

ANNUAL REPORT

OF THE

SUPERINTENDENT

OF THE

UNITED STATES MILITARY ACADEMY.

1897.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
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WAR DEPARTMENT,
Document No. 48.
Adjutant-General's Office.

ANNUAL REPORT
OF THE
SUPERINTENDENT UNITED STATES MILITARY ACADEMY.

HEADQUARTERS U. S. MILITARY ACADEMY,
West Point, N. Y., September 23, 1897.

GENERAL: I have the honor to submit this my annual report for the Military Academy for the year ending September 1, 1897.

PERSONNEL.

The number of officers and instructors on duty at West Point September 1, 1897, was 7 professors, 1 associate professor, 55 commissioned officers, 1 chaplain, 1 sword master, and 1 teacher of music; a total of 66. (See roster appended, marked A.) The number September 1, 1896, was the same. In all, 18 officers joined during the year and 18 were relieved.

The number of cadets present and absent September 1, 1897, was 338, including 1 foreigner receiving instruction by special authority of Congress. This is the largest number of cadets that has ever belonged to the Academy at one time. The number September 1, 1896, was 332, including 1 foreigner. During the year 48 were discharged for deficiency in studies, 1 discharged for disability, 6 resigned, and 68, including 1 foreigner, were graduated, a total loss of 123, while there were admitted in all at the examinations held in March, June, and August, 129. For the three examinations referred to there were appointed in all 316 candidates, including 128 alternates and 1 foreigner. Of these, 43 failed to appear, 4 left before the completion of the examination, and 117 were found not duly qualified, either mentally or physically, or both. Of the remaining 152, including 1 foreigner, who passed, 23 were alternates whose principals also passed, and for whom there were therefore no vacancies, leaving 129 who were admitted.

The number of cadets now authorized by law is 371. There are therefore 34 vacancies. There will be many more before the end of the academic year. It is not possible to keep the corps of cadets full. I renew the recommendation of former reports that a moderate increase be made in the number authorized by law, such for example as would be obtained by appointing two at large from each State to be nominated by the Senators representing the State in Congress.

ACADEMIC DEPARTMENTS.

The heads of the various departments of instruction have kept abreast of all advances made in their special branches of knowledge and have not failed to introduce improvements when opportunity offered. In

the department of chemistry a new text-book upon chemistry, specially prepared by Professor Tillman for the use of cadets, was substituted for the book formerly in use. In the department of law and history Fisher's Outlines of Universal History was substituted for Myer's General History, Andrews Manual of the Constitution for Cooley's Constitutional Law, and the Elements of Law, specially prepared for the use of cadets by Professor Davis, was substituted for the Introduction to the Study of Law by the same author.

By the act approved February 10, 1897, it was provided that the senior assistant instructor of ordnance and gunnery receive the pay of captain mounted, as had previously been the rule with nearly every other department. The department of practical military engineering is now the only one in which the senior assistant receives no extra compensation. It seems but just that it should be placed upon the same footing in this respect as the others, and that the senior assistant should receive the pay of captain mounted.

THE LIBRARY.

During the year ending August 31, 954 volumes were purchased for the library and 375 volumes were presented to it, making a gain of 1,329 volumes. There being on hand a large number of duplicate copies of O'Connor's Science of War and Fortification, copies were sent, with the approval of the honorable Secretary of War, to the libraries of the War Department and of every military post in the country and to the officers on duty at West Point, the number of volumes thus distributed being 372. The net gain during the year was 957 volumes, besides 377 pamphlets, making the total number in the library September 1, 1897, 40,098 volumes and 6,509 pamphlets. There are in the library also large numbers of maps and charts, but these are now almost wholly unavailable for want of space to properly store and display them.

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 the library building. The need becomes more and more pressing each year. Full plans, specifications, and estimates for the work have been prepared. The necessity and urgency of this work is explained in the report of the librarian, hereto appended, marked B. The recommendation contained in former reports that the salary of the assistant librarian be increased from \$1,200 to \$1,500 per annum is renewed.

HEALTH.

The health of the command during the year was decidedly better than during the year before. There were, however, many cases of malarial fever and of influenza. Several cases of scarlet fever and of typhoid fever occurred, but by careful quarantine arrangements the diseases were prevented from spreading. Five deaths occurred among the civilians residing upon the post. One enlisted man, Sergt. Anthony Brechbiel, of Company E, Battalion of Engineers, lost his life in a gallant attempt to rescue others from drowning. The sanitary condition of the post is generally excellent. The principal exception is the cavalry barrack, and in that case the proper remedy is being applied under an appropriation made for the purpose, by the removal of enough of the rock on the west and north of the building to provide proper ventilation and drainage.

The report of the post surgeon is hereto appended, marked C.

DISCIPLINE AND DRILL.

The state of discipline and drill of the corps of cadets has been maintained at its usual high standard. On the 27th of April last the corps proceeded to New York and took a highly creditable part in the parade at the dedication of the Grant tomb.

ACCOUNTS AND SUPPLIES.

Attention is invited to the report of the quartermaster and commissary of cadets, hereto appended, marked D. The cost of subsistence during the year averaged a trifle over 52 cents per man per day, which is a slight reduction from the cost of the year before, while there was no reduction in the quality, variety, or abundance of the food provided. The other supplies furnished to cadets were of good quality, and the prices usually low. Further improvements were made in the management and in the outfit of the laundry.

ORDNANCE.

Important additions were made to the list of models and sample guns for the general theoretical instruction of cadets. The work of arranging the museum was completed, and the preparation of a classified catalogue was begun. Attention is invited to the report of the instructor of ordnance and gunnery, hereto appended, marked E.

I beg leave to repeat my remarks of last year upon the subject of the band and the master of the sword.

BAND.

By the act of March 3, 1877, the Military Academy band was reduced to one teacher of music and 24 enlisted men, which is its present authorized strength. Of the enlisted men six receive \$34 per month, six \$20, and the remaining twelve \$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 any one 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 sword master 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.

WATER SUPPLY.

In connection with the new reservoir, work was continued upon the main dam, the paving of the top and the construction of the overflow and spillway being nearly completed, and good progress was made in reclaiming the swamp west of the reservoir. The collection of water in the reservoir was begun in November, and during the winter it was filled. The excavation for the filter beds was completed and building the outside walls was begun. The new 12-inch main to supply the portion of the post south of the Academy building was laid, and the 6-inch branch to the new south gate was purchased and its laying nearly completed. Estimates are submitted for the completion of the dam and filter beds, and of the roadways, fences, keeper's dwelling, and other improvements connected with the reservoir. For further details attention is invited to the report of the instructor of practical military engineering, hereto appended, marked F.

BUILDINGS AND GROUNDS.

Improvement of the new portion of the post cemetery was begun. A new and additional entrance was constructed. The dilapidated old wall upon the south side was demolished and the work of reconstructing it upon a new and better line made good progress.

The old surface cable railway for transporting coal from the north dock to the top of the hill having been worn out was demolished. It is being replaced by a suspension cable way leading in a straight line from the coal shed at the top of the hill to a new dock constructed for the purpose, a short distance east of the old dock. It is to be worked by electric motors. A dock in the new location makes it possible to suspend the cable in a single straight line without interfering with the fire of the seacoast mortars. The new dock and the steel suspension tower resting upon it are completed. Work upon other portions of the structure is well advanced and progressing satisfactorily. It is expected that it will be completed before the arrival of the winter supply of coal.

A contract was let March 16, 1897, to Messrs. Dooley & Ayers, for the construction of the new guardhouse and gates near the southern boundary of the reservation to control the main entrance to the post from that direction. By the 1st of September the outer walls of the building were completed. It is expected that the guardhouse will be ready for occupation and the gates be completed at an early day.

A latrine for the use of the public, located below the level of the road northeast of the library building, was begun and nearly completed.

An addition to the schoolhouse for soldiers' children was built, providing a much-needed additional schoolroom.

A neat wooden building to accommodate the public photographer and the central telephone office was begun in rear of the gymnasium building and was nearly completed.

Many minor improvements were made. Attention is invited to the report of the quartermaster, hereto appended, marked G.

MEMORIAL HALL.

Work upon the construction of the Memorial Hall, which was begun in February, 1896, continued until about the end of November, when the contractors failed. As this happened near the close of the working season no very serious delay resulted. Arrangements were made with the American Surety Company, the contractors' bondsmen, to proceed with the work, which they did when the season opened in the spring. By the 1st of September the outer walls were completed and the iron-work of the roof in place. The work is now being energetically pushed. It can not be completed within the time fixed in the contract, December 1, 1897, but there should be no difficulty in completing it before June. Among my estimates this year is an item for a granolithic walk to connect this building with the system of paved walks of the post.

BATTLE MONUMENT.

One of the most interesting events of the year was the dedication on Memorial Day of the Battle Monument, the completion of which was mentioned in my last annual report. This monument was erected with funds provided by the voluntary subscription of 670 officers and 790 men of the Regular Army, representing all branches of the service, and civilian employees of the quartermaster's department in New Orleans. The total amount paid in was \$14,856.54, of which \$14,393.54 was subscribed in 1864, and the balance within the few subsequent years, the last subscription being one of \$15 in 1871. The money was carefully invested in bonds. By the year 1890, when active steps for building the monument were inaugurated, the fund had by the accumulation of interest been increased to about \$63,000. The monument bears the names of 188 officers and 2,042 enlisted men, being all of the Regular Army who were killed in battle or died of wounds received in battle during the war of the rebellion. Artistically it represents the genius of architects and a sculptor who have no living superiors. Its site is as commanding as any to be found here or perhaps anywhere. The dedication ceremonies were designated by the committee to be, and in fact were, entirely worthy of the monument. A full report of the proceedings, and of the previous history of the enterprise, is being prepared by the committee for publication and distribution to the Army.

ESTIMATES.

The estimates for the next fiscal year are, except for the omission of certain improvements provided for by Congress in the last appropriation bill, essentially the same as those of last year. They have been carefully prepared and are commended to favorable consideration. The necessity of each item is explained in the remarks attached thereto.

CONCLUSION.

In conclusion, I have to report that the Military Academy is doing the work assigned to it as thoroughly now as at any period of its history. Its equipment is better than it ever was before, and its professors

and officers are characterized by the same ability, industry, zeal, and patriotism for which they have always been distinguished.

Very respectfully, your obedient servant,

O. H. ERNST,

Colonel of Engineers, Superintendent.

The ADJUTANT-GENERAL U. S. ARMY,

Washington, D. C.

LIST OF APPENDIXES.

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

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 and of the post; 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 and of the post; disbursing officer.

First Lieut. WILLIAM WEIGEL, Eleventh Infantry, assistant to the quartermaster, and officer of police.

Second Lieut. HAROLD P. HOWARD, Sixth Cavalry, commissary and treasurer; in charge of post exchange.

Maj. GEORGE H. TORNEY, surgeon, U. S. A., surgeon.

Capt. CHARLES F. MASON, assistant surgeon, U. S. A.

Capt. FRANCIS A. WINTER, assistant surgeon, U. S. A.

ACADEMIC STAFF.

Professors whose service at the Academy, as professor, exceeds 10 years have the assimilated rank of colonel, and all other professors the assimilated rank of lieutenant-colonel.

DEPARTMENT OF TACTICS.

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

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

First Lieut. Granger Adams, Fifth Artillery, senior instructor of artillery tactics.

First Lieut. John H. Beacom, Third Infantry, senior instructor of infantry tactics, commanding company of cadets.

First Lieut. Samson L. Faison, First Infantry, assistant instructor of tactics, commanding company of cadets.

First Lieut. John J. Pershing, Tenth Cavalry, assistant instructor of tactics, commanding company of cadets.

Second Lieut. Jay E. Hoffer, Third Artillery, assistant instructor of tactics, commanding company of cadets.

Second Lieut. Julian R. Lindsey, Ninth Cavalry, assistant instructor of cavalry tactics.

DEPARTMENT OF CIVIL AND MILITARY ENGINEERING.

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

First Lieut. Thomas H. Rees, Corps of Engineers, assistant professor.

First Lieut. Francis R. Shunk, Corps of Engineers; First Lieut. Chester Harding, Corps of Engineers, instructors.

DEPARTMENT OF NATURAL AND EXPERIMENTAL PHILOSOPHY.

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

Capt. William B. Gordon, Ordnance Department, assistant professor.

First Lieut. Henry C. Davis, Third Artillery; Second Lieut. Joseph T. Crabbs, Eighth Cavalry, instructors.

Second Lieut. Harold P. Howard, Sixth Cavalry, in charge of observatory and astronomical observations.

DEPARTMENT OF MATHEMATICS.

Edgar W. Bass, professor (17 Apr., 1878).
 Wright P. Edgerton,¹ associate professor (1 July, 1893).
 First Lieut. Charles P. Echols, Corps of Engineers, assistant professor.
 Second Lieut. George Blakely, Second Artillery; Second Lieut. William M. Cruikshank, First Artillery; Second Lieut. David M. King, Fourth Artillery; Second Lieut. William P. Pence, Fifth Artillery; Second Lieut. Charles W. Castle, Sixteenth Infantry; Second Lieut. Thales L. Ames, Third Artillery; Second Lieut. Joseph Wheeler, jr., Fourth Artillery, instructors.

DEPARTMENT OF CHEMISTRY, MINERALOGY, AND GEOLOGY.

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

First Lieut. Edgar Russel, Fifth Artillery, assistant professor.
 First Lieut. George F. Landers, Fourth Artillery; Second Lieut. Palmer E. Pierce, Sixth Infantry; Second Lieut. William R. Smith, First Artillery, instructors.

DEPARTMENT OF DRAWING.

Charles W. Larned, professor (25 July, 1876).
 Second Lieut. Horace M. Reeve, Third Infantry, assistant professor.
 Second Lieut. Walter C. Babcock, Eighth Cavalry; Second Lieut. Jens Bugge, Third Infantry; Second Lieut. Charles H. Paine, Thirteenth Infantry, instructors.

DEPARTMENT OF MODERN LANGUAGES.

Edward E. Wood, professor (1 Oct., 1892).
 First Lieut. Charles H. Hunter, First Artillery, assistant professor of the Spanish language.
 First Lieut. Peter E. Traub, First Cavalry, assistant professor of the French language.
 Second Lieut. Samuel C. Hazzard, First Artillery; Second Lieut. William R. Smedberg, jr., Fourth Cavalry; Second Lieut. Edward B. Cassatt, Fourth Cavalry; Second Lieut. James M. Williams, First Artillery; Second Lieut. Francis Le J. Parker, Fifth Cavalry, instructors.

DEPARTMENT OF LAW AND HISTORY.

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. Walter A. Bethel, Third Artillery, assistant professor.
 Second Lieut. Frank G. Mauldin, Third Artillery; Second Lieut. Mathew C. Smith, Second Cavalry; Second Lieut. Samuel Hof, Sixth Cavalry, instructors.

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

Capt. James L. Lusk, Corps of Engineers, instructor (31 Mar., 1893).
 First Lieut. E. Eveleth Winslow, Corps of Engineers, assistant instructor.

DEPARTMENT OF ORDNANCE AND GUNNERY.

Capt. Lawrence L. Bruff, Ordnance Department, instructor (17 Aug., 1891).
 First Lieut. John T. Thompson, Ordnance Department, senior assistant instructor.
 Second Lieut. Henry D. Todd, jr., Third Artillery, assistant instructor.

CHAPLAIN.

Rev. Herbert Shipman (22 Apr., 1896).

Herman J. Koehler, master of the sword.
 George Essigke, teacher of music.

¹ Associate professor with the rank of captain.

UNITED STATES MILITARY ACADEMY.

11

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

Name.	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
<i>Lieutenant-colonels.</i>		
Wood, Edward E.	Professor (Oct. 1, 1892)	Aug. 28, 1889
Davis, George B.	Professor (Aug. 20, 1895)	Aug. 20, 1895
Fieberger, Gustav J.	Professor (May 4, 1896)	May 30, 1886
Hein, Otto L.	Captain First Cavalry, commandant of cadets.	June 15, 1897
<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
Wildner, Wilber E.	Fourth Cavalry	May 15, 1895
Gordon, William B.	Ordnance Department	Aug. 20, 1894
Edgerton, Wright P.	Associate professor (July 1, 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
Shipman, Herbert.	Chaplain (Apr. 22, 1896)	Apr. 25, 1896
Winter, Francis A.	Assistant surgeon, Medical Department.	Apr. 5, 1897
<i>First lieutenants.</i>		
Adams, Granger	Fifth Artillery.	July 15, 1895
Beacom, John H.	Third Infantry.	Aug. 31, 1897
Hunter, Charles H.	First Artillery.	Aug. 20, 1896
Rees, Thomas H.	Corps of Engineers.	Aug. 22, 1893
Thompson, John T.	Ordnance Department.	Aug. 20, 1896
Davis, Henry C.	Third Artillery.	Do.
Shunk, Francis R.	Corps of Engineers.	Aug. 20, 1895
Faison, Samson L.	First Infantry.	Oct. 22, 1896
Pershing, John J.	Tenth Cavalry.	June 15, 1897
Traub, Peter E.	First Cavalry.	Nov. 11, 1892
Russel, Edgar.	Fifth Artillery.	Aug. 22, 1893
Landers, George F.	Fourth Artillery.	Aug. 20, 1897
Winslow, E. Eveleth.	Corps of Engineers.	May 12, 1896
Weigel, William	Eleventh Infantry.	Apr. 9, 1894
Harding, Chester.	Corps of Engineers.	Aug. 20, 1896
Echols, Charles P.	do.	Aug. 20, 1895
Bethei, Walter A.	Third Artillery.	Aug. 20, 1894
<i>Second lieutenants.</i>		
Todd, Henry D., jr.	Third Artillery.	Aug. 20, 1894
Mauldin, Frank G.	do.	Aug. 20, 1896
Howard, Harold P.	Sixth Cavalry.	June 15, 1897
Crabbs, Joseph F.	Eighth Cavalry.	Sept. 7, 1896
Pierce, Palmer E.	Sixth Infantry.	Aug. 20, 1895
Blakely, George.	Second Artillery.	Aug. 20, 1896
Hoffer, Jay E.	Third Artillery.	Do.
Smith, William R.	First Artillery.	Nov. 11, 1895
Reeve, Horace M.	Third Infantry.	Aug. 20, 1895
Lindsey, Julian R.	Ninth Cavalry.	Nov. 27, 1896
Cruikshank, William M.	First Artillery.	Aug. 28, 1895
King, David M.	Fourth Artillery.	Aug. 20, 1896
Hazzard, Samuel C.	First Artillery.	Aug. 20, 1895
Smedberg, William R., jr.	Fourth Cavalry.	Aug. 20, 1896
Babcock, Walter C.	Eighth Cavalry.	Do.
Smith, Mathew C.	Second Cavalry.	Aug. 20, 1897
Cassatt, Edward B.	Fourth Cavalry.	Aug. 23, 1895
Pence, William P.	Fifth Artillery.	Aug. 20, 1897
Williams, James M.	First Artillery.	Aug. 20, 1896
Hof, Samuel.	Sixth Cavalry.	Aug. 20, 1897
Castle, Charles W.	Sixteenth Infantry.	Do.
Parker, Francis Le J.	Fifth Cavalry.	Do.
Bugge, Jens.	Third Infantry.	Do.
Paine, Charles H.	Thirteenth Infantry.	Do.
Ames, Thales L.	Third Artillery.	Do.
Wheeler, Joseph, jr.	Fourth Artillery.	Do.

TROOPS.

Battalion of cadets.

Lieut. Col. Otto L. Hein, captain, First Cavalry, commanding.
 Company A, First Lieut. John J. Pershing, Tenth Cavalry, commanding.
 Company B, Second Lieut. Jay E. Hoffer, Third Artillery, commanding.
 Company C, First Lieut. John H. Beacon, Third Infantry, commanding.
 Company D, First Lieut. Samson L. Faison, First Infantry, commanding.

Hospital corps.

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

United States Military Academy detachment of Army service men.

Capt. John B. Bellinger, A. Q. M., quartermaster, commanding.
 First Lieut. William Weigel, Eleventh Infantry.

Company E, battalion of engineers.

Capt. James L. Lusk, Corps of Engineers, commanding.
 First Lieut. E. Eveleth Winslow, Corps of Engineers.

United States Military Academy detachment of ordnance.

Capt. Lawrence L. Bruff, Ordnance Department, commanding.
 First Lieut. John T. Thompson, Ordnance Department.

United States Military Academy detachment of cavalry.

Capt. James Parker, Fourth Cavalry, commanding.
 Second Lieut. Julian R. Lindsey, Ninth Cavalry.

United States Military Academy band and detachment of field music.

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

HEADQUARTERS U. S. MILITARY ACADEMY,
West Point, N. Y., September 1, 1897.

Official:

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

B.

LIBRARY UNITED STATES MILITARY ACADEMY,
West Point, N. Y., August 25, 1897.

The ADJUTANT UNITED STATES MILITARY ACADEMY.

SIR: I have the honor to submit the following report in accordance with the provisions of Circular No. 26, Headquarters United States Military Academy, West Point, N. Y., August 4, 1897:

The increase of the library during the past year is as follows:

Number of volumes in library September 1, 1896.....	39, 141
Number of volumes purchased up to August 31, 1897.....	954
Number of volumes presented to the library to August 31, 1897.....	375

Making a total of.....	40, 470
By direction of the War Department copies of O'Connor's Science of War and Fortification were sent to the War Department library, to the libraries of every military post in the country, and to the officers on duty at West Point, amounting in all to.....	372

Leaving the total volumes in library September 1, 1897.....	40, 098
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The number of pamphlets in the library on September 1, 1896, was 6,132, to which there have been added during the year 377, making a total now in the library of 6,509 pamphlets.

The card cataloguing of the books of the library has been continued by Dr. Otto Plate, the assistant librarian, in the most intelligent and systematic manner, so that it is now possible for those who make use of the library to readily refer to any book contained in it. At the present time nearly 35,000 volumes have been classified, arranged upon their appropriate shelves, and catalogued by card, and there remains only about 5,000 volumes to complete the list. I can not speak too highly of the scholastic attainments, extensive literary knowledge, and peculiar fitness which make Dr. Plate so valuable as a librarian. Although designated as assistant, he very properly is deserving of all the reputation and the success which have accrued to the library in the past few years. The librarian proper under the Academy regulations is held responsible, but the active labors have been performed by the assistant, Dr. Plate, and I wish here to bear testimony to the great obligations which we all owe to him for his valuable services in so largely increasing the usefulness of the library to officers and cadets. I have heretofore earnestly recommended an increase in his compensation, and as a matter of simple justice to a valuable officer of the institution, I again renew my recommendation that his pay be increased to \$1,500 per annum. His predecessor, who, while he was a faithful servant, possessed none of the literary qualifications required of a modern librarian, received for many years over \$1,400 per annum, and it would therefore seem as a matter of equity that Dr. Plate should receive at least an equal compensation.

Nearly three years ago Congress provided an appropriation for the preparation of plans, specifications, and estimates for the renovation of the library building. In anticipation of the early action of Congress to make provision for this renovation no application has been made for repairs to the present building except in cases of extreme necessity. But if there is to be any further delay in carrying out this renovation it will become necessary to ask for a considerable sum to put the present building in complete repair, notwithstanding the fact that it does not serve the purposes of a modern library. It was built in 1841 for the main purpose of an observatory, of which a single large room was set apart for a library. In this room all the books were arranged on shelves, out of reach of the ordinary visitor, and the location of any books was known only to the attendants. The more important defects that at present exist are as follows, viz:

1. The roof is in a very bad condition, leaking in many places, especially in winter when the snow lies upon it for any time.
2. The ventilation is so imperfect that the attendants constantly complain that their health is affected. The underground cellar is damp and so illy ventilated that it affects the ventilation of the library room above.
3. The single library room is often so overcrowded during the hours when cadets are permitted to use the library that some provision should be made for additional room and facilities for officers. The book shelves are so badly contrived that more than three-fourths of the books are out of immediate reach of those who care to use the library.
4. The present system of lighting the library is exceedingly defective and should be remedied in the near future. The maps and drawings which the library possesses in great number are now almost wholly unavailable for ready reference for want of proper space to properly display them.

Thus the valuable assistance which the library should freely confer upon officers and cadets in aiding in their professional education is greatly curtailed by the defects of the present building. I therefore deem it my duty to submit a most earnest request that the renovation of the present building, which has already been carefully planned and determined upon, be asked for. In my opinion it is the most important need of the Academy at the present time and should no longer be deferred.

Very respectfully, your obedient servant,

P. S. MICHIE,

Professor of Philosophy, Librarian United States Military Academy.

C.

UNITED STATES MILITARY ACADEMY, CADET HOSPITAL,
West Point, N. Y., August 25, 1897.

To the ADJUTANT UNITED STATES MILITARY ACADEMY.

SIR: In compliance with the requirements of Circular No. 26, United States Military Academy, August 4, 1897, I have respectfully to submit the following statement of the work done in the medical department of the post of West Point, N. Y., during the fiscal year ending June 30, 1897.

The mean strength of the command is shown in the following table:

Officers	51.50
Cadets	298.58
Enlisted men	325.44
Civilians, officers and families, etc.	164.25
Civilians, soldiers, and employees' families	511.50

The number of sick treated during the year was as follows:

Officers in quarters	26
Cadets in hospital	1,096
Cadets in quarters	3,250
Enlisted men in hospital and quarters	518
Civilians and officers' families who have received treatment from the cadet hospital	1,305
Civilians and soldiers' families who have received treatment from the soldiers' hospital	1,364
Number of recruits examined	115
Number of recruits accepted	73
Number of recruits rejected	42
Births	31
Discharged for disability	4
Deaths:	
Officers	0
Cadets	0
Enlisted men	1
Civilians	5

Besides the cases of sickness included in the above statement, there were many others which do not appear on record except in the form of a prescription entry in one of the dispensaries of the post.

The average daily population of the post entitled to medical attendance was 1,351.27.

The epidemic of malarial fever which prevailed throughout the garrison during the spring of 1896 continued during the summer months and ended in November. This disease again became epidemic in March, and continued up to the end of the fiscal year. The cases, however, were less in number than during the season of 1895-96. No mortality resulted from the disease, the type not being severe, except in a few cases.

Epidemic influenza made its appearance on the post in January and continued until April, after which no cases came under observation.

During the month of January several cases of mumps occurred in the engineer company, and others amongst the civilian population on the post. This disease continued during February, March, April, and May to affect the civilians living on the post.

In April, scarlet fever made its appearance in the family of an enlisted man of the army service detachment living on the reservation and attacked his four children, resulting in the death of one girl, aged 6 years. In May, two cases of this disease developed in the family of an enlisted man of the cavalry detachment. One death resulted from this outbreak.

Every effort was made to prevent the spread of this disease through the garrison, and no other cases occurred up to June 30.

It is probable that the infection in both families was imported from some adjacent city or town.

The infection in the four cases of typhoid fever—one adult and two children, civilians, and one soldier, who was admitted to the soldiers' hospital from furlough in the fifth week of the disease—was traced to the adjoining town of Highland Falls, in which they had resided before coming under observation.

Acute pharyngitis and acute follicular tonsillitis prevailed among the members of the corps of cadets during the winter and spring months and caused a large number of admissions to the sick report.

In addition to the care of the sick and disabled the supervision of the hygiene and sanitation of the post has been carried on by the surgeon, under the direction of the commanding officer, as provided in A. R. 1393.

Very respectfully,

GEO. H. TORNEY,
Major and Surgeon, U. S. Army.

D.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
OFFICE TREASURER, QUARTERMASTER, AND COMMISSARY OF CADETS,
West Point, N. Y., August 25, 1897.

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 United States Military Academy, quartermaster and commissary of cadets, for the fiscal year ending June 30, 1897, 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 28 accounts, which were settled and inspected every two months, and which are exhibited by name in statement No. 2 of this paper.

The following statement (No. 1) was the last one made in this office prior to the expiration of the fiscal year 1895-96, and shows the assets and liabilities at the date when made, May 21, 1896:

Statement No. 1.

Assets.	Amount.	Liabilities.	Amount.
Assistant treasurer.....	\$34,546.37	Athletic association.....	\$93.57
Cadet cash.....	7.50	Cadet laundry.....	1,257.02
Dentist.....	130.00	Cadet quartermaster.....	8,894.72
Miscellaneous fund.....	19.31	Cadet subsistence department.....	780.97
Trust funds.....	20,000.00	Corps of cadets.....	10,001.43
Cash on hand.....	784.37	Deposits.....	100.00
		Young Men's Christian Association.....	11.55
		Equipment fund.....	33,972.00
		Dialectic society.....	163.99
		Gas fund.....	212.30
Total.....	55,487.55	Total.....	55,487.55

The following statement (No. 2) enumerates the 28 separate accounts; exhibits the total receipts and disbursements under each, between date of statement No. 1, above given, and that of statement No. 3, May 20, 1897:

Statement No. 2.

No.	Name.	Receipts.	Disbursements.
1	Assistant treasurer.....	\$173,772.39	\$173,085.26
2	Athletic association.....	1,478.70	1,666.38
3	Balances paid.....	22,032.47	22,032.47
4	Barber.....	607.85	607.85
5	Cadet cash.....	13,864.70	14,009.70
6	Hospital.....	2,461.58	2,461.58
7	Cadet laundry.....	10,399.61	10,289.79
8	Cadet quartermaster's department.....	76,175.84	74,696.63
9	Cadet subsistence department.....	60,505.75	60,833.56
10	Confectioner.....	294.00	294.00
11	Corps of cadets.....	205,155.72	204,902.47
12	Damages, ordnance.....	17.74	17.74
13	Dancing.....	515.30	515.30
14	Dentist.....	1,017.00	1,017.00
15	Deposits.....	14,977.66	14,587.66
16	Young Men's Christian Association.....	336.00	170.80
17	Dialectic society.....	676.00	508.38
18	Equipment fund.....	14,014.00	16,146.00
19	Expressage.....	22.64	22.64
20	Gas fund.....	1,249.50	1,249.50
21	Hops and german.....	1,549.76	1,549.76
22	Miscellaneous fund.....	22.94	2.39
23	Miscellaneous items.....	879.32	879.32
24	Oath.....	27.00	27.00
25	Paymaster.....	173,086.76	173,086.76
26	Periodicals.....	3.35	3.35
27	Photographer.....	70.50	70.50
28	Policing barracks.....	5,344.21	5,344.21

In the foregoing statement there is shown, under the head of disbursements, in accounts Nos. 2, 4, 6, 7, 8, 9, 10, 12, 13, 14, 16, 17, 18, 19, 20, 21, 23, 24, 26, 27, and 28 the total amounts expended, out of their pay, for the support and other authorized expenses of the corps of cadets during the year.

The following statement (No. 3), dated May 20, 1897, was the last one made during the fiscal year ending June 30 last, and exhibits the assets and liabilities of the treasurer at the date given:

Statement No. 3.

Assets.		Amount.	Liabilities.		Amount.
Assistant treasurer.....		\$33,859.24	Cadet laundry.....		\$1,366.84
Athletic association.....		61.09	Cadet quartermaster.....		10,373.03
Cadet cash.....		152.50	Cadet subsistence department.....		453.16
Trust funds.....		20,000.00	Corps of cadets.....		10,254.68
Cash on hand.....		1,155.38	Deposits.....		490.00
			Young Men's Christian Association..		176.75
			Equipment fund.....		31,840.00
			Dialectic society.....		271.61
			Miscellaneous fund.....		1.24
Total.....		55,228.21	Total.....		55,228.21

The members of the graduating class of 1897, 68 in number, were paid, on settlement of their accounts as cadets, \$18,450.07, an average per cadet of \$271.33.

The cadets going on furlough, 71 in number, were paid \$7,065, an average per cadet of \$99.50.

The 125 new cadets who entered this year deposited \$11,224.91, an average of \$89.79. This class was in debt on settlement of accounts, July 1, 1897, \$4,375.68.

During the year there was paid to cadets discharged and resigned \$5,151.49, of which \$2,379 was for travel pay and \$570.76 for transportation, the latter amount having been turned over to the treasurer by the quartermaster of the United States Military Academy for that purpose.

The expense to the corps of cadets for subsistence of cadets in hospital for the year ending April 30, 1897, was \$2,461.58, an annual cost to each cadet of \$7.85, or an average monthly cost per cadet of 65 $\frac{1}{2}$ cents.

CADET QUARTERMASTER'S DEPARTMENT.

The following exhibits the work of the department during the year:

Articles.	Manu- factured.	Repaired.	Articles.	Manu- factured.	Repaired
Dress coats, cadets'.....	280	342	Officers' trousers.....	110	.....
Dress coats, officers'.....	5	.....	Officers' trousers riding.....	1	.....
Fatigue coats, cadets'.....	500	663	Civilian clothing, suits.....	6	.....
Blouses, officers'.....	68	.....	White jackets.....	233	16
Overcoats, cadets'.....	160	356	Waiver jackets.....	34	21
Overcoats, officers'.....	7	.....	Civilians' overcoats.....	2	.....
Capes, officers'.....	9	12	White duck blouses.....	1	.....
Gray flannel trousers.....	142	.....	Chevrons.....	172	.....
Gray cloth trousers.....	573	709	Socks (pairs).....	.....	3,740
Gray riding trousers.....	82	.....	Shoes (pairs).....	.....	1,973
White duck trousers.....	1,150	1,211			

The foregoing, together with the supplying of articles of every description required by cadets, constituted the labor of the department during the year.

CADET SUBSISTENCE DEPARTMENT.

The subsistence of the cadets during the year has been most satisfactory as to quality, variety, abundance, and cost, the latter in the mess alone being for the year 50 $\frac{1}{2}$ cents per cadet per day; the cost to each cadet for the subsistence of cadets in hospital was 0.0218 cent per day; the total cost of subsistence in both cadet mess and cadet hospital was 52 $\frac{1}{2}$ cents per cadet per day; this same cost for the fiscal year ending June 30, 1896, was 53.1 cents per cadet per day.

CADET LAUNDRY.

The following exhibits the articles laundered during the year for individuals:

Bathing suits	22	Belts, shoulder	17,359
Belts, sword	2,533	Belts, waist	17,952
Blankets	260	Collars	100,699
Comfortables	111	Cuffs (pairs)	67,075
Drawers	31,269	Fatigue coats	15
Gloves (pairs)	34,512	Handkerchiefs	64,541
Jackets, white	2,447	Pillowcases	12,853
Sheets	21,515	Shirts, white	28,219
Shirts, night	11,181	Shirts, under	31,722
Socks (pairs)	34,448	Towels	58,604
Trousers, gray	97	Trousers, white	30,140

The following exhibits the articles laundered for the cadet hospital during the year:

Bandages	12	Bedspreads	430
Blankets	2	Mattress covers	3
Napkins	2,210	Pillowcases	2,258
Sheets	3,165	Shirts, hospital	26
Tablecloths	282	Towels	4,454

The total number of articles laundered for individuals and the cadet hospital amounted to 580,417. No account is kept of mess linen laundered.

The working condition of the laundry will be made more efficient by certain improvements enumerated in my annual estimates.

Respectfully submitted.

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

E.

WEST POINT, N. Y., August 30, 1897.

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 ending June 30, 1897.

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 the ammunition for gallery practice, and necessary targets for cadet practice, and attendance upon the same; the care and repair of the implements used in mechanical maneuvers, repairs of cadet arms and equipments, and the care and preservation of the trophy guns. Two model breechblocks have been made for each of the Hotchkiss R. F. gun and mountain rifle. A model shaper one-fourth size has been made for use in cadet instruction and for exhibition in the museum.

A new floor has been laid in the east storeroom, the walls and ceiling of same calcimined, the exterior walls of carpenter, machine, and paint shops painted two coats, and a shingle roof put on tool shed. The old boathouse has been torn down and preparations are in progress for erecting a new one.

Considerable work has been done in the museum in arranging and cleaning the models and the placing of a large number of projectiles where they can be easily seen and examined by visitors.

MUSEUM.

A large glass case and stand hermetically sealed, containing the remainder of the trophy flags, has been placed in the museum. The flags and projectiles are all numbered. Work on a classified catalogue, embracing the numbers and description of each object in the museum, has been started.

SMALL ARMS, ETC., RECEIVED.

One Winchester rifle, caliber .30, model 1895.

One Winchester rifle, caliber .44, model 1873.

These are used for cadet instruction and also for exhibition in the museum.

The Ordnance Department has also furnished two revolving racks for small arms and a supply of small arms, bayonets, revolvers, swords, and pikes for decorating the museum.

MODELS.

The following models have been received during the year:

One 3.2-inch caisson and limber, one-tenth size.

One 3.6-inch field carriage, one-tenth size.

One 3.6-inch field mortar carriage, one-tenth size.

One 7-inch siege mortar carriage, one-tenth size.

One 12-inch seacoast mortar carriage, one-tenth size.

These models are exact reproductions of the service carriages, and are very useful in cadet instruction. Work is in progress on models of a 12-inch rifle carriage and of a battery wagon and forge.

When these are completed the department will have working models of all the service guns and carriages, except the 12-inch mortar and part of the field equipment, for which estimates have been submitted this year.

Very respectfully, your obedient servant,

LAWRENCE L. BRUFF,

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

F.

WEST POINT, N. Y., *September 1, 1897.*

The ADJUTANT U. S. MILITARY ACADEMY,
West Point, N. Y.

SIR: I have the honor to submit the following report upon the different branches of work assigned to me for the year from September 1, 1896, to August 31, 1897:

PRACTICAL MILITARY ENGINEERING.

During October, 1896, and April, 1897, the classes of 1897 and 1898 were under instruction, and during July and August, 1897, the classes of 1898 and 1900.

The class of 1897 received instruction in abatis, bridge by successive pontoons, knots and lashing, fascine, hurdle, hoop-iron gabion, brush gabion, gabion revetment, sand-bag revetment, barrel revetment, wire entanglement (3 types), simple trench (one-sixth scale), simple trench (full scale), shelter trenches, various types, Russian gun pit, making palisading, planting vertical palisading, planting inclined palisading, gun platform, mortar platform, signaling (telegraphy), signaling with flag, model bridge train, use of reconnaissance instruments, mounted reconnaissance, flying trench (one-sixth scale), flying trench (full scale).

The class of 1898 received instruction in school of the boat, bridge by successive pontoons, making knots and lashing, trestle bridge on land, spar bridge (single lock), spar bridge (double lock), fascine, hurdle, hoop-iron gabion, brush gabion, gabion revetment, sand-bag revetment, barrel revetment, simple trench (one-sixth scale), simple trench (full scale), single full sap (one-sixth scale), single full sap (full scale), gun epaulement, B. L. gun (one-sixth scale and full scale), shelter trenches (various types), Russian gun pit, assembling and launching canvas pontoons, making palisading, planting vertical palisading, planting inclined palisading, gun platform, mortar platform, profiling and defilading, wire entanglement (3 types), signaling with flag, signaling with heliograph, flying trench (one-sixth scale), flying trench (full scale), double full sap (one sixth scale), double full sap (full scale).

The class of 1900 received instruction in school of the boat, making knots and lashings, assembling and launching canvas pontoons, trestle bridge on land, wire entanglement, bridge by successive pontoons, fascine revetment, gabion revetment, barrel revetment, sand-bag revetment, signaling with flag (sending and receiving).

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 has kept the seacoast, siege, and motar 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.

In connection with the extension of the waterworks it has also furnished field parties for the surveys and construction and two noncommissioned officers as overseers of working parties. It has also furnished from two to three teachers for the post school for soldiers' children and a like number for the post school for enlisted men.

The company participated in the inaugural ceremonies at Washington, D. C., on March 4, 1897, leaving the post on March 3 and returning on March 5. It joined the battalion at Jersey City on the morning of the 3d, and was detached at the same place on the afternoon of the 5th.

On April 27, 1897, the company joined the battalion in New York City and marched in the parade at the dedication of the General Grant Monument, returning to West Point the same day. On both occasions the conduct and bearing of the men were excellent.

The company is now 5 below the allotted strength. Four desertions occurred during the year, the company in each case being the gainer.

The physical condition of the men has continued excellent and the discipline of the company good.

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

WATER SUPPLY.

During the year water has been drawn for a few days at a time from Round Pond and the new reservoir, but, as in former years, the main reliance has been upon the Cascades and Cro Nest streams.

On September 23, 1896, Round Pond reached the stage of 5.5 feet, the lowest recorded since 1885. It has not since been drawn upon, and at this date the gauge reads 17.3 feet. It is desirable that this pond be not heavily drawn upon for the present, but that it be given a chance to overflow, which it has not done freely since June, 1893, the overflow of June, 1895, having been slight. The pipe line connecting the post with the Cascades stream and Round Pond has given no trouble during the year, and has required no repairs. The line of 6-inch pipe leading to Cro Nest Pond was opened near the middle of its length and a blow-off inserted.

This pipe was found so badly tuberculated that its original carrying capacity must be reduced by more than one-half. This is an unfortunate matter, for of the available streams the Cro Nest Brook furnishes the purest and clearest water, a large volume of which runs to waste every year for want of a suitable pipe or channel to carry it to the point of distribution. As soon as practicable funds should be secured for connecting this stream with the new reservoir by pipe or channel of requisite capacity.

NEW RESERVOIR.

The valves at the main dam were closed on November 19, 1896, and the following stages were recorded as the reservoir filled, the elevations being referred to the plane of mean low water:

	Feet.
November 30, 1896.....	299.5
December 31, 1896.....	305.1
January 31, 1897.....	308.4
February 28, 1897.....	313.3
March 31, 1897.....	320.0
April 30, 1897.....	322.0
May 31, 1897.....	324.1
June 30, 1897.....	324.0
July 31, 1897.....	324.6
August 31, 1897.....	324.3

The highest stage, 325 feet, was recorded on July 24. On account of the work in progress on the western swamp and spillway, it has been impracticable to allow the

reservoir to fill above 325, and the waste valve has frequently been opened to keep the water below that stage.

The stored water has steadily improved in color and transparency.

A chemical analysis made by Lieut. Palmer E. Pierce, Sixth Infantry, June, 1897, has showed a marked improvement in the quality of the water since last winter. As the reservoir has this season been filled for the first time since its completion, the water ought to have been at its worst and should improve with longer storage.

The work of the current season on the reservoir has resulted in the practical completion of the north connecting road, north dam, and the main dam except parapet walls, the overflow, and spillway, and a very important work for the preservation of the quality of water, in the filling of the swamp just west of the reservoir, thereby cutting off a very objectionable flow of dark-colored and foul-smelling water.

Work yet to be done, for which no funds are now available, includes placing parapet walls and fences where needed for safe travel along the boundary of the reservoir, removal of an area of shallow flottage on the east side of the reservoir just below the flow line (326), and taking out some soil and vegetable matter. An estimate of \$10,000 has been submitted for these features of the work.

The following table, computed by Lieut. E. E. Winslow, Corps of Engineers, gives the contents of the reservoir for each foot of rise up to the flow line (326):

Contours.	United States gallons to the foot.	Aggregate United States gallons.	Contours.	United States gallons to the foot.	Aggregate United States gallons.
295	0	0	311	3,009,000	93,571,000
296	1,352,000	1,352,000	312	3,110,000	96,681,000
297	1,377,000	2,729,000	313	3,210,000	99,891,000
298	1,418,000	4,147,000	314	3,309,000	103,200,000
299	1,478,000	5,625,000	315	3,408,000	106,608,000
300	1,562,000	7,187,000	316	3,505,000	110,113,000
301	1,681,000	8,868,000	317	3,605,000	113,718,000
302	1,828,000	10,696,000	318	3,706,000	117,424,000
303	1,992,000	12,688,000	319	3,810,000	121,234,000
304	2,158,000	14,847,000	320	3,917,000	125,149,000
305	2,314,000	17,161,000	321	4,026,000	129,175,000
306	2,447,000	19,608,000	322	4,137,000	133,312,000
307	2,569,000	22,177,000	323	4,251,000	137,563,000
308	2,685,000	24,862,000	324	4,369,000	141,932,000
309	2,796,000	27,658,000	325	4,490,000	146,422,000
310	2,904,000	30,562,000	326	5,114,000	191,536,000

REMOVAL OF SOIL AND PEAT.

Under the appropriation of \$7,500, for this purpose, work was continued until about November 1, 1896, when it was stopped by the exhaustion of the funds. The work done consisted in digging a deep ditch to keep the excavation free from water, providing movable plank roads, to carry the horses and vehicles, removing 15,190 cubic yards of soil and peaty matter from the low part of the reservoir basin, taking out a large number of stumps and roots, clearing brush from about 4 acres of the low area, and in spreading nearly 5,000 cubic yards of hardpan as a covering to the peaty deposit where its removal was prohibitory on account of its great cost.

The object in removing the soil and peat in question was to prevent its having a possibly deleterious action upon the water stored in the reservoir. Sufficient time has not yet elapsed to determine whether the desired result has been fully secured for all depths of the reservoir, but present indications are favorable. If the result should be unsatisfactory it will be necessary to remove the entire deposit of peat, or to increase the thickness of the hardpan covering. The former will be expensive, but certain; the latter less costly, but somewhat in the nature of an experiment.

NEW FILTER BEDS.

Under the appropriation of \$25,000 for constructing a set of filter beds, the site has been cleared, the trenches for the outside walls excavated, a large quantity of stone quarried, and a portion of the walls built. The excavation has been difficult and costly, but not more so than was anticipated. The connection with the new reservoir has been completed, and contracts for building materials have been made on advantageous terms. It is expected that the masonry walls will be finished by the time freezing weather sets in.

The original estimate for this work was \$40,000, but only \$25,000 has been appropriated; it is probable that the total cost will be increased by \$1,000 on account of the masonry having to lie over for one year in an unfinished condition. An estimate has been submitted for the amount deemed necessary to complete the work.

NEW SUPPLY MAIN.

Under the appropriation for this main contracts for material were made early last spring and promptly filled. The work of pipelaying has been pushed by the post quartermaster, and the greater part of it is now finished.

MEMORIAL HALL.

During the year this building has slowly approached completion, much time having been lost by the failure of the contractors and in the preparation for a resumption of work by the sureties. At this date the main walls are practically finished and most of the roof trusses in place. Considerable progress has been made with the interior finish and fittings. The work done appears to be of good character.

CONCLUSION.

In conclusion, I desire to express my appreciation of the faithfulness and ability with which First Lieut. E. E. Winslow, Corps of Engineers, has performed his duties as an officer of Company E, Battalion of Engineers, as assistant instructor in the department of practical military engineering, and as assistant engineer upon the extension of the waterworks.

Very respectfully,

JAS. L. LUSK,

Captain, Corps of Engineers, Instructor of Practical Military Engineering.

(A.)

	1896.				1897.							
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.
Average strength of company.....	93	90	92	98	99	95	94	95	95	96	97	96
Average strength of guard detail.....	12	12	12	12	12	12	12	12	12	12	12	12
Fatigue days.....	24	23	25	24	22	22	21	23	22	24	24	24
Infantry drills.....	4	3	4	3	3	13	4	12	4	2	11	12
Signal drills.....	4	3	2	0	2	2	2	2	4	2	8	11
Engineering drills.....	5	3	5	3	3	4	4	1	3	5	8	9
Gymnasium drills.....	0	0	1	3	4	3	4	3	7	5	0	0
Average attendance at drills.....	38	38	40	34	36	47	46	33	33	40	42	42
Target practice, days.....	5	7	0	0	0	0	0	0	0	0	0	0
School days.....	0	0	20	22	20	20	17	0	0	0	0	0
Average attendance at school.....	0	0	22	25	17	19	19	0	0	0	0	0

G.

QUARTERMASTER'S OFFICE, UNITED STATES MILITARY ACADEMY,
West Point, N. Y., August 25, 1897.

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 ending June 30, 1897, prepared in accordance with instructions from your office, dated August 4, 1897:

QUARTERMASTER'S DEPARTMENT, UNITED STATES ARMY.

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

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:

Ward & Olyphant: 600 tons egg coal, 1,100 tons stove coal, 300 tons chestnut coal.

Max Morgenstein: 200 cords hard wood.

Clark & Wilkins: 25 cords soft wood.

John F. O'Brien: 600,000 pounds oats, 40,000 pounds middlings, 40,000 pounds bran, 400 tons hay, 100 tons straw.

The increased number of draft animals allowed during the year has proved very advantageous and greatly increased the efficiency of the department. The new coal wagons have also been of great service and have proved to be most satisfactory, enabling coal to be delivered with much less work and in a manner more satisfactory to the officers.

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	Probst Construction Co.	Jan. 22, 1896	Memorial Hall.
2	Westmoreland Coal Co.	June 5, 1896	1,700 tons gas coal.
3	Ward & Olyphant.	June 8, 1896	4,600 tons anthracite coal.
4	James Weyant.	June 6, 1896	50 cords hard wood.
5	Martin S. Adams.	do	1,500 bushels charcoal.
6	Wm. H. Ladue.	July 31, 1896	Addition to the schoolhouse for enlisted men's children.
7	Dooley & Ayers.	Mar. 16, 1897	Guardhouse.
8	Warren Foundry and Machine Co.	Mar. 23, 1897	Cast-iron pipe and special casting.
9	Joseph H. Miller.	May 26, 1897	Hauling.

The Probst Construction Company, the contractor for the construction of the Memorial Hall, having passed into a receivership, the contract is being completed by its bondsmen, the American Surety Company of New York. All the other contracts have been completed, or work under them is being carried on in a satisfactory manner.

The following buildings have been repaired, etc.:

Cadet mess building, cadet quartermaster's building, gymnasium, cadet guardhouse, cadet barracks, cadet hospital, soldiers' hospital, band barracks, cadet sinks, quartermaster's stables and barn, Company E, engineer's barracks, engineer equipment shed, ordnance laboratory, cavalry stables, hospital stewards' quarters, and cavalry barracks.

An additional appropriation for the construction of a guardhouse at south gate having been obtained for the fiscal year 1898, making a sufficient amount available, a contract has been made for its construction. Work is progressing, and the building should be completed by October 1.

The repair and improvement of the Army service detachment barracks has been completed, making in its improved condition a very satisfactory barracks.

The appropriation, \$2,000, for the repair of the south dock was so entirely insufficient that it was not deemed advisable to commence the work of reconstructing the dock, as it could not be accomplished with the amount appropriated. The money was expended in making temporary repairs absolutely necessary to make the dock safe for use this season, and in the purchase of materials which will be used for rebuilding the dock when additional appropriation is made. The repair of this dock is imperative, as in its present condition it is extremely dangerous. The request of an additional appropriation of \$22,000 for the fiscal year 1898 is recommended.

The rebuilding of the ordnance boathouse is now in progress.

The latrine at cadet camp has been enlarged to about twice its original size and equipped with modern and sanitary plumbing throughout.

No satisfactory proposal being received for the construction of the public latrine, it is now being constructed by day labor.

The stone wall at the cemetery is being rebuilt, and the wrought-iron gates formerly used at the south gate have been repaired and set up at the new entrance to the cemetery.

The stone wall, for about 1,000 feet on the east side of the road from the cross-roads to Highland Falls, has been rebuilt.

Granolithic pavement was laid from the main walk to the bachelors' quarters.

Attention is again invited to the method of paying the permanent civilian employees adopted July 1, 1896. The duty of paying the additional pay to officers, the extra-duty pay to enlisted men, and the pay of civilians provided for by the act making appropriations for the support of the Military Academy, was then transferred to the pay department. The transfer of the first two appears desirable, as it relieves this office of the necessary clerical work of preparing the rolls and vouchers and does not materially increase the clerical work of the companies, requiring only the additional note on the muster and pay rolls to cover the payment of the extra-duty pay.

The transfer of the payment of the civilian employees is not, in my opinion, advisable, as it unnecessarily increases the work both of this office and that of the paymaster designated to make the payment without any corresponding advantage. Prior to the change all the regular civilian employees were paid on the monthly rolls, with those temporarily hired, such as painters, carpenters, and mechanics of all kinds, as well as the laborers. The money was drawn from the Treasury at the same time and one pay day answered for all, the 27 permanent employees entailing very little additional work in paying several hundred men. Under the present arrangement rolls (in triplicate) must be prepared by this office and the signatures thereon be obtained as before. These rolls are forwarded by the superintendent to the paymaster, who is obliged under the regulations to put each man's pay in a separate envelope, marking the envelope with the man's name and its contents, etc., and then forward same to the superintendent. He transmits the package to the disbursing officer, who distributes the envelopes to the employees, seeing that each envelope is correct.

This system, it will be seen, makes the work performed by the pay department entirely additional and unnecessary and at the same time increasing the work of this office.

I would recommend that the matter be brought to the attention of the adjutant general, with a view of having the civilian employees paid, as heretofore, by this office.

Statement of the receipts and disbursements for the fiscal year ending June 30, 1897, 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 current fiscal year the sum of \$6,500 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 following statement shows the increase in the amount of gas manufactured in the last three years, and the coal consumed. The amount appropriated for the purchase of gas coal, oil, etc., for the fiscal year 1898 has been increased from \$5,000 to \$6,500, and it is hoped that this will be sufficient to cover the purchase of the coal and oil required.

Gas manufactured from July 1, 1894, to June 30, 1895, inclusive.....	feet..	14, 264, 800
Coal used from July 1, 1894, to June 30, 1895, inclusive	pounds..	3, 503, 300
Gas manufactured from July 1, 1896, to June 30, 1897, inclusive.....	feet..	15, 859, 600
Coal used from July 1, 1896, to June 30, 1897, inclusive	pounds..	3, 902, 700

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 ending June 30, 1897.

Balance on hand July 1, 1896.....	\$1,299.45
Received since:	
Regular supplies.....	24,892.11
Incidental expenses.....	11,035.08
Army transportation.....	6,227.64
Sales to officers.....	4,127.00
Sales at auction.....	202.25
Total to be accounted for.....	47,783.53
Disbursed:	
Regular supplies.....	25,079.25
Incidental expenses.....	11,069.29
Army transportation.....	6,227.24
Deposited.....	4,387.05
Balance on hand June 30, 1897.....	1,020.70
Total.....	47,783.53

B.—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, 1897.

Date.		Current and ordinary expenses.	Miscellaneous and incidental expenses.	Buildings and grounds.	Memorial Hall.	Total.
	Cr.					
July 1, 1896...	Balance on hand, fiscal year—					
1895.....						\$2,969.32
Do.....	1896.....	\$16,395.45	\$3,778.21	\$2,969.32		23,456.41
Do.....	Memorial Hall.....				\$31,633.25	31,633.25
June 30, 1897.	Received since fiscal year—					
1894.....		25.20				25.20
Do.....	1896.....	25.20		40.00		65.20
Do.....	1897.....	60,050.00	15,000.00	35,000.00		110,050.00
Do.....	1897-98.....			25,000.00		25,000.00
Do.....	Memorial Hall.....				100,000.00	100,000.00
	Total.....	76,495.85	18,778.21	66,292.07	131,633.25	293,199.38
	Dr.					
June 30, 1897.	Disbursed, fiscal year—					
1895.....				1,889.06		1,889.06
Do.....	1896.....	11,038.22	3,344.20	2,580.74		16,963.16
Do.....	1897.....	55,836.60	13,835.33	32,312.20		101,984.13
Do.....	1897-98.....			14,999.52		14,999.52
Do.....	Memorial Hall.....				99,442.84	99,442.84
Do.....	Deposited, fiscal year—					
1894.....		25.20				25.20
Do.....	1895.....			1,080.26		1,080.26
Do.....	1896.....	1,706.81				1,706.81
Do.....	Balance on hand, fiscal year—					
1896.....		3,675.62	434.01	742.01		4,851.64
Do.....	1897.....	4,213.40	1,164.67	2,687.80		8,065.87
Do.....	1897-98.....			10,000.48		10,000.48
Do.....	Memorial Hall.....				32,190.41	32,190.41
	Total.....	76,495.85	18,778.21	66,292.07	131,633.25	293,199.38

C.—Statement of receipts and expenditures pertaining to the special contingent fund, United States Military Academy, from July 1, 1896, to June 30, 1897.

	Gas works.	Rents, etc.	Total.
Balance on hand July 1, 1896	\$905.99	\$519.53	\$1,425.52
Received since:			
By rent of—			
West Point Hotel		1,750.00	
Post-office		175.00	
Stables		75.00	
Store (retiring house)		350.00	
By sale of—			
Gas	5,124.68		
Coke	694.53		
Coal tar	440.00		
Junk		27.43	
Miscellaneous		140.00	
	6,529.21	2,517.43	8,776.64
Total to be accounted for			10,202.16
Disbursed	6,427.15	2,951.29	9,378.44
On hand June 30, 1897			823.72
Total accounted for			10,202.16



