

ANNUAL REPORT

OF THE

SUPERINTENDENT

OF THE

UNITED STATES MILITARY ACADEMY.

1895.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
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SUPERINTENDENT UNITED STATES MILITARY ACADEMY.

HEADQUARTERS U. S. MILITARY ACADEMY,
West Point, N. Y., September 16, 1895.
The ADJUTANT-GENERAL, UNITED STATES ARMY,
Washington, D. C.

SIR: I have the honor to submit this my annual report for the Military Academy for the year ending September 1, 1895.

PERSONNEL.

The number of officers and instructors on duty at West Point, September 1, 1895, was 8 professors, 1 associate professor, 54 commissioned officers, 1 swordmaster, and 1 teacher of music; a total of 65. (See roster appended, marked A.) The number September 1, 1894, was 64. The increase during the year was due to a gain of 1 officer for duty in the departments of history and of law, restoring the number employed in those departments to what it was before the reduction last year. In all 15 officers joined during the year and 14 were relieved.

The number of cadets present and absent September 1, 1895, was 324, including 1 foreigner receiving instruction by special authority of Congress. The number September 1, 1894, was 322, including 2 foreigners. During the year 29 were discharged for deficiency in studies, 1 (a foreigner) for deficiency in discipline, 2 for physical disability, 19 resigned, and 52 were graduated, while there were admitted in all at the examinations held in March, June, and August 105.

For the three examinations referred to there were appointed in all 327 candidates, including 127 alternates. Of these, 45 failed to appear and 165 were found not duly qualified, either mentally or physically, or both. Of the remaining 117 who passed, 17 were alternates whose principals also passed and for whom there were therefore no vacancies, leaving 100 who were regularly admitted. Of those rejected by the medical board, 5 were subsequently admitted on probation, making the total number admitted 105. In many cases the candidates had been rejected at previous examinations.

The experience of former years has been similar to this, and shows clearly that it is not practicable to keep the number of cadets up to the maximum authorized by law, and that there will always be many vacancies. The number now authorized is 371, omitting the foreigner, an excess of 48 above the number actually belonging to the Academy. It is desirable, I think, from every point of view that the

Academy be worked up to the full capacity of its present plant. It should furnish all the officers for our Army in time of peace, which it can not now do, and if in addition it could send into civil life each year a few young men trained as its graduates are the country would be the gainer by many times the trifling additional cost of their education. A moderate increase in the number of cadets authorized by law is accordingly recommended; such, for example, as would be obtained by appointing 2 at large from each State, to be nominated by the Senators representing the State in Congress.

ACADEMIC DEPARTMENTS.

The departments of philosophy, drawing, mathematics, chemistry, etc., history, etc., engineering, law, modern languages, tactics, practical military engineering, and of ordnance and gunnery have maintained the high standard of instruction for which they have always been noted. While the heads of these departments have not failed to keep abreast of all advances made in their special branches of knowledge, and to introduce improvements when opportunity offered, the changes in the majority of them have been of a minor character and do not call for special mention here.

The act approved January 16, 1895, provides that "hereafter there may be assigned to the department of law one assistant professor." All of the departments headed by full professors are now provided with assistant professors, having the pay of captain mounted. The senior assistant instructors in cavalry, artillery, and infantry drill regulations also receive the pay of captain mounted. It seems but just that the senior assistants in the departments of practical military engineering and of ordnance and gunnery should receive the same pay. These two departments are the only ones in which the senior assistant receives no extra compensation.

THE LIBRARY.

During the year ending August 31 there were purchased for the library 602 volumes and 89 pamphlets, and there were presented to it 586 volumes and 247 pamphlets, making the additions for the year 1,188 volumes and 336 pamphlets. The donated books were presented mainly by the Bureau of Public Documents.

The total number of books and pamphlets in the library on September 1 was 38,203 volumes and 5,914 pamphlets.

The act approved January 16, 1895, contained the following item, viz:

For procuring architect's plans, specifications, estimates, and drawings for complete renovation of the library building, namely: For removing towers of the old observatory wing, the walls, floors, and interior of that part now occupied by the philosophical department, and making the whole fireproof; for fitting up of new library cases and shelves and adjusting the interior to comply with the requisites of a modern library, and to make suitable modifications and alterations necessary to make the present building suitable for the purposes of a library, \$1,250.

The work of preparing the plans and estimates was intrusted to Mr. R. M. Hunt, of New York, and after his death to his son and successor, Mr. R. H. Hunt. Preliminary sketches furnished by him last spring were submitted to several members of the Academic board for criticism. After giving due weight to the views thus elicited, full drawings and specifications have been prepared. The estimated cost of the alterations is \$63,100, to which should be added \$6,900 for removing and returning the books and for inspection and contingencies, making the

total estimated cost of the work, \$70,000. As stated in former reports the library has entirely outgrown the space heretofore allotted to it, and one of the most pressing needs of the Academy is the reconstruction of this building. The need becomes more and more pressing each year. As it will be necessary to find temporary storage room for the books while the work is in progress, the Academy will be subjected to much inconvenience, and in order that that may be kept at a minimum the work, when undertaken, should be pushed to completion as rapidly as possible, and the full amount of the estimate should be available at one time.

HEALTH.

The health of the command was generally good. No death occurred among the cadets. Among the officers and their families there was but one death, an infant. One death occurred among the enlisted men, and seven among civilians residing or visiting upon the post. Epidemic influenza of a mild type made its appearance in December, 1894, and prevailed until March. There were numerous cases of malarial fever during August, one of them being of a dangerous type. The report of the post surgeon is hereto appended, marked B. Particular attention is invited to the concluding paragraph, in which he shows the importance of constructing a modern operating room in the cadet hospital, and in which I concur.

DISCIPLINE.

The state of discipline of the corps of cadets has been generally excellent. No case of dismissal or suspension by court-martial occurred during the year. The usual discipline was maintained in the other portions of the command by the usual methods.

ACCOUNTS AND SUPPLIES.

The system of keeping the accounts and of furnishing the cadets with supplies continued essentially as heretofore reported. An abundance of good, healthy food in sufficient variety was furnished at an average cost of about 50½ cents per man per day. Clothing, books, and other articles were furnished of good quality and at low rates. Attention is invited for details to the report of the treasurer and quartermaster and commissary of cadets, hereto appended, marked C.

ARTILLERY.

Further progress was made in replacing guns and carriages which had become obsolete with those of modern pattern.

Important additions were made to the list of models and sample guns for the general theoretical instruction of cadets. For details, attention is invited to the report of the instructor of ordnance and gunnery, hereto appended, marked D.

The work of constructing new permanent platforms in the seacoast battery for a new 8-inch rifle, a new 12-inch breech-loading mortar, and 3 front pintle platforms was completed.

The drivers for the light battery are obtained from the cavalry detachment. This service has not been popular with the cavalry soldiers. Their instruction and service as drivers is additional to their regular

duties, and is under officers different from their regular officers. It involves considerable wear and tear of clothing, for which they should receive compensation. I recommended two years ago that they be paid 30 cents each per day extra for the time during which they are employed upon the extra duty, the total amount required for the 28 men concerned being \$840 for the year. The appropriation bill for last year contains an item of \$560 for this purpose, but through some accident the item was omitted from the appropriations for the current year. It should, I think, be restored and increased to \$840, as originally recommended.

I beg leave to repeat my remarks of last year upon the subject of the band, the master of the sword, and the adjutant of the Academy, as follows, viz:

BAND.

By the act of March 3, 1877, the Military Academy band was reduced to 1 teacher of music and 24 enlisted men, which is its present authorized strength. Of the enlisted men 6 receive \$34 per month, 6 \$20, and the remaining 12 \$17, with the usual allowances of enlisted men. At the time of this reduction the band consisted of 1 teacher of music and 40 enlisted musicians, of whom 10 received \$34, and the remaining 30 received \$30 per month, with the usual allowances of enlisted men. Since that date every Superintendent of the Academy, with perhaps one exception, and many or all Boards of Visitors have recommended an increase of the band. To anyone familiar with music it needs no argument to prove that the present numbers and pay are not sufficient. Is a good band really necessary to the practical efficiency of the Academy, is the only question which can be asked. The answer is plain when the purpose which the band subserves is considered. Military pomp has a serious and practical object—the cultivation of the military spirit. It is in the same category with patriotic songs, discipline, and monuments to dead heroes. There is no more essential part of it than good music. I recommend that the band be restored to the numbers and pay which it had before the reduction in 1877. I recommend further that the leader receive the rank, pay, and emoluments of a second lieutenant of infantry. The increase is desired not for the purpose of gratifying an idle vanity or merely to provide pleasure, but to improve the finer polish given to the finished product of the Academy.

MASTER OF THE SWORD.

The swordmaster is also the instructor in gymnastics and swimming. He is a civilian, appointed by the Secretary of War. The present incumbent has worked up an admirable course of gymnastics for the corps of cadets. His system of calisthenics has been adopted by the War Department for the use of the Army. He is required to preserve discipline and to exercise control of cadets while under his instruction. It would greatly strengthen his hand if he should have military rank, and, in view of the great and increasing importance of his department, I recommend that legislation be solicited giving him the rank, pay, and emoluments of a first lieutenant of infantry.

ADJUTANT OF THE ACADEMY.

The adjutant of the Academy is also secretary of the academic board, and upon occasions of ceremony acts as aid-de-camp to the Superintendent. His duties are at least as important as those of an assistant

professor, and they are more onerous, while his personal expenses are greater. It seems but just that the officer holding this position should receive the pay of captain, mounted, as in the case of assistant professors. Legislation to that effect is recommended.

WATER SUPPLY.

Good progress was made during the year in the construction of the new reservoir. It is expected that the main dam will be completed during the present working season.

The capacity of the present filters is insufficient, and they are not well located. As it is desirable that the water supplied to the post be filtered for about five months of the year, an estimate is submitted for filters of adequate size, to be located south of the new dam. The 12-inch main, which until recently terminated at the gymnasium building, is now being extended to the south end of the new Academy building, replacing the old 7-inch main. For the better protection against fire, and to furnish an ample supply of water to the southerly end of the post, this main should be extended until connected with the new reservoir from the south, thus permitting of the admission of a full flow from either end. An estimate for this work is submitted.

A request is invited for details to the report of the instructor of practical military engineering, hereto appended, marked E.

BUILDINGS AND GROUNDS.

The new Academy building reached a stage when it could be partially occupied in January, 1895. The rooms of the department of philosophy were first ready, and that department moved in, the first recitation being held there January 16. The other departments moved in succession, as their rooms became capable of use, until by the end of January all were domiciled in the new building. The building was not finally completed and accepted from the contractors until August. Final payment was made August 28, the contract having been carried out in a satisfactory manner, except as to time of completion. There can be no doubt that the increased facilities for instruction furnished by this building, and its better ventilation and light, will raise the standard of this institution. The building has been supplied with plain, substantial oak furniture made to order, conforming in pattern and finish to the character of the building itself. The arrangement of the model rooms, museum, and cabinets is still in progress.

To complete this building according to the original design the clock tower remains to be constructed. It is no doubt a desirable feature, and last year I submitted an estimate for it. There are so many demands, however, for things that are in my judgment more pressing, that I have concluded to omit this work from the estimates of this year.

The set of quarters for a married officer, near the old Kinsley mansion, was finished and occupied. Several additional sets of officers' quarters are needed to prevent overcrowding. An estimate for three sets is submitted.

Progress upon the quarters for unmarried officers was slow and unsatisfactory, being characterized by persistent attempts at fraud by the contractor. Under special authority of the War Department the Government has taken charge of the building, and it is now occupied by unmarried officers, but it has not been completed according to contract and final payment has been withheld.

An artificial stone pavement was laid near the gymnasium building and the grounds in the vicinity much improved.

The old wooden floor in the cadet mess hall was removed and a handsome tile floor and wainscoting were placed and the walls, ceilings, and woodwork renovated throughout, adding greatly to the cleanliness and attractiveness of the room.

The cadet chapel was renovated inside and outside, the upholstering renewed, and the walls, ceilings, and woodwork painted inside and the exterior walls repointed and painted where required.

A model of the new figure of Fame, to replace the present figure upon the Battle Monument, was submitted by Mr. McMonnies in March last, and was approved by the committee. The figure itself has not been received. The bronze tablets carrying the names of the enlisted men were found to contain many errors and were otherwise unsatisfactory. They have been removed from the monument and are to be replaced by others. Nothing in the way of construction upon the ground was done during the year. It is hoped that the monument will be finally completed during the coming year. On the 30th of June last it was struck by lightning and a small piece of the molding at the top of the main shaft was knocked out. During the same storm the flagstaff of the post was demolished by lightning.

Unexpected delays have occurred in beginning the construction of the Cullum Memorial Hall. The plans and specifications were finally completed to the satisfaction of the board of trustees and were forwarded to the War Department on the 12th of February last. The plans received the approval of the Honorable Secretary of War, but not the specifications. They were returned to the board by letter from the Adjutant-General, dated March 14, 1895. A revised copy of the specifications was forwarded to the War Department March 25, 1895, and these were approved with some modifications by indorsement dated March 30, 1895. Under the approved plans and specifications the work was extensively advertised, beginning April 4, and bids were opened May 15. Seventeen bids were received, and one of them, satisfactory to the board of trustees, was recommended for acceptance. This recommendation was disapproved by indorsement of June 17, 1895, and it was ordered that all bids be rejected and the work be re-advertised. It is expected that a new advertisement will be published at an early day.

The report of the post quartermaster, who is also quartermaster and disbursing officer of the Academy, is hereto appended, marked F.

ESTIMATES.

The estimates for the next fiscal year include some costly improvements, such as the reconstruction of the library building, new and enlarged filter beds, and new water main for south end of post. Among the less costly items are a guardhouse for the south gate, a commissary storehouse, a quartermaster storehouse, additional quarters for officers, quarters for the teacher of music and for the steward of the cadet hospital, a stable for officers' horses, a sidewalk from the south dock to the top of the hill, a piazza for the cavalry barrack, and moving a building erected some forty years ago and now an obstruction. There are numerous items of minor improvements. In all they foot up to an amount considerably larger than the appropriations for the current year, but they do not include anything which is not in my judgment for the good of the Academy. The necessity of each is explained in the remarks accompanying the estimates.

CONCLUSION.

In conclusion I have to repeat my report of last year that the Academy is in a flourishing condition. It is passing through an era of improvement, so far as its equipment and outward physical condition are concerned, due to the greater liberality of Congress in recent years. The curriculum, both theoretical and practical, is the result of many years' experience, and has proved itself well adapted to the objects of the institution. The professors and officers are accomplished, each in his sphere, and are devoted to their work and deserve well of the Government.

Very respectfully, your obedient servant,

O. H. ERNST,

Colonel of Engineers, Superintendent.

LIST OF APPENDICES.

- A.—Roster.
- B.—Report of post surgeon.
- C.—Report of treasurer and quartermaster and commissary of cadets.
- D.—Report of instructor of ordnance and gunnery.
- E.—Report of instructor of practical military engineering.
- F.—Report of quartermaster.

A.

UNITED STATES MILITARY ACADEMY,
WEST POINT, NEW YORK.

SUPERINTENDENT.

Col. O. H. ERNST, Lieutenant-Colonel, Corps of Engineers.

MILITARY STAFF.

- Capt. WILBER E. WILDER, Fourth Cavalry, adjutant of the Military Academy, post adjutant, and recruiting officer, commanding band and detachment of field music.
Capt. WILLIAM F. SPURGIN, Twenty-first Infantry, treasurer of the Military Academy and quartermaster and commissary of cadets.
Capt. JOHN B. BELLINGER, assistant quartermaster, U. S. A., quartermaster of the Military Academy, post quartermaster, and disbursing officer.
First Lieut. BARRINGTON K. WEST, Sixth Cavalry, post commissary of subsistence and post treasurer, in charge of post exchange.
First Lieut. WILLIAM WEIGEL, Eleventh Infantry, assistant to post quartermaster and officer of police.
Maj. GEORGE H. TORNEY, surgeon, U. S. A., post surgeon.
Capt. CHARLES F. MASON, assistant surgeon, U. S. A.
Capt. CHARLES WILLCOX, assistant surgeon, U. S. A.

ACADEMIC STAFF.

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

DEPARTMENT OF NATURAL AND EXPERIMENTAL PHILOSOPHY.

- Peter S. Michie, professor (14 Feb., 1871).
Capt. William B. Gordon, Ordnance Department, assistant professor.
First Lieut. Samuel E. Allen, Fifth Artillery; First Lieut. Lucien G. Berry, Fourth Artillery, instructors.
First Lieut. Samuel D. Freeman, Tenth Cavalry, in charge of observatory and astronomical observations.

DEPARTMENT OF DRAWING.

- Charles W. Larned, professor (25 July, 1876).
First Lieut. Austin H. Brown, Fourth Infantry, assistant professor.
Second Lieut. Charles B. Hagadorn, Twenty-third Infantry; Second Lieut. Horace M. Reeve, Third Infantry, instructors.

DEPARTMENT OF MATHEMATICS.

- Edgar W. Bass, professor (17 April, 1878).
Wright P. Edgerton, * associate professor (1 July, 1893).
First Lieut. Daniel B. Devore, Twenty-third Infantry, assistant professor.
First Lieut. John D. Barrette, Third Artillery; First Lieut. Charles D. Palmer, Third Artillery; First Lieut. John S. Winn, First Cavalry; Second Lieut. William O. Johnson, Nineteenth Infantry; Second Lieut. Charles P. Echols, Corps of Engineers; Second Lieut. William M. Cruikshank, First Artillery; Second Lieut. John H. Rice, Third Cavalry, instructors.

* Associate professor with the rank of captain.

DEPARTMENT OF CHEMISTRY, MINERALOGY, AND GEOLOGY.

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

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

First Lieut. Edgar Russel, Fifth Artillery; First Lieut. Albert M. D'Armit, Corps of Engineers; Second Lieut. Palmer E. Pierce, Sixth Infantry, instructors.

DEPARTMENT OF HISTORY, GEOGRAPHY, AND ETHICS.

William M. Postlethwaite, chaplain, professor (21 Dec., 1881).

First Lieut. Barrington K. West, Sixth Cavalry, assistant professor.

Second Lieut. Walter A. Bethel, Fourth Artillery, instructor.

DEPARTMENT OF CIVIL AND MILITARY ENGINEERING.

James Mercur, professor (29 Sept., 1884).

First Lieut. Henry C. Newcomer, Corps of Engineers, assistant professor.

First Lieut. Thomas H. Rees, Corps of Engineers; First Lieut. Francis R. Shunk, Corps of Engineers, instructors.

DEPARTMENT OF TACTICS.

Lieut. Col. Samuel M. Mills, captain, Fifth Artillery, commandant of cadets and instructor of tactics (1 Sept., 1892).

Capt. James Parker, Fourth Cavalry, senior instructor of cavalry tactics.

First Lieut. Alexander B. Dyer, Fourth Artillery, senior instructor of artillery tactics.

First Lieut. Granger Adams, Fifth Artillery, assistant instructor of tactics, commanding company of cadets.

First Lieut. Wilds P. Richardson, Eighth Infantry, assistant instructor of tactics, commanding company of cadets.

First Lieut. William H. Allaire, Twenty-third Infantry, assistant instructor of tactics, commanding company of cadets.

First Lieut. Willard A. Holbrook, Seventh Cavalry, assistant instructor of tactics, commanding company of cadets.

Second Lieut. Matthew C. Butler, jr., Fifth Cavalry, assistant instructor of cavalry tactics.

DEPARTMENT OF MODERN LANGUAGES.

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

First Lieut. Cornélis DeW. Willcox, Second Artillery, assistant professor of the Spanish language.

First Lieut. Arthur F. Curtis, Second Artillery, assistant professor of the French language.

First Lieut. William S. Biddle, jr., Fourteenth Infantry; First Lieut. Peter E. Traub, First Cavalry; First Lieut. Marcus D. Cronin, Twenty-fifth Infantry; Second Lieut. Samuel C. Hazzard, First Artillery; Second Lieut. Edward B. Cassatt, Fourth Cavalry, instructors.

DEPARTMENT OF LAW.

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

First Lieut. James A. Cole, Sixth Cavalry, assistant professor.

Second Lieut. Walter A. Bethel, Fourth Artillery, instructor.

DEPARTMENT OF PRACTICAL MILITARY ENGINEERING.

Capt. James L. Lusk, Corps of Engineers, instructor (31 March, 1893).

Second Lieut. Charles S. Bromwell, Corps of Engineers; Second Lieut. Jay J. Morrow, Corps of Engineers, assistant instructors.

DEPARTMENT OF ORDNANCE AND GUNNERY.

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

First Lieut. Edwin B. Babbitt, Ordnance Department; Second Lieut. Henry D. Todd, jr., Third Artillery, assistant instructors.

Herman J. Koehler, master of the sword.

List of officers, with relative rank, at the United States Military Academy.

Names.	Corps or regiment.	On duty at Academy since—
<i>Colonels.</i>		
Ernst, Oswald H.	Corps of Engineers.	Apr. 1, 1893
Michie, Peter S.	Professor (Feb. 14, 1871)	Apr. 23, 1867
Larned, Charles W.	Professor (July 25, 1876)	Aug. 28, 1874
Bass, Edgar W.	Professor (Apr. 17, 1878)	Sept. 15, 1876
Tillman, Samuel E.	Professor (Dec. 21, 1880)	Aug. 28, 1879
Postlethwaite, William M.	Professor (Dec. 21, 1881)	Jan. 6, 1882
Mercur, James.	Professor (Sept. 29, 1884)	Oct. 7, 1884
<i>Lieutenant-colonels.</i>		
Mills, Samuel M.	Captain, Fifth Artillery, commandant of cadets.	Sept. 1, 1892
Wood, Edward E.	Professor (Oct. 1, 1892)	Aug. 28, 1889
Davis, George B.	Professor (Aug. 20, 1895)	Aug. 20, 1895
<i>Major.</i>		
Torney, George H.	Surgeon, Medical Department.	July 17, 1894
<i>Captains.</i>		
Spurgin, William F.	Twenty-first Infantry.	Sept. 2, 1881
Lusk, James L.	Corps of Engineers.	Mar. 31, 1893
Parker, James.	Fourth Cavalry.	Aug. 13, 1894
Bruff, Lawrence L.	Ordnance Department.	Aug. 17, 1891
Wilder, Wilber E.	Fourth Cavalry.	May 15, 1895
Gordon, William B.	Ordnance Department.	Aug. 20, 1894
Edgerton, Wright P.	Associate professor (Mar. 14, 1893)	Jan. 28, 1889
Mason, Charles F.	Assistant surgeon, Medical Department.	July 16, 1894
Bellinger, John B.	Assistant quartermaster, Quartermaster's Department.	Sept. 17, 1894
Willcox, Charles.	Assistant surgeon, Medical Department.	May 2, 1895
<i>First lieutenants.</i>		
Dyer, Alexander B.	Fourth Artillery.	Aug. 31, 1892
Adams, Granger.	Fifth Artillery.	July 15, 1895
Allen, Samuel E.	do.	Aug. 20, 1892
Newcomer, Henry C.	Corps of Engineers.	Do.
Babbitt, Edwin B.	Ordnance Department.	Aug. 28, 1890
Freeman, Samuel D.	Tenth Cavalry.	June 30, 1893
Richardson, Wilds P.	Eighth Infantry.	Feb. 10, 1892
Rees, Thomas H.	Corps of Engineers.	Aug. 22, 1893
Alaire, William H.	Twenty-third Infantry.	June 15, 1893
West, Barrington K.	Sixth Cavalry.	Feb. 18, 1893
Shunk, Francis R.	Corps of Engineers.	Aug. 20, 1895
Cole, James A.	Sixth Cavalry.	Aug. 20, 1892
Willcox, Cornelius DeW.	Second Artillery.	Do.
Curtis, Arthur F.	do.	Do.
Holbrook, Willard A.	Seventh Cavalry.	Do.
Brown, Austin H.	Fourth Infantry.	Feb. 9, 1892
Biddle, William S., jr.	Fourteenth Infantry.	Aug. 21, 1892
Devore, Daniel B.	Twenty-third Infantry.	Aug. 20, 1892
Barrette, John D.	Third Artillery.	Do.
Berry, Lucien G.	Fourth Artillery.	Do.
Traub, Peter E.	First Cavalry.	Nov. 11, 1892
Davis, Richmond P.	Second Artillery.	Aug. 17, 1891
Russel, Edgar.	Third Artillery.	Aug. 22, 1893
Weigel, William.	Eleventh Infantry.	Apr. 9, 1894
Cromin, Marcus D.	Twentieth Infantry.	Aug. 22, 1893
D'Armit, Albert M.	Corps of Engineers.	Aug. 20, 1895
Palmer, Charles D.	Fourth Artillery.	Aug. 20, 1892
Winn, John S.	First Cavalry.	Aug. 22, 1893
<i>Second lieutenants.</i>		
Butler, Matthew C., jr.	Fifth Cavalry.	June 15, 1893
Hagadorn, Charles B.	Twenty-third Infantry.	Aug. 20, 1894
Bethel, Walter A.	Fourth Artillery.	Do.
Bromwell, Charles S.	Corps of Engineers.	June 1, 1893
Johnson, William O.	Nineteenth Infantry.	Aug. 20, 1894
Todd, Henry D., jr.	Third Artillery.	Do.
Echols, Charles P.	Corps of Engineers.	Aug. 20, 1895
Morrow, Jay J.	do.	Sept. 10, 1895
Pierce, Palmer E.	Sixth Infantry.	Aug. 20, 1895
Reeve, Horace M.	Third Infantry.	Do.
Cruikshank, William M.	First Artillery.	Aug. 28, 1895
Rice, John H.	Third Cavalry.	Aug. 20, 1895
Hazzard, Samuel C.	First Artillery.	Do.
Cassatt, Edward B.	Fourth Cavalry.	Do.

TROOPS.

Battalion of cadets.

Lieut. Col. Samuel M. Mills, captain, Fifth Artillery, commanding.
 Company A, First Lieut. Wilds P. Richardson, Eighth Infantry, commanding.
 Company B, First Lieut. William H. Allaire, Twenty-third Infantry, commanding.
 Company C, First Lieut. Granger Adams, Fifth Artillery, commanding.
 Company D, First Lieut. Willard A. Holbrook, Seventh Cavalry, commanding.

Hospital corps.

Maj. George H. Torney, surgeon, U. S. A., commanding.
 Capt. Charles F. Mason, assistant surgeon, U. S. A.
 Capt. Charles Willcox, assistant surgeon, U. S. A.

United States Military Academy detachment of Army service men.

Capt. John B. Bellinger, assistant quartermaster, post quartermaster, commanding.
 First Lieut. William Weigel, Eleventh Infantry.

Company E, battalion of engineers.

Capt. James L. Lusk, Corps of Engineers, commanding.
 Second Lieut. Charles S. Bromwell, Corps of Engineers.
 Second Lieut. Jay J. Morrow, Corps of Engineers.

United States Military Academy detachment of ordnance.

Capt. Lawrence L. Bruff, Ordnance Department, commanding.
 First Lieut. Edwin B. Babbitt, Ordnance Department.

United States Military Academy detachment of cavalry.

Capt. James Parker, Fourth Cavalry, commanding.
 Second Lieut. Matthew C. Butler, jr., Fifth Cavalry.

United States Military Academy band and detachment of field music.

Capt. Wilber E. Wilder, Fourth Cavalry, commanding.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., September 13, 1895.

Official:

W. E. WILDER,
Captain Fourth Cavalry, Adjutant.

B.

CADET HOSPITAL,
West Point, N. Y., August 31, 1895.

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

SIR: In accordance with instructions, I have the honor to submit the following report of the work done in the medical department of the Military Academy for the year ending June, 1895:

The statistical report of the sickness and mortality amongst the enlisted men and the civilians living on the post and not connected with the families of the officers on duty at the Academy, is shown in the following statement of Capt. Charles F. Mason, assistant surgeon, U. S. A.:

SOLDIERS' HOSPITAL,
West Point, N. Y., August 11, 1895.

The POST SURGEON, UNITED STATES MILITARY ACADEMY.

SIR: In compliance with your verbal request, I have the honor to submit the following report of matters pertaining to that portion of the medical department of this post under my immediate charge:

During the year the prevailing diseases have been la grippe and catarrhal conjunctivitis during the winter, and malarial fevers and diarrhea during the summer

and fall. In February four cases of diphtheria (one fatal) occurred in the family of Private Starr, Rugertown. It is believed that the infection was imported; no extension. In March one case of varicella occurred in the family of an enlisted man, and in May another case in the cavalry detachment; no extension.

The following is a summary of the work done in this department during the year:

	Enlisted men.	Civilians entitled to medical attendance.
Mean strength.....	333.52	443
Cases:		
Disease.....	372	.....
Injuries.....	160	.....
Total.....	532	1,149
Admission rate per 1,000 of mean strength.....	1595+	.....
Constantly noneffective per 1,000 of mean strength.....	25.87	.....
Discharged for disability.....	6	.....
Number of sick daily.....	8.65	.....
Deaths.....	1	7
Recruits:		
Examined.....	118	.....
Accepted.....	85	.....
Vaccinations.....	8	75
Revaccinations.....	46	104
Births.....		19
Prescriptions compounded.....		4,028

Very respectfully, your obedient servant,

CHAS. F. MASON,
Captain and Assistant Surgeon, U. S. A., in charge of Soldiers' Hospital.

The mean strength of the command of that part of the post under my immediate charge was as follows:

Officers.....	52.80
Cadets.....	287.70
Civilians, officers' families, etc.....	210

The principal statistics of the sickness and mortality amongst the officers and cadets are shown in the subjoined statement of the number of medical and surgical cases treated during the year:

Officers.....	28
Cadets in hospital.....	662
Cadets in quarters, excused from some duty.....	3,316
Civilians and officers' families.....	726

Total cases treated.....	4,732
Births.....	5
Deaths (infant).....	1

There were performed during the year 229 vaccinations and revaccinations. Six thousand one hundred and twenty-five prescriptions were compounded at the cadet hospital.

There was one mild case of varioloid, which represents all the admissions to the sick report for eruptive fevers.

Epidemic influenza made its appearance at the post in December, 1894, and prevailed until March. The disease was of a mild type.

Headaches, acute tonsillitis, and simple continued fever were the prevailing diseases amongst the corps of cadets during the year.

The card system of recording the physical and medical history of each member of the corps of cadets, introduced by the post surgeon in June, 1894, has been demonstrated a success, and the medical department can now furnish promptly all information regarding the physical status of a cadet that may be required by the Superintendent. In the physical examination of the graduating class of June, 1895, and in that of the first, second, and third classes now in the Academy, these records have proven of great utility and have facilitated very much the work of medical examining boards of June and August, 1895.

In connection with this report I have again respectfully to call the attention of the Superintendent to the urgent necessity for the construction of a modern oper-

ating room in the cadet hospital. In every well-conducted hospital a room that can be made absolutely clean and kept in an immaculate condition is designated as a surgical operating room, where all the details of modern surgical technology can be carried out in their entirety with a view to successful results in the work performed. There is no such room in the cadet hospital at West Point and in this respect it is deficient in its equipment, and it is not equal to other institutions of like character for the treatment of surgical cases.

Very respectfully, your obedient servant,

GEO. H. TORNEY,
Major and Surgeon, U. S. A., Post Surgeon.

C.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
OFFICE TREASURER, QUARTERMASTER AND COMMISSARY OF CADETS,
West Point, N. Y., August 26, 1895.

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

SIR: I have the honor to submit the following relative to my duties as treasurer of the United States Military Academy, quartermaster and commissary of cadets, for the fiscal year ending June 30, 1895, referring to each duty under its heading:

TREASURER OF THE UNITED STATES MILITARY ACADEMY.

The business of the treasurer's office during the year necessitated the keeping of twenty-eight separate accounts. These accounts were all enumerated in my last annual report.

These accounts were regularly inspected every two months by an officer detailed for that duty, who reported the result of the same to the adjutant of the Academy.

The Hon. William F. Vilas, chairman of the subcommittee of the Board of Visitors on fiscal affairs, made, June 11, a close inspection of the manner of transacting the business of the treasurer's office and of keeping the accounts, and expressed himself as much pleased with the same.

The financial statement of the treasurer United States Military Academy, dated May 21, 1894, which was the last prior to the expiration of the fiscal year 1893-94, was as follows:

Assets.		Liabilities.	
Assistant treasurer.....	\$34,365.82	Athletic association.....	\$93.20
Cadet cash.....	75.00	Cadet laundry.....	1,575.81
Dentist.....	110.00	Cadet quartermaster.....	13,048.05
Hops and german.....	70.58	Cadet subsistence department.....	759.83
Trust funds.....	20,000.00	Corps of cadets.....	9,273.67
Cash on hand.....	1,364.44	Deposits.....	704.00
		Young Men's Christian Association.....	14.68
		Equipment fund.....	30,422.00
		Dialectic society.....	80.32
		Miscellaneous fund.....	14.28
Total.....	55,985.84	Total.....	55,985.84

The following statement shows total receipts and disbursements under each account between date of statement above and statement of May 21, 1895, the last statement prior to the end of the last fiscal year:

No.		Disbursements.	Receipts.
1	Assistant treasurer.....	\$165,924.01	\$168,159.00
2	Athletic association.....	628.02	761.75
3	Balance paid.....	17,805.87	17,805.87
4	Barber.....	611.20	611.20
5	Cadet cash.....	14,530.36	14,585.86
6	Cadet hospital.....	2,721.43	2,721.43
7	Cadet laundry.....	9,820.05	9,993.34
8	Cadet quartermaster's department.....	75,310.76	73,148.64
9	Cadet subsistence department.....	57,380.41	56,975.73
10	Confectioner.....	133.50	133.50
11	Corps of cadets.....	195,251.79	194,596.17
12	Damages, ordnance.....	14.39	14.39
13	Dentist.....	1,090.00	1,085.00
14	Dancing.....	515.00	515.00
15	Deposits.....	17,782.04	17,178.04
16	Young Men's Christian Association.....	258.99	294.80
17	Dialectic society.....	509.09	578.69
18	Equipment fund.....	13,350.00	13,968.00
19	Expressage.....	17.62	17.62
20	Gas fund.....	1,239.96	1,239.96
21	Hops and german.....	1,589.40	1,659.98
22	Miscellaneous fund.....	19.00	43.27
23	Miscellaneous items.....	257.38	257.38
24	Oath.....	25.50	25.50
25	Paymaster.....	165,924.01	165,924.01
26	Periodicals.....	24.30	24.30
27	Photographs.....	49.00	49.00
28	Policing barracks.....	5,388.17	5,388.17

The foregoing explains itself and shows the purposes for which the pay of the cadet is expended.

The following statement, dated May 21, 1895, was the last prior to the expiration of the fiscal year 1894-95:

Assets.		Liabilities.	
Assistant treasurer.....	\$32,130.83	Athletic association.....	\$226.93
Cadet cash.....	19.50	Cadet hospital.....	232.66
Dentist.....	115.00	Cadet laundry.....	1,749.70
Bonds.....	20,000.00	Cadet quartermaster.....	10,885.93
Cash on hand.....	1,176.64	Cadet subsistence department.....	355.15
		Corps of cadets.....	8,618.05
		Equipment fund.....	31,040.00
		Deposits.....	100.00
		Young Men's Christian Association.....	50.49
		Dialectic society.....	149.92
		Miscellaneous fund.....	33.74
Total.....	53,441.97	Total.....	53,441.97

The members of the furlough class this year received such sums as were due them on a close approximate settlement of their accounts to July 31.

In a few special cases this amount was slightly exceeded. The members of the class on returning to the Academy August 28 will have, with the noted exceptions, pay to their credit from August 1, which will be an increase of one-half a month's pay more than the furlough class has usually had to its credit on returning from leave. This increase of credit will be of great assistance in procuring necessary articles which the furlough men habitually deny themselves before going on leave, and will enable the class to become free from debt earlier than usual during the last half of the course, and should correspondingly increase the sum due to each on graduation.

The class entering this year deposited on an average \$95.50.

In my last report I informed you that ex-Cadet Urtecho, of Nicaragua, left the Academy indebted to it in the sum of \$152.34. No part of this sum has as yet been paid.

CADET QUARTERMASTER'S DEPARTMENT.

During the year the following articles of clothing were manufactured, viz:

Dress coats.....	217	Officers' blouses.....	16
Overcoats.....	61	Civilians' coats.....	5
Blouses.....	432	Civilians' vests.....	6
White jackets.....	203	Civilians' trousers.....	11
Gray trousers.....	506	Officer's overcoat.....	1
White trousers.....	915	Officer's dress coat.....	1
Flannel trousers.....	77	Officer's cape.....	1
Riding trousers.....	77	Civilians' duck trousers.....	2
Officers' trousers.....	50	Waiters' white jackets.....	38

• The following articles were repaired during the year, viz:

Dress coats.....	365	Trousers, civilian.....	62
Overcoats.....	263	Officers' capes.....	18
Blouses.....	672	Waiter jackets.....	30
White jackets.....	19	Socks, tags sewed on (pairs).....	1,297
Gray trousers.....	866	Gloves.....	165
White trousers.....	1,415	Crape, sewed on (pieces).....	20
Coats, civilian.....	62	Chevrons sewed on.....	300
Vests, civilian.....	62	Shoes.....	1,626

The cadet quartermaster's department building is in a good state of repair and is well adapted to the business of the department. The working force is competent, and at no time during the past fourteen years have cadets received better-fitting clothing than at the present time.

CADET SUBSISTENCE DEPARTMENT.

The condition of the cadet mess is very satisfactory. Owing to the completion of a new tile floor and wainscoting, the odor which was formerly coexistent with the wood floor has disappeared and the labor of keeping the mess hall in a cleanly condition is diminished.

The average daily cost of subsistence per cadet during the year was 50.52 cents, as against 51.86 cents during the fiscal year ended June 30, 1894, a diminution in cost of 1.34 cents per cadet per day. The price of beef has risen greatly, and the cost of subsistence during the current fiscal year will therefore be greater. During the year, under the belief that the roast beef would prove more satisfactory should it be carved on the cadets' table by one of their number, the plan of sending to the table the roast whole instead of carving it up in the kitchen was adopted. Such a plan requires more beef, but at the same time it gives better satisfaction, and the plan of sending in whole roasts for each table will be adhered to.

I have reason to believe that the cadets are well satisfied with their mess, and since this result is obtained at a cost of less than 51 cents per day it is a matter of congratulation.

A training table was maintained during the football season last fall on common-sense lines. Those at the table had plenty of substantial food such as the other cadets had, but they had less variety and indulged less in desserts.

The room in which the meats and ice are kept, called through courtesy the refrigerator, is located next to the kitchen and is influenced to a greater or less extent by the heat of the cooking range.

There is needed a refrigerating room located elsewhere than at present, and one of greater capacity. I will in due time submit an estimate for the equipment of such an one.

The cooking range now in use has been there many years and it is so old that it must needs be constantly repaired. An estimate for a new one has been submitted.

The basement area in front of the mess building is in bad condition and requires attention.

CADET LAUNDRY.

The following exhibits the work done at the laundry during the year, excepting for the cadet hospital:

Bathing suits.....	20	Jackets, white.....	3,665
Belts, shoulder.....	17,147	Pillowcases.....	13,912
Belts, sword.....	2,266	Sheets.....	23,791
Belts, waist.....	18,912	Shirts, white.....	20,892
Blankets, single.....	323	Shirts, night.....	12,306
Blouses.....	17	Shirts, under.....	39,574
Clothes bags.....	3,589	Socks, pairs.....	39,400
Collars.....	96,153	Towels.....	69,901
Comfortables.....	143	Trousers, gray.....	126
Cuffs, pairs.....	56,392½	Trousers, white.....	38,595
Drawers.....	36,143		
Gloves, pairs.....	33,836½	Total pieces.....	595,027
Handkerchiefs.....	67,923		

There were laundered for the cadet hospital the following:

Bedspreads.....	172	Sheets.....	2,367
Blankets, single.....	2	Tablecloths.....	244
Mattress covers.....	10	Towels.....	2,880
Napkins.....	1,284		
Pillowcases.....	1,963	Total pieces.....	8,922

Grand total, 603,949 pieces.

No account is kept of the cadet mess linen.

Very respectfully, your obedient servant,

WM. F. SPURGIN,
*Captain Twenty-first Infantry, Treasurer United States Military Academy,
Quartermaster and Commissary of Cadets.*

D.

WEST POINT, N. Y., August 6, 1895.

The ADJUTANT, UNITED STATES MILITARY ACADEMY.

SIR: In accordance 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, 1895:

LABORATORY.

The routine work at the laboratory includes the care and preservation of three 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 care of the new steel guns requires much time and attention.

The batteries are inspected once a week, and it is generally found that the guns require cleaning and oiling at each inspection. After the drill season is over the field batteries are dismantled, the carriages overhauled and painted, and the guns and their breech mechanism thoroughly cleaned and oiled. This same course has been pursued with the breech mechanism of the 12-inch B. L. mortar, cast iron, steel hooped, but during the year penthouses have been supplied to cover the new 8-inch steel B. L. rifle and 12-inch steel mortar, and it is believed that the dismantling of the mechanism will not be necessary in the future, and a regular and careful inspection only will be required. There are also 5 rapid-fire and 4 machine guns which require constant attention.

Sample boards showing the manufacture of modern small caliber cartridges have been prepared for use in cadet instruction, the materials having been obtained from Frankford Arsenal, and the work of mounting them done here. The same has been done for fuses, primers, etc.

The routine work also includes the preparation of ammunition for cadet target practice and attendance upon the same, and also the care and repairs of the implements used in mechanical maneuvers, repairs of cadet arms and equipments, the care and preservation of the trophy guns and their arrangement. Part of the skids

supporting these guns have been repaired and supported on stone laid in cement, and preparations have been made to continue this work.

A new oil room has been arranged at the laboratory and all the oil stored in it, which will avoid danger and render the oil more accessible.

Speaking tubes have been put in, connecting the instrument and firing houses and facilitating work.

A room has been fitted up for the storage of sponges and rammers, handspikes, empty powder cases, and other implements belonging to the new guns at the post.

A new water-closet has been put in to replace the old one, which was in such bad condition that it was unfit for use.

A model-shaping machine has been made for use in cadet instruction, and work on a new model lathe is now in progress.

The preparation of drawings for the new text-book of ordnance and gunnery, approved by the academic board, has been in progress during the year. Cuts for eight chapters have been finished and are now in the hands of the printer. Cuts for the remaining two chapters are in progress. Six chapters of the book have been published in pamphlet form, and will be used by the present first class for the course from September to January and for part of the course from January to June.

MUSEUM.

The room in the new academic building for the ordnance museum became available during the year, and work was begun on the stores belonging to the collection. This has involved a great deal of time and labor, as the stores have been packed away in various places during the three years past, and it was impossible to clean them while in that condition. These stores have all been removed to the museum, cleaned and partly arranged, and stands and cases made for them. This work is still in progress. The battle and trophy flags have been overhauled and repaired as far as possible. In many cases it was found necessary to procure new staves for them, as those originally belonging to them had disappeared. These flags will now be placed permanently in handsome cases in the museum.

Many of the models belonging to the museum need repairs, and the work on them will be continued as long as funds are available.

The model Mexican silver mine presented to the Academy by the officers of the army in Mexico is now being repaired, and it is believed that it can be restored to its original condition, with the exception of some figures which are lost.

Several old model machine guns belonging to the museum have been repaired during the winter and put in working order, and are now arranged on stands for exhibition.

ADDITIONS TO ARMAMENT.

The principal work during the fiscal year has been at the seacoast battery.

A 15-inch Rodman gun and its carriage, the 13-inch smoothbore mortar and its carriage, and one 10-inch Rodman smoothbore and one 200-pound Parrott, with their carriages, have been dismounted and removed from the battery, and also one center pintle 8-inch barbette carriage.

These guns and carriages have been replaced by one 8-inch steel B. L. rifle and carriage, and one 12-inch steel B. L. mortar and carriage, and two 8 inch converted rifles on front pintle barbette carriages. The center pintle barbette carriage has been replaced by a front pintle one. All these guns and carriages are of the latest design, and the seacoast battery is now well equipped.

These changes have necessitated corresponding ones in the platforms, traverse circles, and shot beds, and this latter work has been done under the direction of the instructor of practical military engineering.

Two new 5-inch steel B. L. siege guns, with their carriages, have been received during the year, and are now in the siege battery. The carriages lack hydraulic buffers, which will be forwarded later, as soon as they can be finished.

Two penthouses for the 8-inch steel B. L. rifle and the 12-inch mortar have been received, and were in use last winter.

One 6-pounder Driggs-Schroeder R. F. gun, with carriage and limber, and 75 rounds of ammunition were sent by the manufacturers, although the money for the payment of the gun was not available till July 1, 1895. The Department has now on hand a very good collection of rapid-fire guns, and with the addition of the Maxim it will include all the types taught in the course.

The Ordnance Department has also furnished 1 Gatling gun, caliber .30, model 93, using smokeless-powder ammunition, and with the latest improved feed. A carriage has been ordered for this gun, and when received the gun will be available for cadet instruction.

SMALL ARMS.

The following small arms have been received during the year:

- 6 .30-caliber rifles, United States, with a supply of ammunition.
- 1 new model English rifle.
- 1 new model Belgian rifle.
- 1 new model Russian rifle.

These foreign guns were obtained through the kindness of the military attachés at the embassies of the respective countries, and each one is accompanied with ammunition, and these arms will prove a valuable addition to the museum and for cadet instruction. Efforts will be made to procure samples of all foreign arms, as far as funds will permit.

MODELS.

The following models have been received during the year:

- 1 model 3.6-inch steel B. L. field gun, one-tenth size.
- 1 model 3.6-inch steel B. L. field gun, breech mechanism, one-half size.
- 1 model 7-inch steel B. L. howitzer, complete, one-tenth size.
- 1 model 8-inch steel B. L. rifle, complete, one-tenth size.
- 1 model 12-inch steel B. L. rifle, complete, one-tenth size.
- 1 model 7-inch steel B. L. mortar, complete, one-tenth size.
- 1 model 10-inch barbette carriage, complete, one-tenth size.
- 1 model 3.2-inch B. L. field carriage and limber, with horses and harness, complete, one-tenth size.

The department has now working models of all the service field, siege, and seacoast guns and mortars, one-tenth size, and also of the 10-inch and 3.2-inch carriages, complete. Work is now progressing on a model 8-inch Buffington-Crozier disappearing carriage, and it is hoped that during the year the siege carriage models will be completed.

It is the intention of the department to ask each year for funds to continue the work on the model carriages till a complete set of them is obtained. These models are of the greatest advantage in the instruction of cadets.

RECOMMENDATIONS.

In my judgment the target practice with 8-inch converted rifles at the seacoast battery can not be continued much longer without danger. The target originally established was against the face of a rock on Cro' Nest. In the course of firing, this rock has been broken, and the broken rock has formed a slope.

Each time that the target has been repainted on the rock it has been necessary to move it higher to clear this slope of broken rock. It has now nearly reached the upper edge of the face of the rock, and a projectile striking high is liable to pass over this edge and strike on the irregular surface above. Its curve after such striking is a matter of chance, and it may cause serious damage. A butt or tunnel should be provided to guard against accident.

Very respectfully, your obedient servant,

L. L. BRUFF,

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

E.

DEPARTMENT OF PRACTICAL MILITARY ENGINEERING,
UNITED STATES MILITARY ACADEMY,
West Point, N. Y., September 2, 1895.

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

SIR: I have the honor to report as follows upon the different branches of work assigned to me for the year from September 1, 1894, to August 31, 1895:

PRACTICAL MILITARY ENGINEERING.

During October, 1894, and April, 1895, the classes of 1895 and 1896 were under instruction, and during July and August, 1895, the classes of 1896 and 1898, with a few members of the class of 1897.

The class of 1895 received instruction in construction of bridge by successive pontoons, fascines, hurdles, iron and brush gabions, gabion and sandbag revetments,

wire entanglement, simple trench (one-sixth size and full size), flying sap (one-sixth size and full size), various shelter trenches, Russian gun pit, telegraphy, profiling, deep sap, full sap (kneeling), making palisading and planting it vertically and inclined, various gun and mortar platforms, and mounted reconnoissance.

The class of 1896 received instruction in school of the boat, making knots and lashings, construction of bridge by successive pontoons, assembling and launching canvas pontoons, construction of trestle bridge on land, construction of spar bridge, construction of fascines, hurdles, iron and brush gabions, fascine and gabion revetments, blindages, abatis, wire entanglement, simple trench (one-sixth scale), flying sap (one-sixth scale), various shelter trenches, Russian gun pit, gun epaulements for breech-loading and muzzle-loading guns, signaling with flag, heliograph and telegraph, profiling, utilization of ground and stone walls for defense, and use of explosives.

Four members of the class of 1897 attended instruction with the class of 1896 during last July and August.

The class of 1898 received instruction in school of the boat, construction of bridge by successive pontoons, assembling and launching canvas pontoons, construction of trestle bridge on land, fascine and gabion revetments, signaling with flag and heliograph, utilization of ground and stone walls for defense, and use of explosives.

COMPANY E, BATTALION OF ENGINEERS.

This company has furnished throughout the year a daily guard detail of from 10 to 12 men; has kept its barrack and barrack ground in repair and police; cultivated its garden; kept the two pontoon trains and the cadet boats in repair; completed one new pontoon boat and partially finished one, and has kept the seacoast, siege, and mortar batteries, with Fort Clinton and Battery Knox, in order. It has assisted in the instruction of the cadets in practical military engineering, preparing the bridge and siege material, and has furnished field parties for the surveys in connection with the extension of the waterworks.

The main stairway in the hall of the company barrack has recently shown signs of weakness. It has been temporarily braced and an estimate submitted for rebuilding it.

The detail for submarine mining at Willets Point resulted in the instruction of 4 sergeants and 4 corporals during the year.

The company is now 12 men below its allotted strength and recruiting is slow and difficult. No desertions occurred during the year. The physical condition has continued excellent and the discipline of the company good.

The new magazine rifles, caliber .30, have been received and issued to the men, and instruction in the new manual of arms is in progress. It is expected that the men will be sufficiently well instructed to permit the guard detail to turn out with the new weapon not later than next Sunday, the 8th instant.

Attention is invited to the accompanying table, which contains a résumé of the company's duties by months.

WATER SUPPLY AND PIPE LINE.

Water was drawn from Round Pond continuously from June 27 to September 14, 1894. At the latter date a stage of 9.2 feet was reached, the lowest recorded since 1886.

The pond filled to the overflow line (18 feet) on April 9, 1895.

On June 22, 1895, drawing from Round Pond was again resorted to and has continued, with some slight cessations, due to flow at the Cascades and in Cro' Nest Pond Brook. The stage of water at Round Pond is at this date about 14.5 feet, a gain of 2.9 feet over last year and corresponding to nearly one month's supply for the post. The rainfall for the month of July, 1895, was very favorable to the water supply.

The pipe line has continued to render good service with very slight repairs.

The series of leaks in the vicinity of the powder magazine and the soldiers' hospital has finally been checked, with material benefit to the reserve volume of water.

NEW RESERVOIR.

The actual laying of masonry on the main dam began November 13, 1894, and was stopped on account of the weather December 21, 1894, at which time the work was nearly all up to the elevation of 290. Work was again resumed on April 10, 1895, and the masonry is at this date completed to the elevation of about 311. The endeavor to secure good foundations and end connections has been long and costly, due to the presence of irregular areas of decayed rock in the bottom and to the shattered condi-

tion of the abutments, the latter being the result of old quarrying operations. The amounts of excavation and masonry are thus largely increased over the estimates, an unfavorable feature, only partly offset by care and economy at every point. Present indications are to the effect that the main dam will be practically completed by December 1, 1895. Further study of the conditions prevailing at the north end of the reservoir has indicated the desirability of putting in a masonry core wall, in connection with the low earthen dam required.

The actual flooding of the swamp both last winter and this summer, proved conclusively that it will not be prudent to omit cleaning out the peaty matter, as well as the soil and vegetation.

FILTRATION.

This question has been carefully examined, and I have concluded that in order to secure the best results the water from all sources should be filtered for at least five months of the year. The existing filter is entirely too small and is wrongly located for service with the new reservoir, as it would require a great loss of useful pressure. I have therefore submitted an estimate for filters of adequate size, of the Kirkwood type, to be located south of the new dam. These filters are intended to be covered so as to admit of their being used when necessary in winter. Such use may not always be required, but may be advisable at times. The committee on hygiene and athletics of the Board of Visitors for 1895 took strong ground in favor of an adequate filtration of the entire supply.

NEW SUPPLY MAIN.

The Board of Visitors of 1894 strongly urged the laying of a main of sufficient size from the new reservoir to the post, capable of affording a direct connection to the fire hydrants, in case of fire. Estimates were submitted at the request of the Board and, with some modifications shown to be advisable, have been included in my estimates for this year. The route of this main is southward from the new dam, and by way of the back road to near the new south gate, thence northward along the main road to a connection with a main now under construction opposite the new academy building.

CONNECTING MAIN.

Work on this line of pipe, intended to connect the new reservoir with the Round Pond, Cro' Nest Pond, and Delafield Pond pipe lines and with the filter house, was commenced in the latter part of last June. The work of preparing a bed for the pipe is heavy, involving much blasting and the building of a long line of retaining wall. The pipe is on hand and will be laid as soon as possible. Lieut. Charles S. Bromwell, Corps of Engineers, has been almost constantly engaged on this work and that at the new reservoir, with excellent results.

The estimates submitted this year embrace the most important and costly portions of work yet remaining to be done on the water supply. Certain other improvements are advisable, but have been omitted this year as not being especially urgent. They are as follows: The diversion of Sinclair Pond Brook into Cro' Nest Pond Brook; the extension of the Cro' Nest Pond pipe line for about one-fourth of a mile; the building of a small dam on Cro' Nest Pond Brook to throw the water into the pipe line under a greater head than is now possible; certain slight improvements at the Cascades intake; cleaning Delafield Pond and repairing the dam; cleaning a portion of Round Pond; fencing certain ponds and portions of the watersheds; laying a 10 or 12 inch main from Cro' Nest Ridge to the new reservoir, and building a keeper's house near the new reservoir. It is thought best to postpone submitting estimates for these improvements rather than to present an unduly large aggregate.

PLATFORMS.

A platform for the new 8-inch rifle and one for the new 12-inch breech-loading mortar were completed early last summer, as were three front-pintle platforms changed from center-pintle platforms of an old type. This work was well done by Lieut. Mason M. Patrick, Corps of Engineers, who had it in direct charge.

NEW ACADEMIC BUILDING.

For all practical purposes this building was completed early during the summer of 1895.

BATTLE MONUMENT.

Practically no work has been done upon this structure during the year under consideration.

The shaft was somewhat injured by lightning early last July.

Very respectfully,

JAS. S. LUSK,
*Captain, Corps of Engineers, Instructor Practical Military Engineering,
 Commanding Company E, Battalion of Engineers,
 In Charge of Water Supply at West Point, N. Y.*

	1894.				1895.							
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.
Average strength of company	94	96	96	94	94	98	97	95	93	93	91	90
Average strength of guard detail	12	12	12	12	12	12	12	10	12	12	12	12
Fatigue days	25	27	26	28	27	24	26	26	27	25	27	27
Infantry drills	12	4	1	4	4	4	5	3	3	3	12	8
Signal drills	12	4	1	4	4	3	5	4	3	3	12	7
Engineering drills	8	2	1	3	3	3	3	4	2	2	6	11
Gymnasium drills	12	4	1	7	7	6	8	7	5	5	6	1
Practice marches	0	0	0	0	0	0	0	0	0	0	0	0
Average attendance at drills	54	51	48	45	39	47	43	41	32	40	42	43
Target practice, days	0	0	0	0	0	0	0	0	0	0	0	0
School days	0	0	21	21	17	19	21	21	0	0	0	0
Average attendance at school	0	0	28	29	19	24	25	21	0	0	0	0

F.

QUARTERMASTER'S OFFICE, UNITED STATES MILITARY ACADEMY,
West Point, N. Y., August 31, 1895.

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

SIR: I have the honor to submit herewith the following report of the operations of the quartermaster's department at West Point, N. Y., for the fiscal year ended June 30, 1895, prepared in accordance with instructions from your office, dated June 6, 1895:

QUARTERMASTER'S DEPARTMENT, UNITED STATES ARMY.

The duties pertaining to this department are enumerated in paragraph 1063, Army Regulations, 1889. The amounts received, disbursed, etc., under the various heads of appropriation are shown in accompanying statement, marked A.

The following contracts for furnishing fuel, forage, and straw were entered into and were satisfactorily fulfilled:

Samuel G. French: 500 tons stove coal, 250 tons egg coal, 200 tons chestnut coal.

Charles Dunlop: 500 tons stove coal, 250 tons egg coal, 200 tons chestnut coal.

William Lewis: 200 cords hard wood.

Thomas Sheppard: 400 tons hay.

Charles L. Rickerson: 95 tons straw.

John Moonan: 10 tons middlings, 20 tons shorts.

William E. Bante: 600,000 pounds oats.

The present number of draft animals authorized for the quartermaster's department at this post is insufficient to meet demands, and an increase of from 40 to 45 is considered necessary.

QUARTERMASTER'S DEPARTMENT OF THE UNITED STATES MILITARY ACADEMY.

My duties in this branch are defined in paragraph 15 of the United States Military Academy Regulations, 1894.

Contracts entered into during the year and made in previous years and remaining in force in the fiscal year to which this report relates were as follows:

No.	Contractor.	Date.	Purpose.
1	J. E. & A. L. Pemock.....	May 18, 1891	Academy building.
2	Wm. McMeekin.....	Oct. 26, 1893	One set officers' quarters.
3	Thomas J. Gilroy.....	Apr. 2, 1894	One set hospital steward's quarters.
4	.....do.....	June 26, 1894	Unmarried officers' quarters.
5	Samuel G. French.....	Aug. 23, 1894	3,300 tons coal.
6	Westmoreland Coal Co.....	Aug. 11, 1891	1,200 tons gas coal.
7	T. M. Campbell.....	Sept. 24, 1894	Steam-heating apparatus, quarters 29.
8	.....do.....	Sept. 29, 1894	Gas fixtures engineer barracks.
9	Muller Bros.....	Oct. 2, 1894	Reflooring engineer barracks.
10	George L. Kleitz.....	Oct. 6, 1894	Repairing soldiers' hospital.
11	Empire Paving and Construction Co.	Oct. 23, 1894	Pavement around gymnasium.
12	Franklin & Burnham.....	Nov. 14, 1894	Steam-heating apparatus, quarters 5, 39, 45.
13	Sharpless & Watts.....	Jan. 9, 1895	Tile flooring in cadet hospital.
14	Eugene Kulinski & Co.....	Mar. 23, 1895	Gas fixtures, Academy building.
15	John Fox.....	May 21, 1895	8-inch gas pipe.
16	Davis, Reid & Alexander.....	May 25, 1895	Tile floor, cadet mess.
17	Warren Foundry and Machine Co..	June 11, 1895	6-inch water pipe.
18	Westmoreland Coal Co.....	June 27, 1895	1,700 tons gas coal.
19	Clark & Williams.....	June 20, 1895	200 cords hard wood, 20 cords soft pine.
20	Dickson & Eddy.....	June 28, 1895	4,600 tons coal.

Nos. 4, 15, 16, 17, 18, 19, and 20 were incomplete at the close of the year.

The following public buildings were repaired in accordance with special appropriations therefor or from the general appropriation for repairs and improvements:

The barracks of Company E, battalion of engineers, the soldiers' hospital, the post bakery, ordnance laboratory, cadet barracks, hotel, academic building finished and furnished, cadet chapel renovated within, repointed, roof and cornice repaired and painted, riding hall roof repainted, windows and outside galleries repaired, cavalry stables painted, mangers removed and covered way from stable to riding hall built, cadet hospital, piles of old dock drawn, south road repaired as far as appropriation permitted. The officers' quarters all received such necessary repairs as could be done with the small appropriation.

There is a great lack of storehouse room, necessitating the use for such of a dilapidated frame building which was built for an ox stable about 1837. The south wharf is dangerous, and it is doubtful whether it will last another year. At present boats landing raise the northeast end several feet on coming in contact with the wharf.

Much damage has been done to buildings and grounds by storms since July 1, 1895. The appropriation for repairs and improvements and buildings and grounds should be increased to repair same without causing a drain on regular allowances to cover such unforeseen contingencies.

Final settlement has been effected with John Sheehan, contractor, for the gymnasium, payment being made him of the balance remaining after completing the building at his expense.

Statement of the receipts and disbursements for the fiscal year ended June 30, 1895, accompanies this report, marked B.

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. In order to properly light the buildings and grounds of the Academy Congress appropriated for the last fiscal year the sum of \$5,000 for the purchase of gas coal, oil, candles, lanterns, matches, chimneys, and wicking for lighting the Academy, chapel, library, cadet barracks, mess hall, shops, hospital, offices, stables and riding hall, sidewalks, camp, and wharves. As the gas consumed costs more than the amount appropriated all that which is consumed at places not enumerated in the act is sold at actual cost of manufacture with a small increase for contingencies, which includes a portion of the deficiency above named, and also provides for contingent repairs which experience has shown to be necessary from time to time. The remainder of the deficiency is charged to cadets, who pay for gas at the rate of 35 cents per month for the time they are actually present. The sale of gas as above, of coke, coal tar, etc., constitutes a fund known as the "contingent fund," which is expended under the direction of the Superintendent of the Academy in the purchase of additional gas coal when necessary, retorts, gas fixtures, and repairs of same, pay of labor employed in making gas, and such other expenditures as pertain to the gas-making plant of the Academy.

The receipts and disbursements are shown in the statement of the contingent fund herewith, marked C.

SPECIAL CONTINGENT FUND, UNITED STATES MILITARY ACADEMY.

This fund is derived from the rent of certain buildings on the post and from the sales of gas, coke, coal tar, etc.

Statement of the receipts and disbursements under this head accompanies this report and is marked C.

Respectfully submitted.

J. B. BELLINGER,
*Captain and Assistant Quartermaster, United States Army,
 Disbursing Officer, United States Military Academy.*

A.—Statement of funds pertaining to the Quartermaster's Department, United States Army,
 for the fiscal year ended June 30, 1895.

Balance on hand July 1, 1894.....	\$3,691.45
Received since:	
Regular supplies.....	25,338.14
Incidental expenses.....	10,851.93
Army transportation.....	4,836.82
Barracks and quarters.....	1.47
Clothing and equipage.....	1.00
Sales to officers.....	4,457.54
Sales at auction.....	549.55
Total to be accounted for.....	<u>49,727.90</u>
Disbursed:	
Regular supplies.....	27,655.30
Incidental expenses.....	10,971.46
Army transportation.....	4,831.40
Barracks and quarters.....	1.47
Clothing and equipage.....	1.00
Deposited.....	5,007.45
Balance on hand June 30, 1895.....	<u>1,259.82</u>
Total.....	<u>49,727.90</u>

AUGUST 31, 1895.

B.—Statement showing receipts and disbursements, etc., of funds pertaining to the appropriations for the support of the United States Military Academy for the year ending June 30, 1895.

Date.		Current and ordinary expenses.	Miscellaneous items and incidental expenses.	Buildings and grounds.	New academic building.	New gymnasium.	Memorial Hall.	Total.
	CR.							
	By balance on hand, fiscal year—							
July 1, 1894	1889				\$23,684.58	\$7,091.97		\$30,776.55
Do	1892	\$952.06	\$90.08					1,042.14
Do	1893	5,681.96	140.80	\$4,095.40				9,918.16
Do	1893-94	243.00		1,253.30				1,496.30
Do	1894	14,387.56	2,733.67	32,442.94				49,564.17
	Received since fiscal year—							
June 30, 1895	1889				188,220.19			188,220.19
Do	1894			14,065.69				14,065.69
Do	1895	73,094.10	27,540.00	72,672.70				173,306.80
Do	1895-96	600.00		21,321.30				21,921.30
Do	Memorial Hall						\$5,000.00	5,000.00
	Total	94,958.68	30,504.55	145,851.33	211,904.77	7,091.97	5,000.00	495,311.30
	Dr.							
	Disbursed, fiscal year—							
Do	1889				152,849.57	7,080.60		159,930.17
Do	1892	893.47						893.47
Do	1893	2,922.27		3,610.37				6,532.64
Do	1893-94	243.00		1,253.21				1,496.21
Do	1894	9,531.37	2,680.52	34,989.43				47,201.32
Do	1895	56,230.06	22,263.50	51,722.12				130,215.68
Do	1895-96			13,196.81				13,196.81
	Deposited, fiscal year—							
Do	1889					11.37		11.37
Do	1892	58.59	90.08					148.67
Do	1893	2,759.69	140.80	485.03				3,385.52
Do	1893-94			.09				.09
Do	1894			8,000.00				8,000.00
	Balance on hand, fiscal year—							
Do	1889				59,055.20			59,055.20
Do	1894	4,856.19	53.15	3,519.20				8,428.54
Do	1895	16,864.04	5,276.50	20,950.58				43,091.12
Do	1895-96	600.00		8,124.49				8,724.49
Do	Memorial Hall						5,000.00	5,000.00
	Total	94,958.68	30,504.55	145,851.33	211,904.77	7,091.97	5,000.00	495,311.30

C.—Statement of receipts and expenditures pertaining to the special contingent fund, United States Military Academy, from July 1, 1894, to June 30, 1895.

	Gas works.	Rents, etc.	Total.
On hand July 1, 1894.....	\$2,322.05	\$133.91	\$2,455.96
Received since:			
By rent of—			
West Point Hotel.....		2,000.00	
Post-office.....		150.00	
Stables.....		75.00	
Store (retiring house).....		350.00	
By sale of—			
Gas.....	4,825.00		
Coke.....	1,278.56		
Coal tar.....	420.65		
Old iron, copper, etc.....		241.66	
Ice.....		138.83	
	6,524.21	2,955.49	9,479.70
Total to be accounted for.....			11,935.66
Disbursed.....	6,722.97	2,219.79	8,942.76
On hand June 30, 1895.....	2,182.72	810.18	2,992.90
Total to be accounted for.....			11,935.66

WEST POINT, N. Y., August 31, 1895.



