	41,938
Number of volumes purchased up to August 31, 1899.....	961
Number of volumes presented up to August 31, 1899.....	455
Number of volumes added by binding periodicals, etc.....	224
	<hr/>
Making a total of	43,578
Number of duplicate Government publications returned to the Superin- tendent of Public Documents, Washington	305
Number of duplicates transferred to the department of engineering, United States Military Academy	55
	<hr/>
Making a total loss of.....	360
	<hr/>
And leaving the number of bound volumes in the library August 31, 1899.	43,218
Number of pamphlets in library August 31, 1898	6,889
Number added during the year.....	560
Number transferred to Superintendent Public Documents.....	234
	<hr/>
Increase during the year.....	326
	<hr/>
Making a total of pamphlets August 31, 1899	7,215

It is with pleasure that I have to report that through the efforts of Dr. Plate, the assistant librarian, the cataloguing by card of the books and pamphlets of the library is practically completed, and that all additions to the library henceforward will be promptly catalogued.

During the coming academic session the library building will be renovated and made fireproof, and while this is going on the books which are most likely to be in demand will be arranged for issue in the academic building, while the remainder will be stored away until the library is again ready to receive them.

Very respectfully, your obedient servant,

P. S. MICHIE,

Professor, United States Military Academy Librarian.

The ADJUTANT, UNITED STATES MILITARY ACADEMY.