

ANNUAL REPORT
OF THE
SUPERINTENDENT OF THE
UNITED STATES
MILITARY ACADEMY

1910



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SUPERINTENDENT, UNITED STATES MILITARY ACADEMY.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., July 31, 1910.

SIR: I have the honor to submit the following report of the United States Military Academy for the year ending June 30, 1910:

I have performed the duties of superintendent throughout the year, except while absent for a few periods on business pertaining to the Military Academy.

PERSONNEL.

The number of officers and instructors on duty here at the present time is as follows:

Professors.....	8
Acting professor.....	1
Associate professors.....	2
Other commissioned officers.....	82
Librarian.....	1
Master of the sword.....	1
Chaplain.....	1
Contract dental surgeons.....	2
Teacher of music.....	1
Civilian instructors of languages.....	4
Civilian instructors in fencing, broadsword exercises, and other military gymnastics.....	3
Total.....	106

The total on August 31, 1909, was 111.

The difference in total between this year and last is accounted for by the relief of Col. O. M. Lissak, who was relieved on October 22, 1909; Capt. J. W. Beacham, jr., Ninth Infantry, Lieuts. A. J. Hanlon, Twenty-eighth Infantry, and W. C. Philoon, Fourteenth Infantry, all on temporary duty, and who were relieved November 30, 1909; and Capt. J. S. Herron, Second Cavalry, adjutant, United States Military Academy, relieved and replaced by Capt. O. J. Charles, Seventeenth Infantry, on duty in the tactical department.

The accompanying roster (Appendix A)^a gives the names of all officers and the particular duties they perform.

The authorized strength of the Corps of Cadets is 533, and 5 foreign cadets receiving instruction under the provisions of joint resolutions of Congress:

Cuba.....	2
Costa Rica.....	1
Ecuador.....	1
Venezuela.....	1
Total.....	5

The academic year opened with 413 cadets on the rolls of the academy, divided among the four classes as follows:

First class.....	85
Second class.....	96
Third class.....	101
Fourth class.....	131
Total.....	413

The number of cadets discharged, resigned, dismissed, and graduated during the year is as follows:

Discharged for deficiency in studies.....	48
Discharged for physical disability.....	7
Resigned.....	4
Dismissed.....	9
Graduated.....	82
Died.....	1
Total.....	151

The usual examination of candidates for admission was held at the various army posts beginning January 12. A supplemental examination was also held at West Point beginning February 23. A special examination was ordered by the Secretary of War, and held at West Point beginning March 1 for the reexamination of a candidate. For these examinations there were appointed 505 candidates, including principals and alternates, and including also 21 former cadets. This number was disposed of as follows:

Failed to report.....	114
Failed to complete the examination.....	11
Rejected by the medical board, being qualified mentally.....	6
Rejected mentally, being qualified physically.....	153
Rejected both mentally and physically.....	63
No vacancies for qualified alternates.....	5
Appointments canceled.....	2
Appointments declined.....	8
Qualified and admitted.....	143
Total.....	505

^a See page 25.

The names of 23 candidates appeared on lists of candidates appointed for the January and February examinations.

Admissions were as follows: In March, 144, including 1 foreign cadet and 1 Filipino cadet.

The following table gives the number of those admitted on examination, prior qualification, etc.:

Admitted on examination (96 principals and 26 alternates).....	122
Admitted on prior examination (4 principals and 1 alternate).....	5
Ex-cadets admitted (physical examination only).....	15
Ex-cadet admitted (physical and mental examination).....	1
Foreign cadet.....	1
<hr/>	
Total.....	144

It will be seen that of the total number of candidates appointed 114 failed to report for the examinations as compared with 116 last year. This operates with other causes to make a shortage in the corps of 125 below its authorized strength. The Congress has passed a bill enlarging the Corps of Cadets by one-fourth, effective July 1, 1910, and it is believed that a much larger class will report here on March 1 than ever before. The barrack room and mess hall facilities are ready, with the exception of necessary tables and the table and kitchen utensils in the mess hall; an estimate for the money for these has been submitted to Congress. This law for the increase of cadets was limited to a period of six years at the instance of one Senator.

It is recommended that when there is a vacancy after examination is concluded in any congressional district, or at large in any State, that it be filled by the appointment of the alternate in that State who has received the highest mark at examination and whose principal has been appointed.

HEALTH.

Attention is invited to the report of the surgeon herewith, marked "Appendix B." ^a Lieut. Col. Charles M. Gandy, after a most successful tour of duty of four years, will be relieved on August 10, 1910, and Lieut. Col. F. R. Keefer, Medical Corps, will assume the duties of surgeon at West Point. The surgeon's report describes the work accomplished during the year, and the results obtained by this officer have been highly satisfactory. The hospitals have been kept in an immaculate condition, and that no epidemics have been allowed to gain headway among the cadets, officers, enlisted men, and their families is due to the wise foresight and watchfulness of Colonel Gandy and his devoted assistants. I join with Colonel Gandy in his commendation of their services. Their skill, devotion, and loyalty have been most praiseworthy and adequate.

^a See page 31.

The cadet shoe has continued to give great satisfaction, and the use of the cadet last is spreading to other places. The Chief of Staff and the Inspector-General of the Army wear the shoes made from this last, and the members of the Seventh Regiment and Squadron A, National Guard of the State of New York, also wear them. Two kinds of this shoe are used, one of dry leather for garrison use and one of oil-tanned leather for the field. It is believed that West Point has now a shoe based upon the proper principles for the first time in its history. It is contemplated to introduce, on the recommendation of the surgeon, an inexpensive, light, summer canvas shoe on the same last for the use of cadets when off duty during camp, and a dancing pump is also being built on the cadet last. The cadet foot will thus have an opportunity to become cured of its troubles without the setback caused by using dancing pumps of improper shape.

CADET PAY AND ALLOWANCES.

The report of Capt. William R. Grove, treasurer and quartermaster and commissary of cadets, is marked "Appendix C." ^a

The cadet mess has maintained its high state of efficiency under Captain Grove. The kitchen and other portions of the building are a revelation to thousands of visitors coming to the academy every year. It is gratifying to note that, notwithstanding the rise in cost of labor and food products throughout the country, the cost to the cadet has only increased 1 cent a day, while the service and food have apparently been the same.

The proposed increase in the Corps of Cadets will make necessary the building of the new cadet store, the erection of which will be begun in the near future.

A dry-cleaning plant has been added to the laundry, which is under the charge of this officer, and the results derived from it have been very satisfactory.

Heretofore it has been considered sufficient for the commissary officer in charge of the cadet store and mess to be bonded only as are all other commissary officers, but owing to the different nature of the funds a separate bond for \$15,000 has been deposited with the superintendent for this officer and one for \$10,000 for his clerk. The accounts as formerly rendered by this officer were the evolution of many years, antiquated and difficult to audit. A civilian expert was brought here to study these accounts with a view to making them less cumbersome and more up to date. The results of his work, with Captain Grove's assistance and experience, were inspected by Mr. Kent, of the Inspector-General's Department, and were thereupon submitted to the War Department for approval. The system goes into effect on August 1.

^a See page 42.

Through the yearly appropriations of Congress the tiling of the various rooms pertaining to the mess has gone steadily on from year to year and is now complete.

DISCIPLINE.

The discipline since the last report has been in general satisfactory. A very few cases only of hazing have been developed. Those mentioned in the last report of the superintendent brought out a change in the law of Congress on this subject, and the regulations made thereunder make the penalty in most cases less severe. The former severity of punishment under the law was such as to make it difficult to carry out these punishments in cases of conviction, and efforts were made to return cadets to the academy by special laws who had been formerly dismissed, but these laws failed of enactment. The constant uncertainty of result, however, kept affairs in a continual turmoil, and had the enactment succeeded would have dealt a severe blow to the discipline. Four cadets were tried by court-martial for offenses connected with the introduction of whisky in the barracks in June, the results of which have not yet been published.

The present encampment has been most tranquil, and no case of hazing or other unusual breach of discipline has so far been reported.

DEPARTMENT OF TACTICS.

The commandant of cadets, Lieut. Col. Frederick W. Sibley, Fourth Cavalry, submits his report on the work accomplished in his department. (Appendix D.)^a

The instruction of cadets in practical infantry exercises is up to the usual standard.

The pack train which was sent through the kindness of the Quartermaster-General of the Army for station here has, under the immediate command of Capt. C. P. Summerall, Second Field Artillery, been kept busy during the past year; it is exercised on the road five times a week, each mule carrying from 250 to 280 pounds. The rigging fits well, and the mules are lean-hard, muscular, and docile. The packers are well drilled, have a high esprit, and the train is in readiness for service whenever needed. The cadets are taught to set up and adjust the aparejos, to throw the various hitches, and to keep the train in proper condition. They go out as cavalry, infantry, field or mountain artillery, accompanied by the train, camping out on Friday nights, and are taught its importance in the supply of food and ammunition, and are practiced in the service of the train in all its parts. This knowledge filters down into every corps and organization in the service, and it is believed that this train renders better

^a See page 44.

service to the Government in this manner than it could at any other station in time of peace.

The following report of a practice march on June 24 gives a sample of the practical work in this line:

DEPARTMENT OF TACTICS,
DETACHMENT OF FIELD ARTILLERY,
June 25, 1910.

The COMMANDANT OF CADETS.

SIR: I have the honor to report that the detail of the first class left the camp at 3.10 p. m. June 24 and marched as a battery to Round Pond. Before leaving camp instruction was given in packing and carrying the service kit as prescribed by General Orders, No. 142, War Department, 1909, and, except for the long tent poles, the packs were properly made and attached to the saddles. The cadets drove all teams and acted in the capacity of officers and noncommissioned officers. A detail accompanied the pack train for practice in working the train. Camp was made, and the regular routine of forming park, unhitching and unharnessing, establishing picket lines, pitching tents, digging latrines and kitchen sinks, grooming, watering, and feeding horses, and caring for equipments was carried out. After supper the detail was assembled and a talk was given on selecting and making a camp, care of water, sanitation, camp routine, grooming, watering and feeding horses, treatment of injured animals, pitching and ditching tents, and order and discipline on the march. This morning the routine of a mounted command was carried out and the battery broke park at 8 a. m. A simple problem of occupying a screened position, involving difficult driving, was executed on the return march, and the battery reached the camp at 11.05 a. m. The members of the detail manifested the most gratifying interest and efficiency in the work, and it is believed that all must have profited greatly by the experience.

Lieutenant Allin accompanied the battery and rendered valuable assistance in every way.

No article of property was lost.

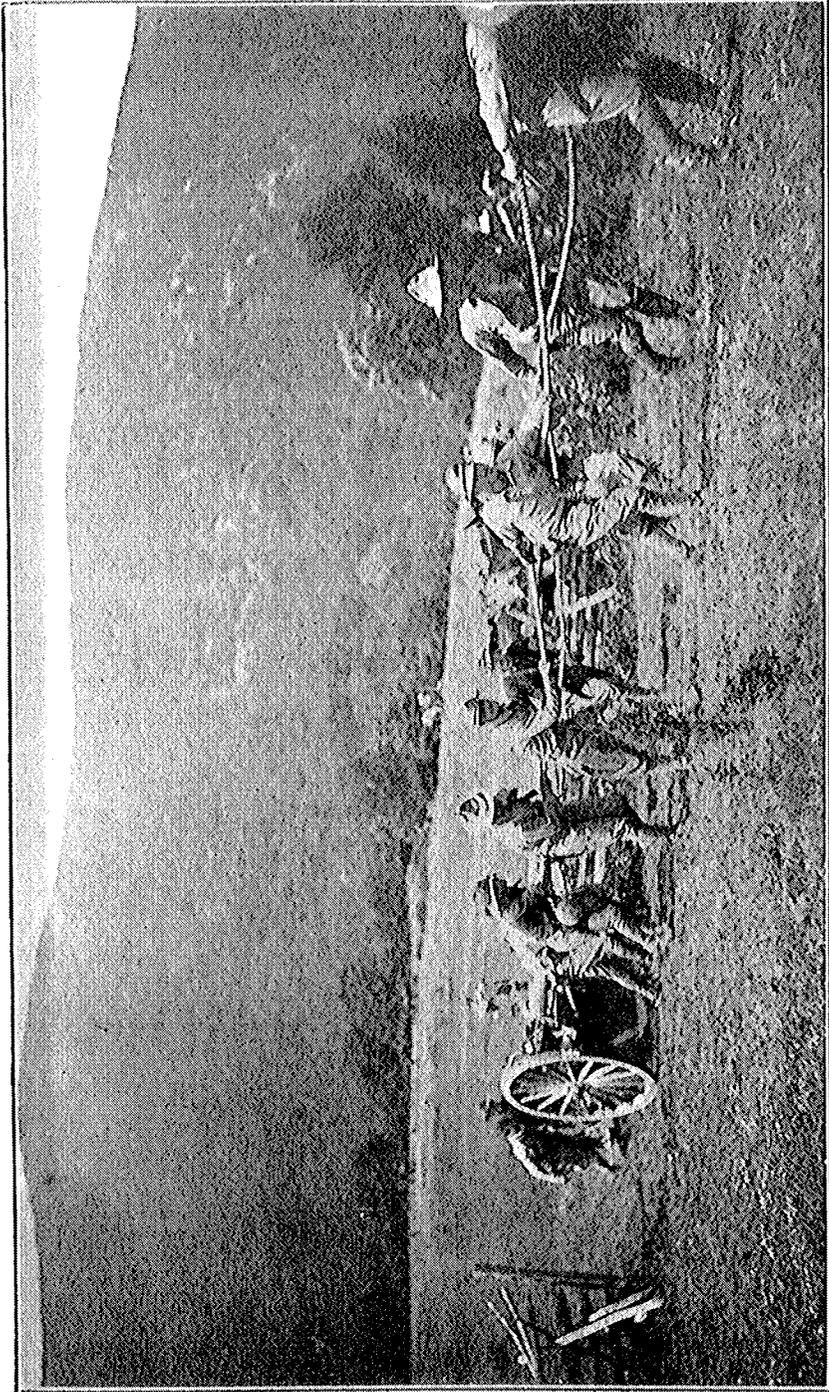
Very respectfully,

CHAS. P. SUMMERALL,
Captain, Second Field Artillery, Senior Instructor of Artillery Tactics.

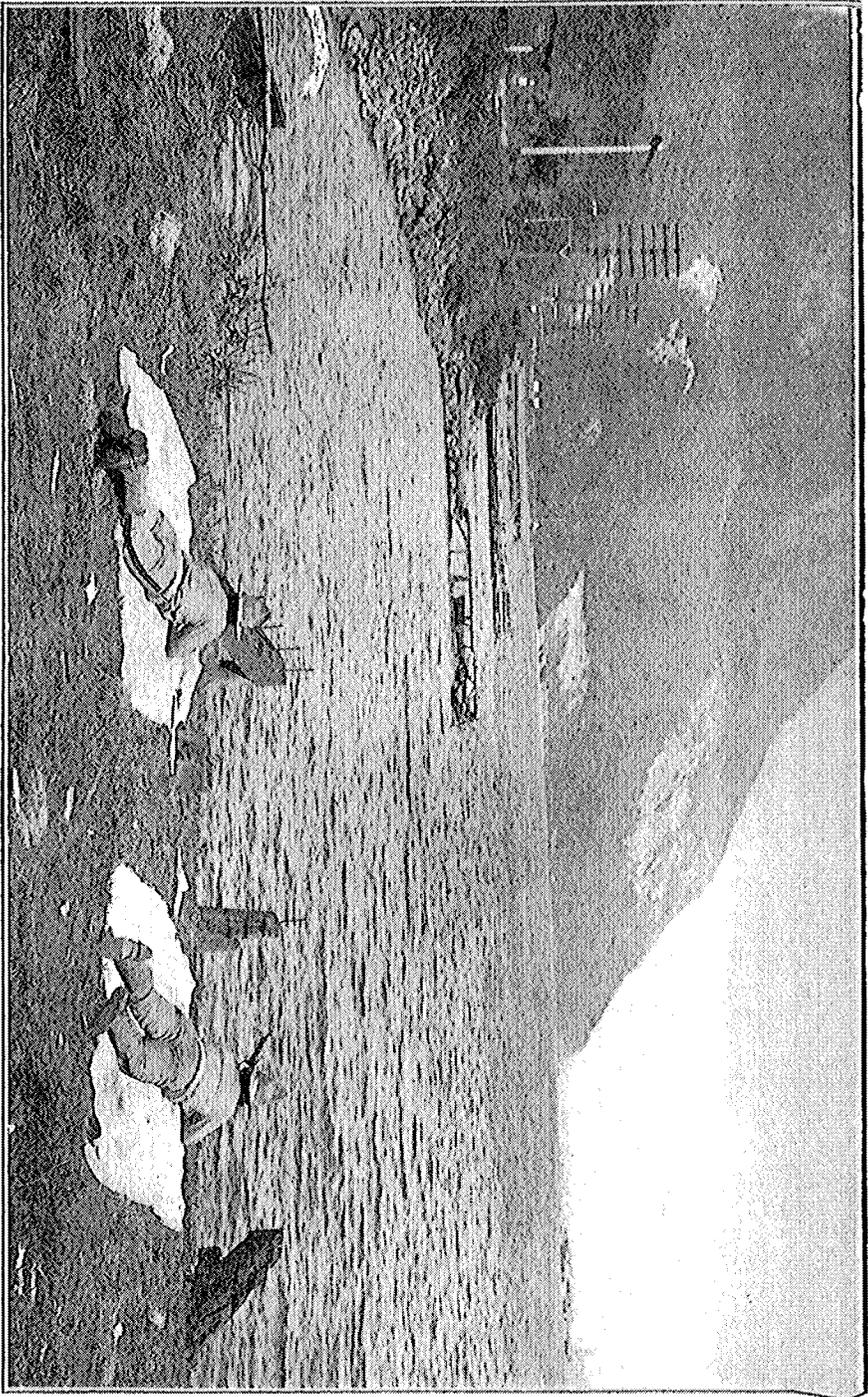
TARGET PRACTICE.

The Military Academy has long suffered for the want of an adequate target range. Three years ago a board of officers was detailed to search for a practicable range and a report was made by it that such a range could not be found, but the board made a recommendation to straighten the tracks of the West Shore Railroad near the present range. Negotiations were held with the railroad officials, covering several years, with the object of getting them to straighten the tracks for the benefit of the railroad, as is being constantly done by other roads. The railroad authorities stated that it would cost \$166,019.50 to straighten the tracks, and a proposal was made for the Government to pay one-half of this expense, plus an additional sum of \$39,000, the cost of filling in the space between the tracks and the range, a total expense of \$122,009.75 to the Government. This proposal was rejected.

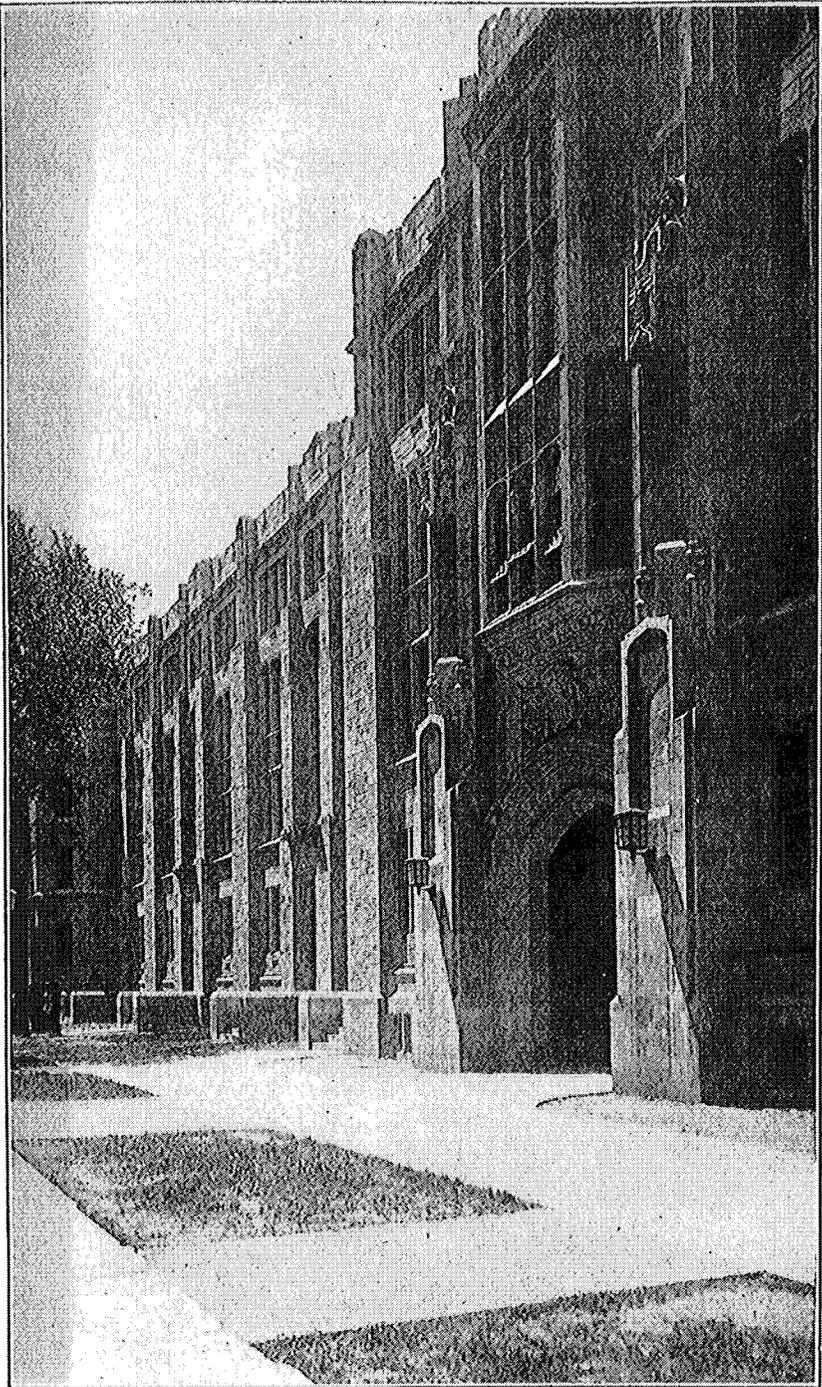
In the spring of this year Capt. Oscar J. Charles, Seventeenth Infantry, the adjutant of the Military Academy, discovered that by



FIELD ARTILLERY PRACTICAL INSTRUCTION.



TARGET PRACTICE AT 1,000-YARD RANGE.



NORTH CADET BARRACKS.

cutting some trees and using the gardens of the army service and engineer detachments a fine range 1,000 yards long, with a mountain for a bullet stop, and but little farther than the present range from the cadet barracks, could be secured. This was reported upon by a board of officers, which set forth that a good range could be made for \$1,200, and for \$10,000 a range that would be equal to that of any national guard range. Twelve hundred dollars has been secured from the War Department to initiate this work, and it is hoped to secure the additional amount on the next Military Academy appropriation bill.

The target record of cadets has progressively improved for the past five years, and there has now been provided in the new gymnasium a gallery 180 feet long where gallery practice can be held during the spring, fall, and winter months, which should enable the cadet target record to be raised to the highest point. It has been the practice to teach every man the utmost in this branch. It would greatly interfere with many other branches of instruction if teams were permitted to go away to shoot at the various matches. The superintendent of the Naval Academy has informed the superintendent of the Military Academy that this is the last year it will be permitted at the Naval Academy for the same reason.

PRACTICAL INSTRUCTION.

The first class visited Sandy Hook proving ground and Fort Hancock, N. J. The armament at the proving ground was inspected and firings were witnessed in accordance with a program arranged by the commanding officers of those posts. During the same month the class also visited Watervliet Arsenal, N. Y., for the purpose of inspecting the armory and witnessing the various operations in the shops.

The appreciation of the officers and cadets of this post are expressed for the great courtesy shown by Col. John V. White, Coast Artillery Corps, Col. Rogers Birnie, Ordnance Department, and Col. W. W. Gibson, Ordnance Department, the commanding officers of these posts.

In August the first class will make its annual trip to Fort Hancock for seacoast artillery target and submarine mining. The benefit derived from this kind of instruction in the past has been felt by all.

ATHLETICS.

Satisfactory results have been obtained by cadets engaging in the various athletic contests during the past year, and but for the sad death of Cadet Eugene A. Byrne, first class, the season would have been a brilliant one in athletics for West Point. Out of respect to the memory of this cadet the annual Army and Navy football game

was canceled. The annual baseball game, which resulted in a victory for the cadets, was held in Annapolis at the usual time.

The reorganization of the athletic association on June 12, 1905, has proved of great value; expenses have been so curtailed that there are funds on hand for a year in advance. Records are now kept so that mistakes are not repeated, and the superintendent, while not interfering with the smaller details, is able to keep control of the policy for which he is responsible, as he is for every other part of the Military Academy. Athletics are running smoothly and to the satisfaction of officers and cadets.

Great success has been obtained in competitions since the reorganization, and the athletic situation is as bright as it has ever been since athletic contests were inaugurated here. West Point has done what has been in its power to bring about a reorganization in the rules of football to make it a less dangerous game, and these rules are now being worked out and will, it is hoped, prevent the repetition of such a sad occurrence as resulted in the death of Cadet Byrne.

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

This department has been under the direction of Capt. William P. Wooten, Corps of Engineers, whose report is marked "Appendix E."^a

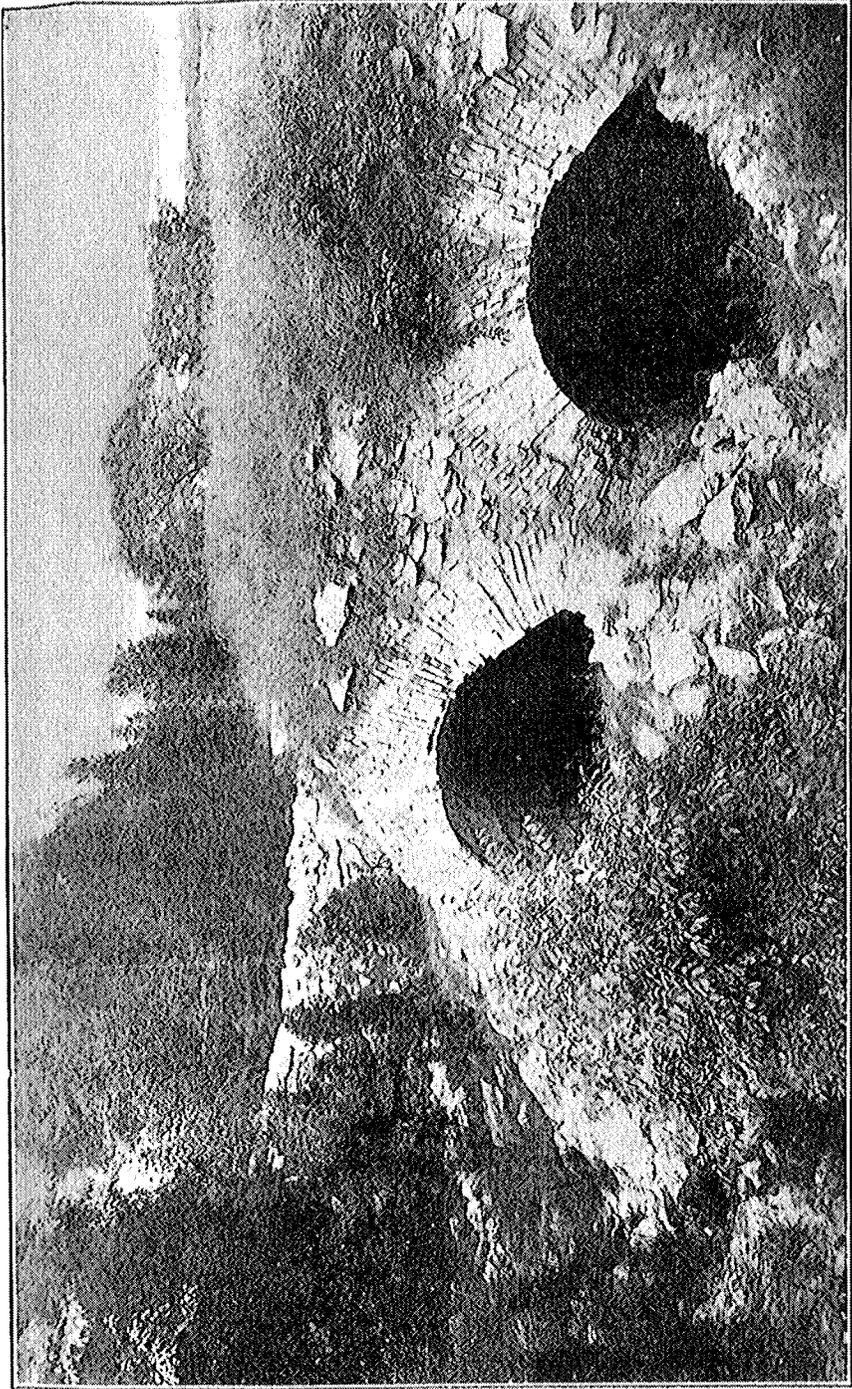
This branch of engineering, signaling, and telegraphy has been well administered under the direction of this officer. The teaching of crossing of rivers with improvised means has proved a valuable feature and should be continued hereafter; it has been much needed in the past by our graduates of every arm of our mobile forces.

A board of officers, of which Captain Wooten was a member, has been charged with the marking of historic sites, and through the liberality of Congress in providing an appropriation of \$1,500 many of the old revolutionary forts and redoubts on this reservation have been properly and permanently designated.

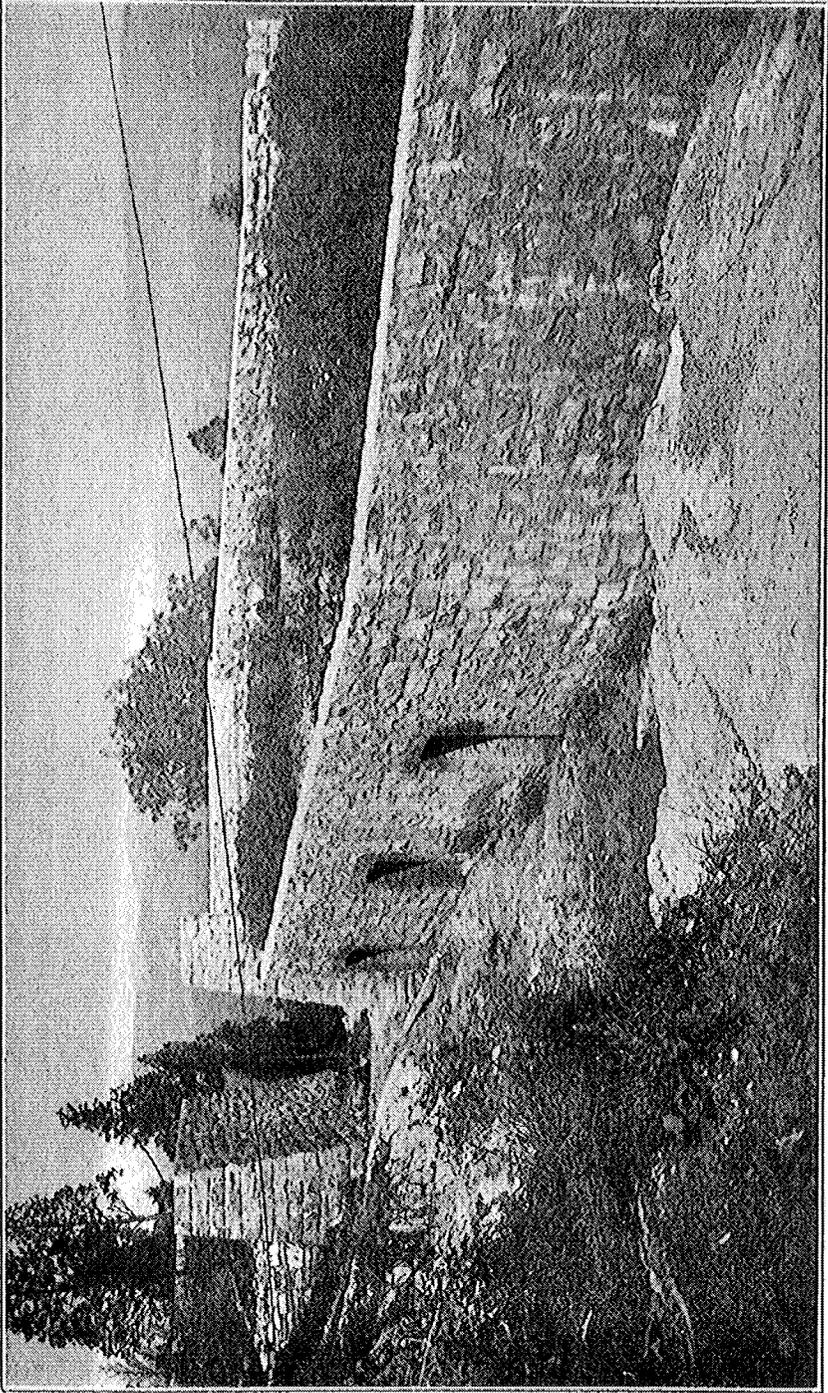
FORT PUTNAM.

The work of rebuilding Fort Putnam has also been under the direction of the instructor of practical military engineering, and has progressed very well. The sum of \$25,000 (\$5,000 annually for five years) was appropriated to place it in condition. This has been judiciously expended, and 90 per cent of the work has been accomplished, but when the débris was uncovered it was found that there was more work to be done than was known when the first appropriation was asked for. An estimate has now been forwarded for \$4,000, which it is believed will finish this historic and important fortification and maintain it for another one hundred years.

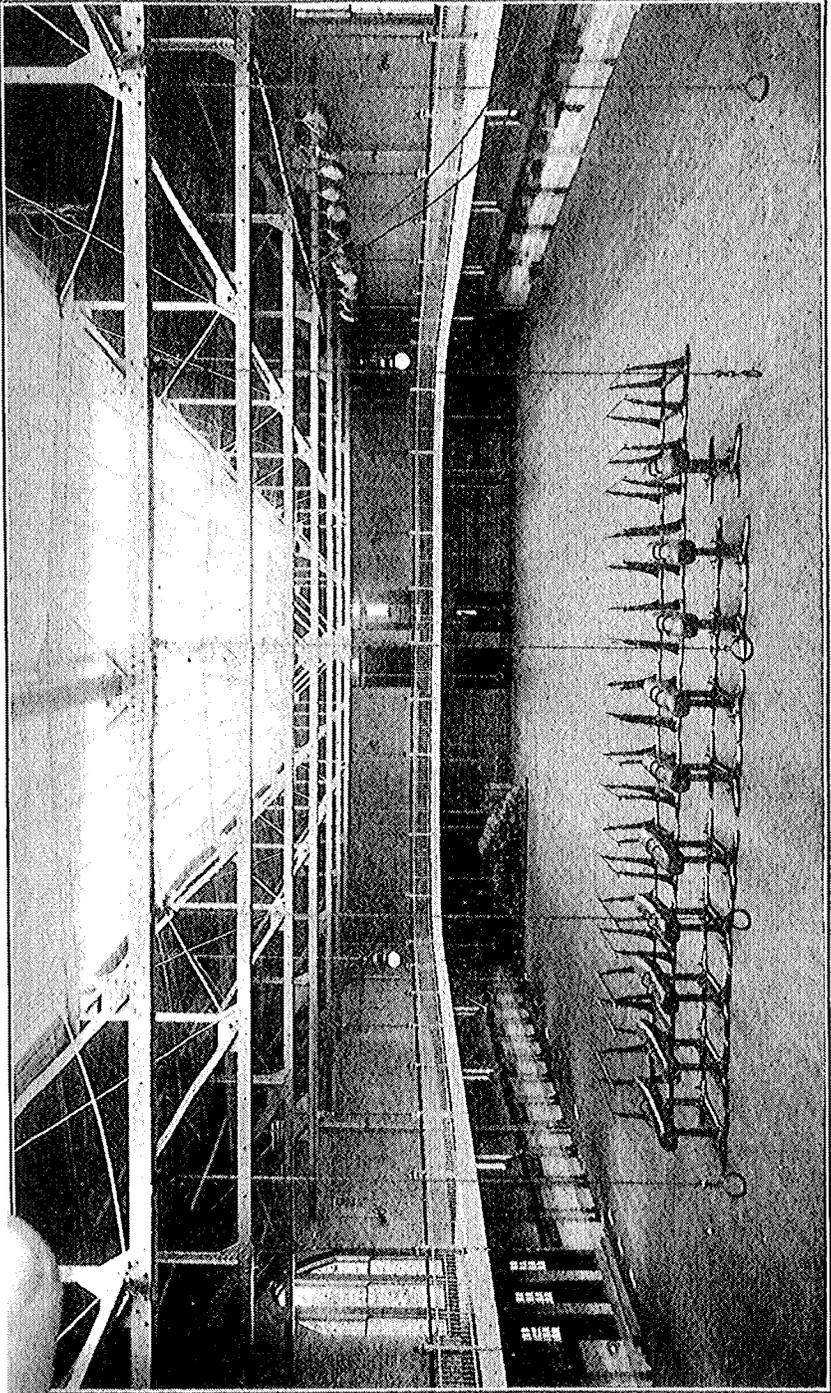
^a See page 48.



OLD CASEMATES OF FORT PUTNAM.



REBUILT CASEMATES OF FORT PUTNAM.



INTERIOR OF NEW GYMNASIUM.

CHANGE IN CURRICULUM.

The congestion in the academic course was chronic as long ago as 1854 and efforts were made at various times to remedy this evil. The last bore fruit in 1908 in the lengthening of the course by three months, new cadets reporting on March 1 instead of on June 1, and applied first to the class which reported here on March 1, 1908. This is of some inconvenience to some of the departments, but if its academic results, sought to be obtained, are realized, this inconvenience should be cheerfully borne. It is now too early to judge fully of these results as the course has been too short a time in operation, but a report of May 17, 1910, of Col. Charles W. Larned, professor of drawing, and chairman of the committee on the revision of the course, is submitted as throwing light on its effects up to the present time:

* * * This final action of the academic board was approved by the War Department and confirmed by congressional legislation. It has now been in operation for a period of two years, receiving practical embodiment in the class entering March 1, 1908, which will have been the first to experience the full operation of the changes and modifications embodied in the new schedule.

The present time is a period of transition, during which a portion of the corps is passing out under the old system, although to a certain degree affected by the changes in method and requirements introduced by the new, and there is some extent of conflict and inconvenience resulting from the interference of two differing systems and the necessity for providing for their operation at the same time. Some temporary disadvantages are inevitable during a period of dislocation in which it becomes necessary to adjust old habits of thought and action to new points of view. The mechanism of an academic system such as that of the Military Academy is necessarily somewhat rigid, and its fixed operation becomes a strong habit with those who have developed under its influence. There is a natural inertia which resents a change and sometimes finds its fixed operation irksome and unacceptable. Considering, however, all these circumstances and the necessity of providing an uninterrupted and effective operation of the course of instruction, the degree of success attained and the comparatively small inconvenience experienced during the reconstructive process is very remarkable. The inconveniences have been of a minor nature, and none of the serious consequences which it was apprehended might result from this conflict of methods has occurred. It is too early as yet to estimate with accuracy the full measure of success or failure of any particular feature of the new program, but in general the results, so far as can be ascertained, have been exceedingly satisfactory and beneficial, and give promise of yet greater advantage when the new course has been in full and complete operation for an entire academic period.

The changes sought to be effected by the revision of the academic course fall under three general heads:

First. As to the methods of instruction, which include also the association and relation of subjects of study.

Second. The amount and nature of subjects to be taught.

Third. The amounts to be required of the student.

A considerable change in the theory of modern scientific education has of late taken place among the educators of the Continent and America. It particularly concerns the proper association of the subjects of theoretic and applied science. Great advantage is found in the coordination of these branches instead of their isolation, as has been generally the practice in the past. To complete the different branches of the course of pure mathematics in their entirety before taking up the

study of applied science has heretofore been the general practice. It is now very generally conceded that for the technically educated man far better results are achieved by the associated study of these two wherever they can be coordinately treated; and some of the leading technical institutions of the country have very radically changed their methods in accordance with this view. A certain amount of such coordination has been sought to be achieved in the new schedule now in operation.

As regards the second head, the congestion of the courses at the Military Academy has always been a serious issue and was severely felt over fifty years ago when, in 1854, the academic board adopted a five years' course, and its pressure has of late years increased rather than diminished. The advance of science, the increase of technical requirements of the military profession, and especially the enlargement of the scope of activities of the American soldier, have all tended to increase the tension of our academic system. To introduce new subjects into a course already highly congested could only be effected either by the omission of subjects already in the curriculum or by an extension of the time allotted to study. It did not appear that any of the subjects already included in the course could be omitted, while at the same time the pressure for new matter was insistent. The only solution, therefore, was an increase of time, which accordingly has been obtained without the necessity of resorting to the expedient of the five years' course previously tried. By the addition of the three months in the new order it was possible to effect a relief of the tension heretofore existing so as to permit a readjustment among themselves of the old course and an opening for the addition of new features which were felt to be indispensable. The additional preliminary term of three months also possesses intrinsic advantage. It constitutes a period in which the newcomer can become accustomed to our academic methods, acquire proper habits of study, and thereby enter upon the more exacting labor of succeeding years to greater advantage; it distributes the time of preparation for entrance into the battalion and the introduction of the newcomer into the unaccustomed life of discipline and military methods demanded by his new vocation over a considerable period, instead of crowding them into a few weeks of the heated term under high pressure; it affords a term in which the hopelessly deficient can be eliminated; and in various ways it accomplishes a good deal of what could be effected in any preparatory school.

As regards the third head, it has been felt that heretofore too much of the different subjects of instruction in the academic curriculum have been required of the students who stand in the middle and lower portions of each class. Although there has always been a distinction in this regard, nevertheless a somewhat excessive amount of mathematical and applied science has been exacted of those whose use in their after career for advanced scientific courses is very much less than is demanded by the duties and functions of the scientific corps of the Army. It was felt to be of very much greater importance to the officers of the line to have a sound grounding in and a practical knowledge of elementary mathematics and science than to have given over a more considerable amount of matter which has not been clearly comprehended and is, therefore, speedily forgotten. In other words, it is believed that "no student should be required to achieve more of a given course than is warranted by the professional necessities of those branches of the service for which his position in his class qualifies him, plus those fundamental principles of the subject necessary for intelligent understanding as a matter of knowledge and mental power, and that a study is of any value as a mental discipline in which the principles of the subject matter are not clearly understood. * * * It is of incomparably more importance to the service that officers entering the cavalry and infantry arms should possess thorough working knowledge of practical mathematics and applied sciences, i. e. those subjects of each branch and those portions of each subject that are used in the ordinary operations of military construction and survey, than that they should be carried into higher mathematical discussions at the expense of such facility."

It has been accepted as a sound definition of the process of the instruction at the Military Academy that it should give to all of its students—

I. Such a grasp of the fundamental principles of mathematics and of the applied sciences which are correlated to the art of war as will give to all students an intelligent comprehension of these sciences as subjects of knowledge and as means for the requirements of intellectual force.

II. Such a grasp of these principles and as much of their special development for each individual as will enable him usefully and practically to apply them to the particular military functions which he will be called upon to perform.

In addition to the science courses, there should be adopted thorough courses in the two modern languages, French and Spanish, and a reorganized and more comprehensive course in the subjects of English and history.

Regarding the languages, it is proposed that in French the student shall receive a thorough grammatical instruction with the object of enabling him to read freely standard French works, and to write the language with fair correctness for social, formal, and business communications; and, also, to acquire a sufficient facility in the spoken tongue to enable him to make himself understood for ordinary purposes and intercourse.

With regard to Spanish, it is thought to accomplish considerably more in facility of speech, both for the reason that the language has immediate practical utility in military service and because its acquirement is much more easy than French. To this end the time allotted to the subject has been increased.

The most marked change in the course is the reorganization of history and English as a single course under a separate head.

It is proposed in English to make the subject less grammatical and purely rhetorical, and to broaden its scope into an elementary study of literature and literary expression, to be secured by considerable practice in written exercises and compositions.

As regards history, the purpose is to relegate to the entrance examination elementary general history, ancient and medieval history, and to broaden the scope of the subject in the academic course to cover a proper knowledge of social and political science and of the development of present national and municipal governments, together with a study of historical geography with special reference to military geography.

The wider sphere of activities into which our officers have been thrown of recent years has required them to exercise functions demanding of them much more varied accomplishments and a broader range of general information than heretofore. In the capacity of governors of provinces, districts, and towns, and in the exercise of many civil functions, both political and educational, there is demanded of them a knowledge of political and social economics, of etymology, and of the genius of foreign peoples, which can only be had by a broadening of the field of historical instruction.

In addition to this, it is to be borne in mind that the curriculum as a whole is mainly scientific and technical, and that the few cultural subjects included in it should be given as high a degree of development as is compatible with the time available.

To summarize briefly, the purpose and tendency of the new schedule and revision has been to secure a better association of theoretic and applied science; to increase the element of practical application in the instruction of these subjects; to better adjust the amount required in each subject to the capacity and needs of the different grades in each class; to increase conversational facility in and the practical use of the languages; to dignify and broaden the subjects of English and history; and, so far as possible, to relax the tension in the academic system.

These general principles and objectives have been those underlying the action of the revision committee and academic board in the preparation and adoption of the schedule now in force, and the degree of its success manifestly can not be fairly judged until a sufficient period shall have elapsed to give it full fruition.

Among the beneficial effects already experienced, however, is the decreased amount of deficiency in the various courses of instruction, indicating that the operation of the modified requirements has been to diminish the strain on the lower portions of the classes. It has also become apparent that a much higher degree of practical grasp of the technical and scientific courses has been achieved by all students, both high and low, by the modification of their exactions and also by the introduction of more practical methods in the courses themselves. There has been put into operation during the past year in the course of ordnance and gunnery a limited course in shop work, which has been productive of most admirable results. It is proposed to increase the facilities for this work by the erection of a new building devoted to it, and also to extend the same methods in the course of civil and military engineering.

OFFICERS ON DETACHED SERVICE AT THE MILITARY ACADEMY.

I desire to again renew my recommendation, one made by former superintendents for many years, that officers serving on tours of duty at the Military Academy be placed on the same footing as members of the detailed staff, in order that the best talent may be secured for the important duty at the Military Academy without crippling the regiments.

I have also recommended in the Military Academy estimates of appropriations that professors of the Military Academy who have been forty consecutive years in the Army and who have served at least twelve years as professors at the academy and who are retired on account of age or after forty years' service shall be placed on the retired list of the Army with the rank and retired pay of one grade above that actually held by them at the time of retirement.

MILITARY ACADEMY DETACHMENTS.

Detachment of field artillery.—The field battery, under the command of Capt. C. P. Summerall, Second Field Artillery, is in a high state of efficiency and has received the highest praise from such soldiers as Field Marshal General Lord Kitchener, British army, and Gen. T. H. Bliss, Acting Chief of Staff, and the Inspector-General of the Army. The other batteries under this officer are all in excellent condition. He commands the pack train, is the instructor of cadets in field, mountain, and coast artillery.

Now that the 6-inch coast artillery guns with the disappearing carriages, the primary and secondary stations, and the 60-inch searchlight have been installed and the money obtained for mortar battery, with promise of the mortars, the coast artillery equipment is nearer up to date and is in a higher state of efficiency than at any time in the history of the academy. Captain Summerall is a most valuable officer, full of zeal and energy, with excellent judgment and knowledge of his profession, and the results obtained by him, both with cadets and enlisted men, have been highly satisfactory. He should have an additional officer as an assistant.

Detachment of cavalry.—General progress is being made in the mounted instruction of cadets. This is being done by taking advantage of all time available for this work, by inducing the cadet to ride for recreation, to take part in polo, and by a careful and systematic training in equitation proper. It has been found that the average cadet responds to this instruction and that he is perfectly capable of becoming a good horseman if care is taken to require him to take a correct seat and make accurate use of the aids. Most of the progress in equitation is made during the first class year, and especially during the latter half. By this time the cadet should be a well-instructed cavalry soldier. He has completed a good practical course in hipology; has spent a number of days in the field as a cavalry soldier; has completed the pistol course, both mounted and dismounted; and has ridden sufficiently to be ready to perfect himself in the subject of equitation and horse training as far as it is necessary to carry it for a properly trained cavalry horse—that is, to train a broken horse to respond to the aids promptly in changing the gaits, to back, turn on the forehand, passage, turn on the haunches, take the gallop leading right or left, change lead in the gallop, and jump any ordinary obstacles, the cadet riding either the McClellan or English saddle.

The cavalry detachment, which is composed of negroes, continues to do its work in a very satisfactory manner, and is a well fed, happy, and contented organization. There have been no desertions in it for the past three years and a half, and only one since its organization in March, 1907, whereas, when composed of white men, there were 13 desertions in one previous six months. A large number of applications are received for enlistment, but only old soldiers of excellent character are accepted. The condition of the horses is better than ever before, although the mounts of this detachment are more difficult to keep in condition than those of other detachments, due to their daily use by many different persons. Capt. Guy V. Henry, Twelfth Cavalry, the detachment commander, is to be congratulated upon their appearance and also upon the fact that he has raised the standard of equitation among the cadets. I take pleasure in commending Captain Henry and his assistant, First Lieut. E. H. De Armond, Sixth Field Artillery, and in printing as Appendix F^a his report upon the negro organization.

United States Military Academy band.—The band has been reorganized during the past four years. The new teacher of music, Philip Egner, has proved very satisfactory. All are under the command of Capt. O. J. Charles, Seventeenth Infantry, adjutant of West Point, whose efficient and loyal services can not be too highly commended. This officer has proved himself under my observation here,

^a See page 50.

in Cuba, and the Philippine Islands, as well as on the plains of the West.

Since June 1, 1910, the band has been up to its authorized strength, the second time in four years, during which time there has been but one desertion.

Detachment of engineers.—The engineer detachment, under the command of Capt. William P. Wooten, Corps of Engineers, has continued its high standard of excellence, and has been of much assistance to the cadets in the instruction of practical military engineering, signaling, and telegraphy.

THE LIBRARY.

Attention is invited to the report of the librarian, Dr. Edward S. Holden, marked "Appendix G."^a

Doctor Holden has accomplished a very valuable service for the academy by his reorganization and continued improvement of the library. All books, manuscripts, and valuable matter are easily accessible. New books are quickly sought out and purchased, making this library in all probability the best military library in the country.

WATER SUPPLY.

The report of the officer in charge of the water supply of the post is marked "Appendix H."^b

The supply of healthful water has been abundant and no case of disease has been traceable to this source.

WEST POINT HOTEL.

Congress has authorized the purchase of what was formerly known as Cranston's Hotel, on grounds adjoining the reservation, at a price not to exceed \$150,000. This hotel is a well-built structure of brick situated on one of the most attractive sites on the river far enough from West Point to be of no inconvenience to the academy, yet easily accessible for parents and friends in a few minutes. It has 48 acres of ground attached, which borders both on the reservation and the river in a direction the academy has been expanding for a long time and must continue to expand, and the acquisition of this property seems vital to the future, especially as the automobile travel must go to a hotel, and this travel should be kept away as much as possible from the post proper when it reaches the extent it must when the state road on the west side of the river is completed from Weehawken to Albany.

^a See page 50.

^b See page 62.

DEPARTMENT OF ORDNANCE AND SCIENCE OF GUNNERY.

The report of the professor of ordnance and science of gunnery (Appendix I)^a is inclosed herewith.

This department is advancing under the able direction of Lieut. Col. C. L'H. Ruggles, Ordnance Department. The practical work undertaken by this department will be greatly improved by the enlargement of the ordnance shops, now going on, by the installation of new machines purchased from this year's appropriation by Congress, as well as by those sent here from various arsenals by the courtesy and fostering interest of Gen. William Crozier, the Chief of Ordnance, who has greatly helped the advancement with ammunition and equipment.

FORESTRY PLANT.

The care of the forest of the reservation has gone steadily on under Woods Foreman Knowles under the direction of Prof. Roy L. Mars-ton, whose report is submitted as Appendix J.^b

Over 100,000 small trees have been transplanted into various situations on the reservation, about 75 per cent of which have survived, and there are on hand 300,000 more to be transplanted from time to time.

There has been no forest fire of any importance during the year.

DEPARTMENT OF ENGLISH AND HISTORY.

The teaching of English has never had its proper place at West Point, and the academy has often received criticisms on this account. For a long period it was not taught at all, but later was taken up in the department of modern languages with French and Spanish—obviously too many subjects to be taught in one department. Two years ago it was separated from the department of modern languages and placed in a department of its own with history, and a civilian instructor provided by Congress, to be at its head. A man was sought for the position who had been brought up in the cultured atmosphere of one of the universities, who had made the teaching of English his life's work, and who had had experience and demonstrated his ability as a teacher, rather than some man who had not had these advantages and who would be obliged to learn the subject after his arrival, and who might or might not make an efficient teacher. Dr. John C. Adams, of Yale, was the gentleman selected, who organized the new department and who gave very great satisfaction in the position. Dissatisfaction arose, however, on account of the fact that the head of this department was not on a par with his comembers of the academic

^a See page 63.

^b See page 69.

board, and although this has now been remedied by legislation, Doctor Adams preferred to go back to his duties at Yale, notwithstanding the fact that he was strongly urged by the superintendent to remain. His successor, Dr. Lucius H. Holt, highly recommended for the position by the president and by the English department of Yale, as well as by others of importance, was appointed and confirmed by Congress, and is now in charge of the department.

BUILDINGS AND GROUNDS.

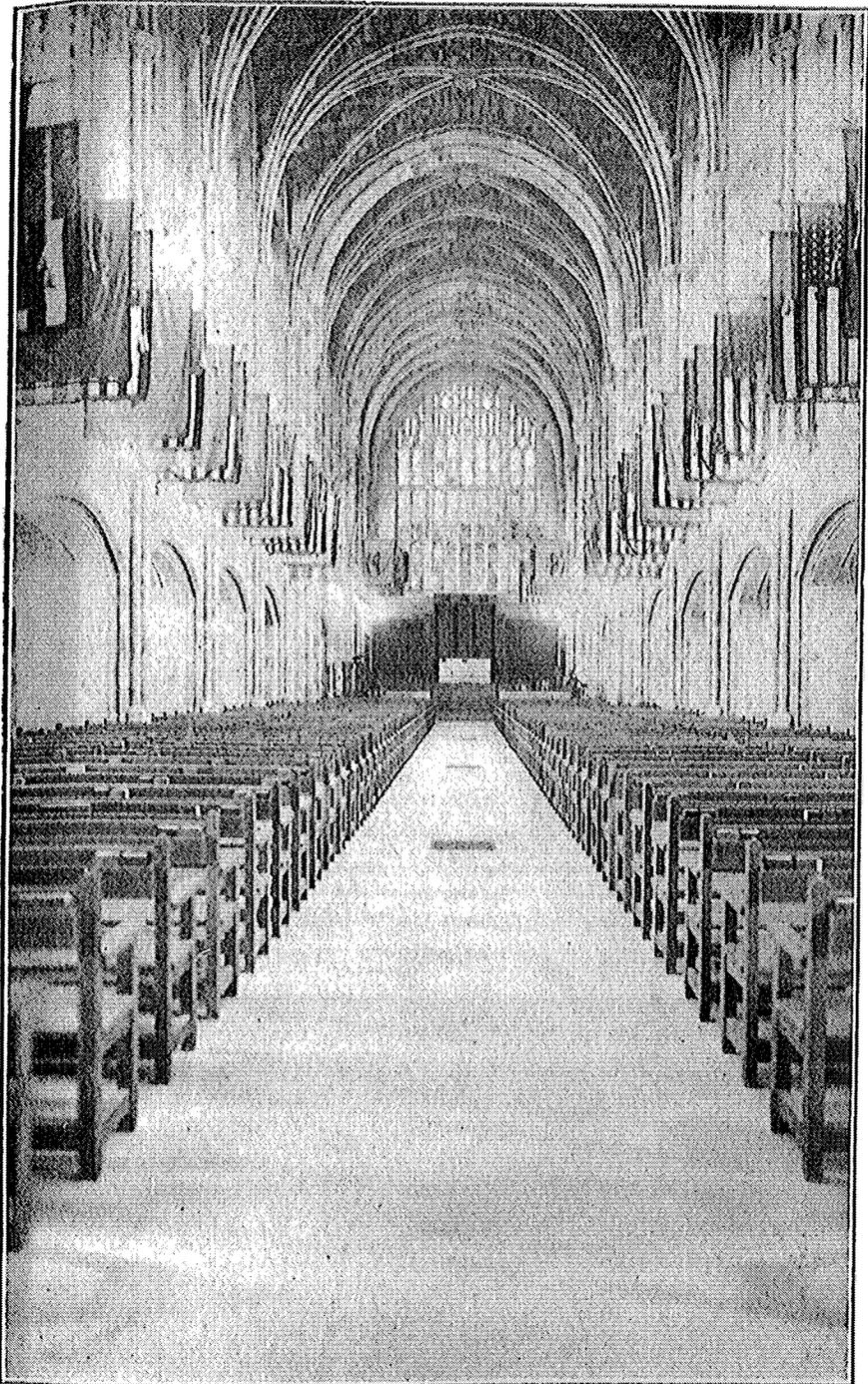
The erection of buildings under the new plan has gone steadily on under the able supervision of Lieut. Col. John M. Carson, jr., deputy quartermaster-general, who has been identified with them from the beginning, and whose report is marked "Appendix K."^a

The new chapel, the corner stone of which was laid on April 5, 1909, was dedicated on the 12th of June of this year with appropriate ceremonies, which were participated in by clergymen of various denominations. How to provide an organ appropriate for such a building and a suitable window over the chancel were questions of concern to the superintendent. It was finally decided to try to obtain the organ from Congress, and, as there was no prospect of Congress providing such a window, a request was made to the graduates of West Point, who responded promptly, and a sufficient amount was contributed to secure the window. This matter was placed in the hands of a board of officers, of which Col. Charles W. Larned was president, whose labors culminated in a most satisfactory design. A contract has been awarded for the window, which will probably be in place some time within the next few months.

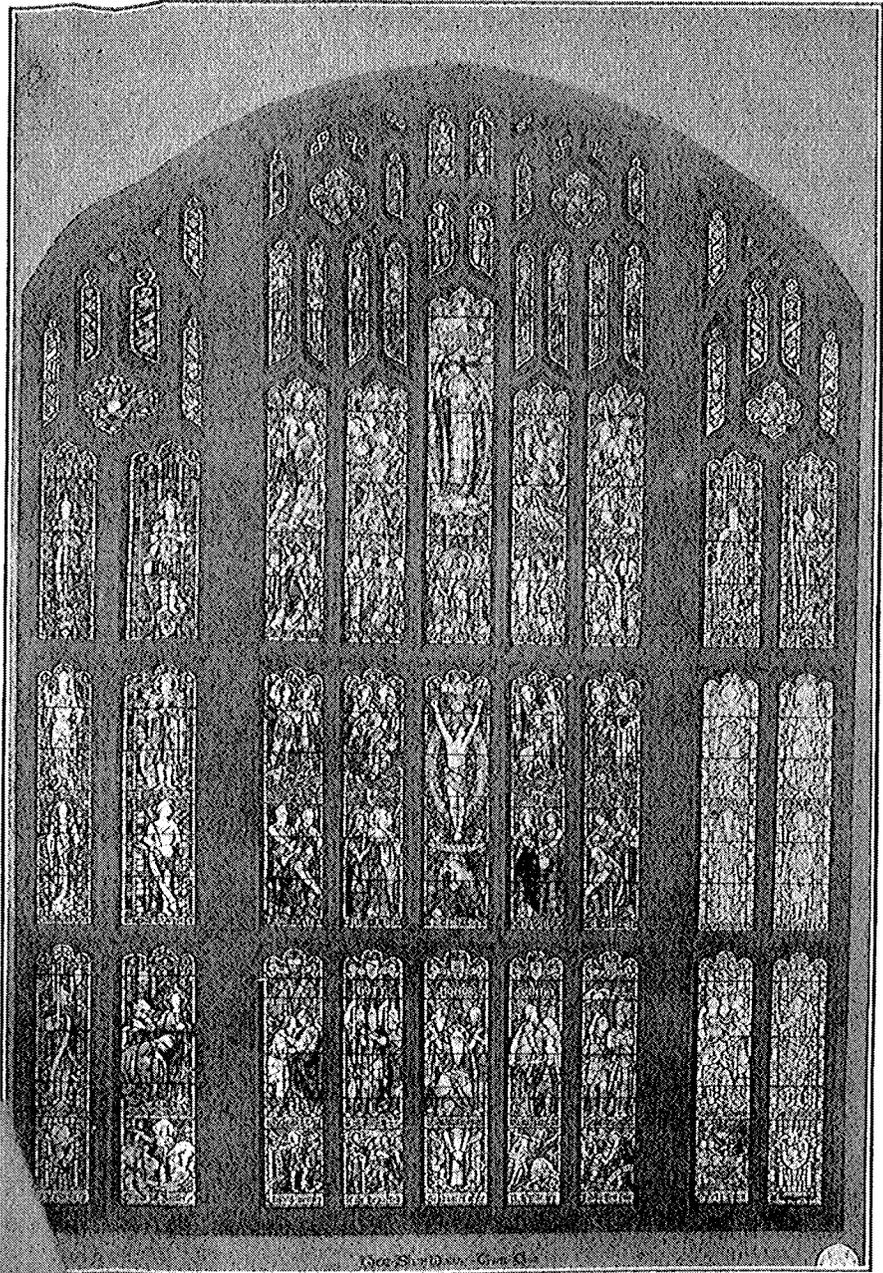
The estimate asking for \$10,000 for the organ for the chapel was thrown out by the House of Representatives, put back in the bill by the Senate, was accepted in the conference by the House, and became a law on July 1, 1910, and will probably result in placing the organ in operation some time next winter.

About 75 per cent of the plan approved by the War Department will be completed under the present limit of cost. When the estimates were made and approved in 1904 the details were not worked out and an insufficient amount allotted for roads, walls, etc., since which time the cost of labor and material has increased about 25 per cent. This was recognized long ago, and in 1908 the War Department was made aware of it and requested to decide as to whether the style and dimensions of buildings should be changed to correspond with this to carry out the plan, or whether the style and necessary dimensions of the buildings should continue and some of the less important buildings be omitted.

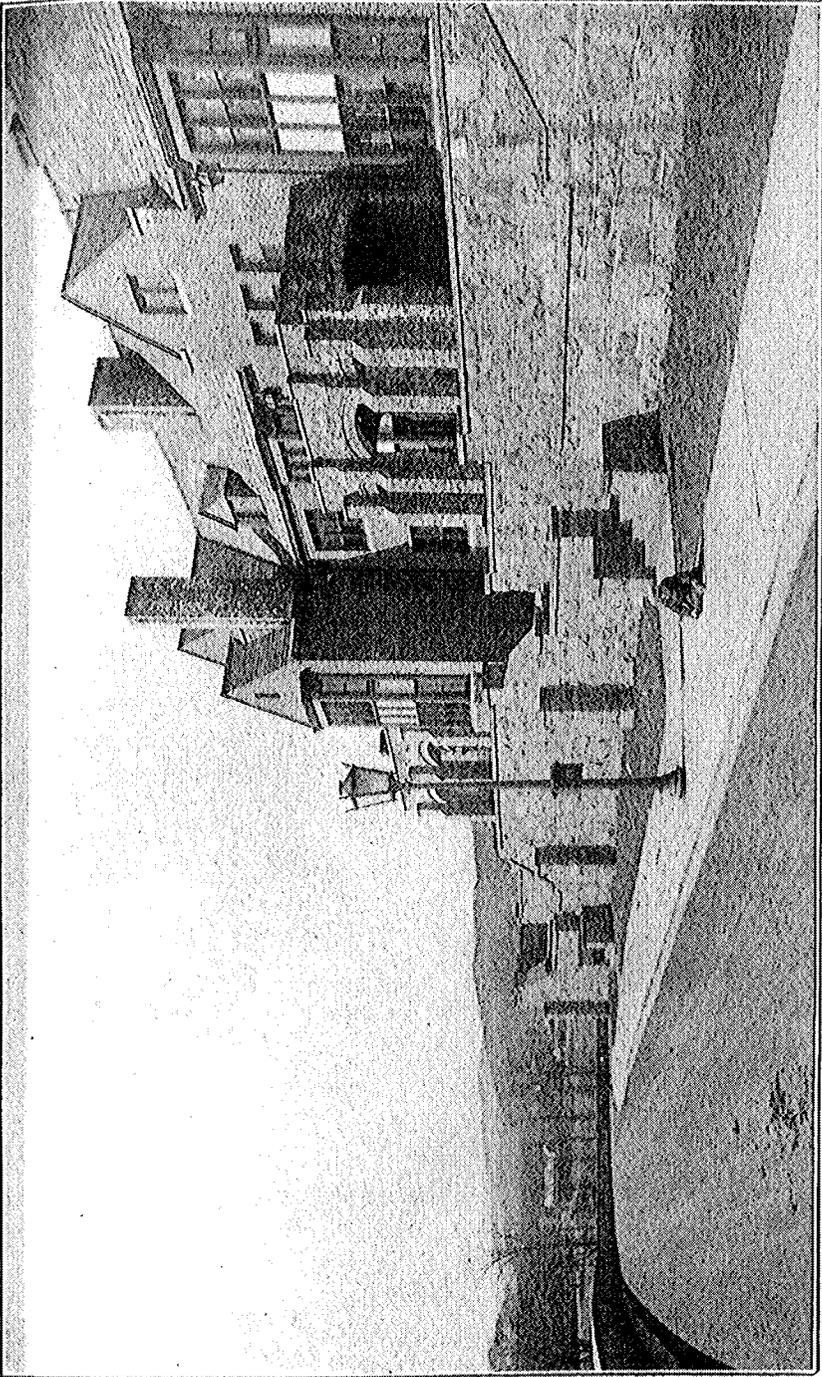
^a See page 71.



INTERIOR OF NEW CADET CHAPEL.



DESIGN FOR MEMORIAL WINDOW FOR NEW CHAPEL.



OFFICERS' QUARTERS AT SOUTH END OF POST, WITH NEW ROADS, SIDEWALKS, AND RETAINING WALLS.

The decision of the War Department under date of March 25, 1908, was to carry out the plan, as far as possible, under the limit of cost, omitting some of the less important buildings, and an estimate to be submitted to the War Department for an application to Congress for an extension of the limit of cost to provide for those omitted. It is only now that sufficient data have been available to make these estimates, which have been forwarded to the War Department for consideration of Congress next winter. At the present time the riding hall and gymnasium, as well as various roads, are under construction. The old chapel is being torn down to clear the site for the new academic building and preparatory to its erection on the foundation now ready for it in the cemetery as a mortuary chapel, to have its old appearance, its picture by Professor Weir, its motto, its flags, trophies, and tablets, to inspire future generations, it is hoped, as it has long done those of the past.

Since my last report the new administration building, which was greatly needed, has been occupied and has proved itself most satisfactory. The academic board has a home of its own in it for the first time in its history, and furniture suited to its dignity and importance.

The adjutant and quartermaster's departments have ample room for the number of clerks. Their business has immensely increased since the erection of the old administration building in 1870, long ago outgrown. The post and telegraph offices are well accommodated in a central position. The ordnance museum is installed in a suitable way with a strong safe for the deposit of the many valuable presentation swords in the possession of the academy. There is a court-martial room, long needed here, as well as public-comfort rooms for both sexes in the lowest basement, with exterior doors accessible to strangers coming from the depot and boat landing, for whom there has also been installed a sanitary drinking fountain on the corner of the parade ground. The tower of the administration building contains the printing plant, which has been brought up to date with a monotype machine and a large press operated by electric motors, paper cutters, binding machinery, and a pressman has been provided lately by the generosity of Congress.

In the carrying out of the plan when it becomes necessary in the far future to build a new cadet barrack I believe it advisable not to build any farther toward the west as now planned, but that the next cadet barrack should be erected on the site of the old cadet power house in the area of the old barracks. Even the short distance between the old and the new barracks is now a cause of complaint, and the farther toward the west barracks are built away from the academic building, the riding hall, cadet hospital, mess hall, and administration building, the sharper will be the complaint. This

plan would leave standing the present quarters of the superintendent, which have been occupied by twenty superintendents, and have sheltered many Presidents of the United States, as well as many distinguished guests from all parts of the world. It does not seem necessary that this historic building should be put to other uses or destroyed; moreover, the accomplishment of the present plan for new quarters for the superintendent removes him from the life of the post, isolates him with a few in the far corner of the parade, would bring about a change of place for dress parade, which has been on the same ground for one hundred years, and, from the size and style of the new quarters, would result in the employment of more servants and in a less simple life.

As this is the last annual report to be submitted by the present incumbent, it would seem proper to submit, for historical reasons, a recapitulation of the changes effected during the past four years.

Contracts for improvements at the United States Military Academy in progress at West Point, September 1, 1906:

North cadet barracks (8 divisions).—Nearly all walls completed to the first-floor level, except rear wall of veranda and a portion adjacent to west end of sally port. The side walls of the building nearly completed to second-floor level. The ashlar facing of end walls extended to level of second-story window sills. Concrete columns in basement in position and the centering ready for reinforced construction of first floor. Building 16 per cent completed.

Lieutenants' quarters, No. 1.—Roof in place and building otherwise inclosed, except hanging casement sash. Work upon interior trim, doors, fireplaces, floor tiling, plumbing, and heating partially completed. Building 75 per cent completed.

Lieutenants' quarters, No. 2.—Roof in place. Window frames provided without sash. Interior partitions and furring nearly ready for lathing. Pipe lines for heating installed; also soil and vent plumbing lines and electric conduits and gas piping. Building 58 per cent completed.

Lieutenants' quarters, No. 3.—Roof in place. Sash, without glass, placed in approximately three-fourths of the window openings. Plastering finished, except basement and first story, in which this work has been partially done. The soil and vent lines of the plumbing work in place; also gas piping and electric conduits. Heaters set up and risers of hot-water heating system installed. Building 71 per cent completed.

Lieutenants' quarters, No. 4.—Roof in place. Sash, without glass, placed in approximately one-half of the window openings. Plastering practically complete, ready for interior trim. Masonry of fireplaces partially done. The soil and vent lines of the plumbing work in place; also gas piping, electric conduits, and wiring. Heaters set up and risers of the hot-water heating system installed. Building 70 per cent completed.

Captains' quarters, No. 1.—Building inclosed and interior trim well advanced and work of interior painting and varnishing and laying floors in progress; also the setting of stairs and mantels. The soil and vent lines of the plumbing system in place; also gas piping, electric conduits, and wiring. Heaters set up and risers of the hot-water heating installed. Building 77 per cent completed.

Captains' quarters, No. 2.—Brickwork of the walls completed, except topping out chimneys and side walls of veranda steps. Slate roof covering and copper gutter nearly finished. Laying of rough floors and setting interior partitions in progress.

Soil and vent lines of the plumbing work in place; also gas piping and electric conduits. Heaters set up and risers of the hot-water heating system run to the second floor. Building 43 per cent completed.

Artillery stable.—Brick masonry of walls finished. Laying of slate roof covering in progress; also placing interior timber framing, construction of masonry partitions, and installation of plumbing and heating lines. Building 71 per cent completed.

Cavalry stable.—Brick masonry of walls completed on sides and in progress on end of building and interior partition walls. Framing and rafters of roof being set. Building 56 per cent completed.

Artillery barracks.—Foundation and basement walls completed. Nearly all of the first-floor timbers set in position. Brick walls of the first story partially built. Drainage lines being laid through the basement. Building 35 per cent completed.

Cavalry barracks.—Excavation for trenches of footings and construction of foundation walls in progress. A portion of the walls and ashlar facing of foundations of dormitories complete at north and south ends of the building to level of water table and to the same extent on south toilet extension. Building 19 per cent completed.

Gun shed.—Brick masonry walls and piers completed and slate roofing laid. Installation of rolling steel curtains for doors in progress. Building 75 per cent completed.

Power house.—Foundations of the boiler room completed. Steel columns forming wall framing and interior supports; also first-floor beams of this portion of the building in place. Percentage of completion of building, 3½ per cent.

Post headquarters building.—Work of general excavation and sinking caissons to bed rock and construction of concrete foundation piers therein in progress for the north wall of the building and the north wall of sally port. Foundation piers completed at southeast corner of the building; foundations beneath the tower finished to grade level; also a portion of the foundations for the south wall of the building. Building 20 per cent completed.

Storm sewer, surface drainage, and sewer system for the artillery and cavalry plain and group of buildings 96.3 per cent completed.

All of the above-mentioned buildings are completed and occupied, and the following additional buildings have been erected under contract:

- North wing of the north cadet barracks.
- Battalion guardhouse.
- Cadet chapel.
- Chaplain's quarters.
- Lieutenants' quarters, No. 5 (triple set).
- Officers' quarters, Nos. 10, 11, 12, and 13 (four double sets).
- Branch post exchange (erected and accepted).
- North bachelor quarters.
- Riding hall (approximately 40 per cent completed).
- Gymnasium (main portion of, completed and occupied, and work upon the natatorium wing is well advanced. Building is approximately 94 per cent completed).

The following changes and improvements have also been effected:

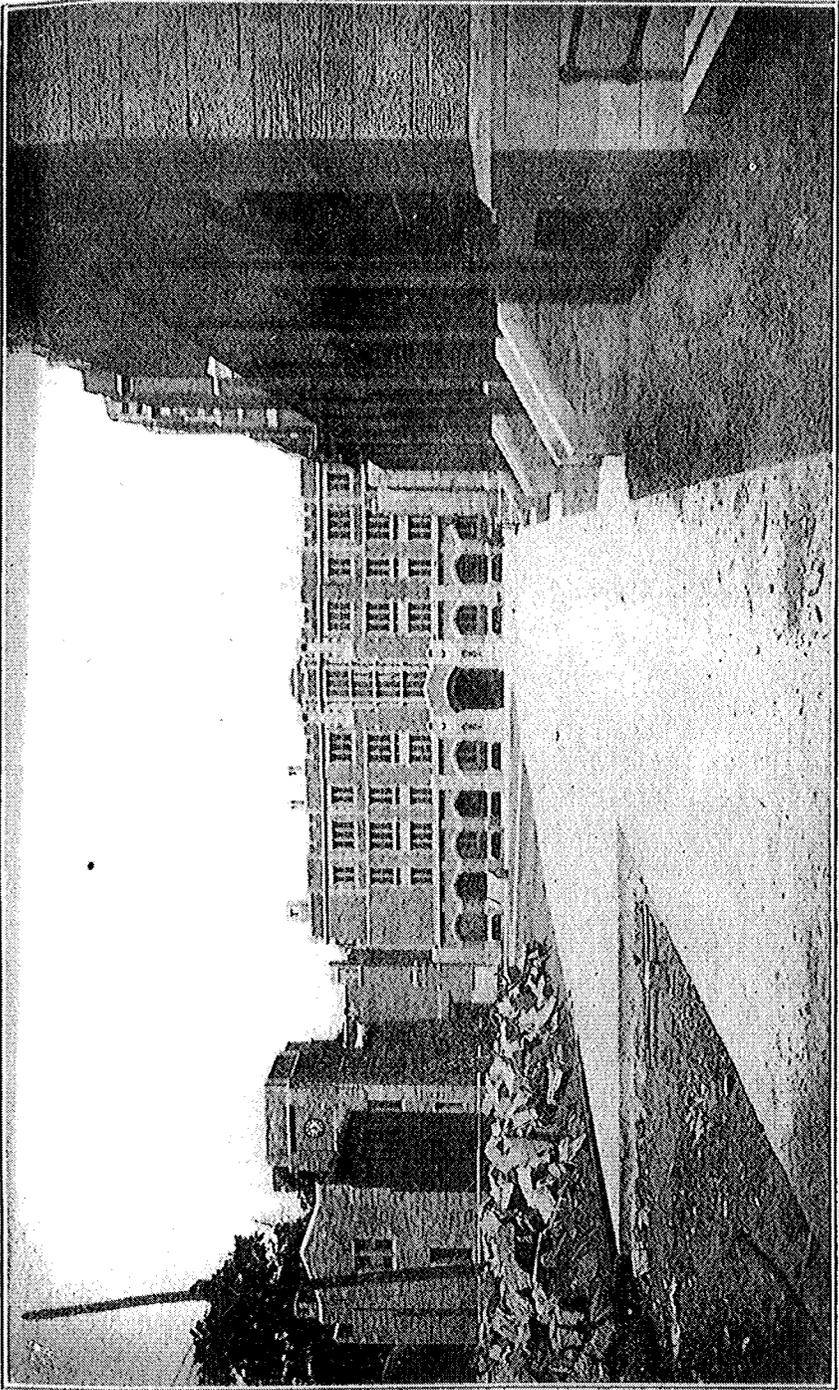
- Improvement of the curriculum.
- Enlargement of filter plant.
- Installation of two 6-inch guns with emplacements.
- Erection of primary and secondary stations.
- Installation of 60-inch searchlight.
- The stationing of a launch for artillery purposes.
- Sodding cavalry plain.
- Stationing of a full pack train for instructional purposes at post.

- Change of cavalry detachment to colored troops.
- Erection of a concrete band stand in camp.
- Erection of a sanitary fountain for visitors in front of academic building.
- Cutting vistas in places on post.
- Marking redoubts and other historic places with bronze tablets.
- Gift of Constitution Island to the Government from Mrs. Margaret Olivia Sage and Miss Anna Bartlett Warner.
- Enlargement of artillery detachment to 137 men.
- Enlargement of army service detachment to 220 men.
- Reorganization of the United States Military Academy band.
- Reconstruction of Fort Putnam; now 90 per cent completed.
- Introduction of instruction in crossing swollen rivers by improvised means.
- Adoption of a suitable shoe for cadets.
- Rearming Corps of Cadets with latest model of rifle.
- Improvement in target range.
- Two electric busses to run on reservation.
- Civilian principal and three women teachers for children's school.
- Appropriation for organ for new cadet chapel.
- Memorial window for chapel (funds from graduates of United States Military Academy).
- Furnishing new gymnasium (\$12,000).
- New mortar emplacement, appropriation for.
- Additional dentist.
- Janitor for new gymnasium who is qualified as a trainer in athletics.
- Reorganization of the army athletic association.
- Remodification of the United States Military Academy Regulations (not yet completed).
- New professor for department of English and history (civilian).
- Appropriation of \$150,000 for the purchase of the Cranston Hotel (now Ladycliffe Academy).
- Remodeling of old cadet barracks.
- Remodeling of four sets of bachelor officers' quarters in angle of barracks.
- Modernizing method of keeping accounts in office of treasurer and quartermaster of cadets.
- Building of south and west football stands.
- Reorganization of the post exchange.
- Tile floors in cadet mess and hospital.
- Presentation to West Point of marble busts of Emperor Frederick II and Field Marshal Von Moltke, of Germany, by His Imperial Majesty the Emperor of Germany.

HUDSON-FULTON CELEBRATION.

During the Hudson-Fulton celebration West Point was honored by the visit of Rear-Admiral Sir Edward Seymour, G. C. B., Grosse-Admiral Von Koester, and Contre-Admiral Le Pord. A photograph of the review in their honor was sent to each. The Grosse-Admiral Von Koester, of Germany, sent his copy to His Imperial Majesty the Emperor of Germany, who returned it with his autograph.

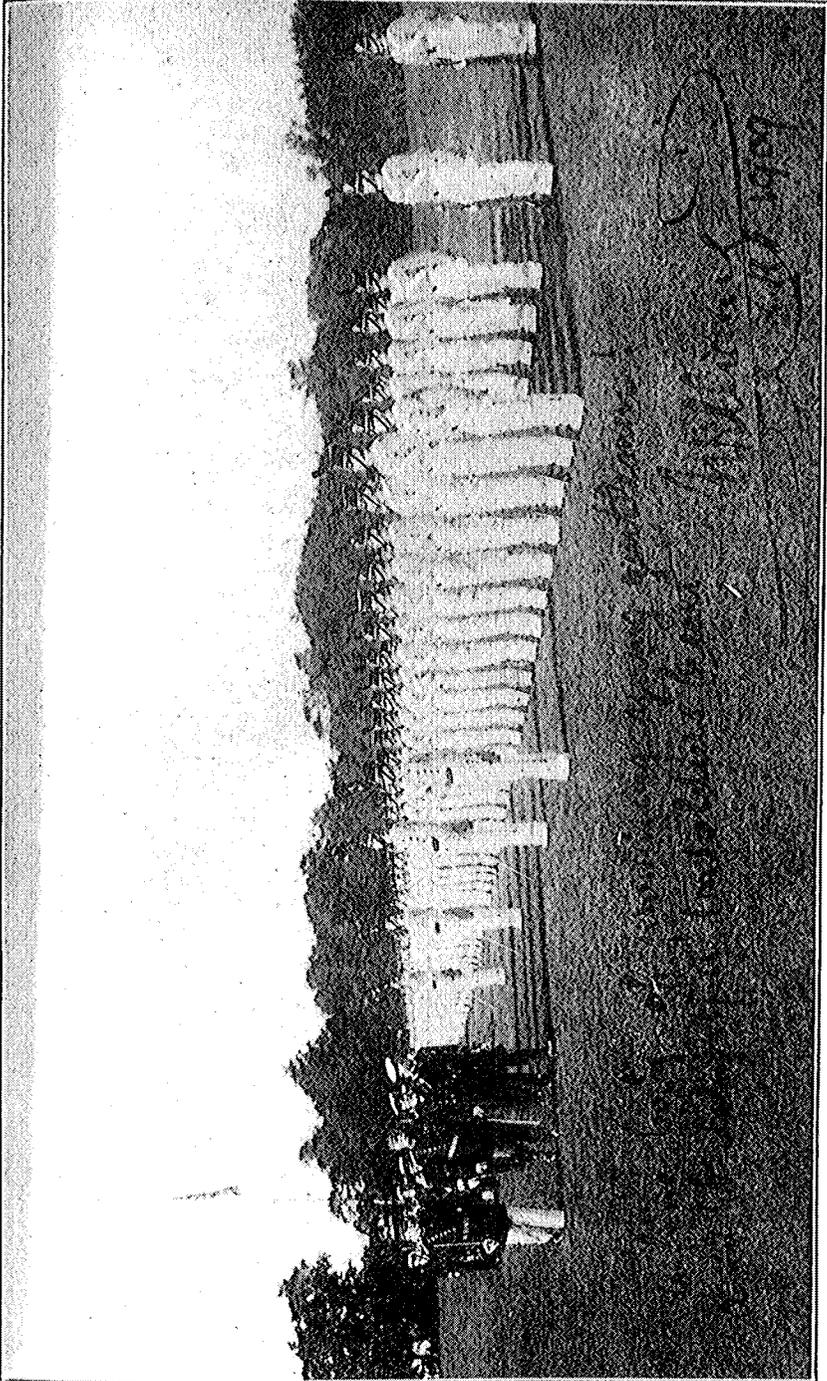
The three admirals joined in saying they had not such a military school in their countries. Field Marshal General Herbert Kitchener, of the British army, recommended that the Commonwealth of Australia erect a "West Point" in Australia, and sent Col. W. T.



NORTH WING OF NORTH CADET BARRACKS AND NEW CADET GUARDHOUSE IN AREA OF NORTH BARRACKS.



BUST OF FIELD MARSHAL COUNT VON MOLTKE, OF GERMANY, PRESENTED TO THE MILITARY ACADEMY BY HIS MAJESTY THE EMPEROR OF GERMANY.



REVIEW OF CORPS OF CADETS ON OCCASION OF HUDSON-FULTON CELEBRATION, CONTAINING AUTOGRAPH OF THE EMPEROR OF GERMANY.

Bridges, of the British army, to inspect the Military Academy to get ideas to put in practice in that Commonwealth. He was furnished all books and information possible. He spent some time at West Point examining into every branch of instruction. About a month later Field Marshal General Kitchener made an inspection of the Military Academy in person and stated that he had made his recommendations to Australia on the reputation of the West Point military school abroad, but that, having seen it, he "felt that the half had not been told him."

OFFICIALS OF THE GOVERNMENT.

By the retirement during the year of Col. E. E. Wood, the Military Academy and the Army at large lose one of their oldest and most distinguished soldiers, who has been on duty at the Military Academy as professor of modern languages since 1892, and is now the last officer on the active list who was a commissioned officer in the war of the rebellion before April 9, 1865. He has had a long and honorable career in the service since September 8, 1862, and participated in many engagements and battles of the civil war, during which time he has filled with credit many positions. The best wishes of those whom he has instructed during his long career will go with him in his honored retirement.

THANKS.

The success of the operation of the Military Academy during the past four years has been greatly aided by the assistance and friendly cooperation of the heads of the Department of War in Washington, to whom the thanks of the superintendent and friends of the institution are in a great measure due, especially to The Adjutant-General of the Army, who has been constant and tireless in his efforts in this and has always acted with the best interests and discipline of the academy in view.

The thanks of the superintendent are also extended to the members of the academic board, and to all members of the academic, military, and medical staffs for their energetic and tireless devotion to the instruction of cadets, and whose efficiency and fidelity enable West Point to maintain the high standard set by their predecessors.

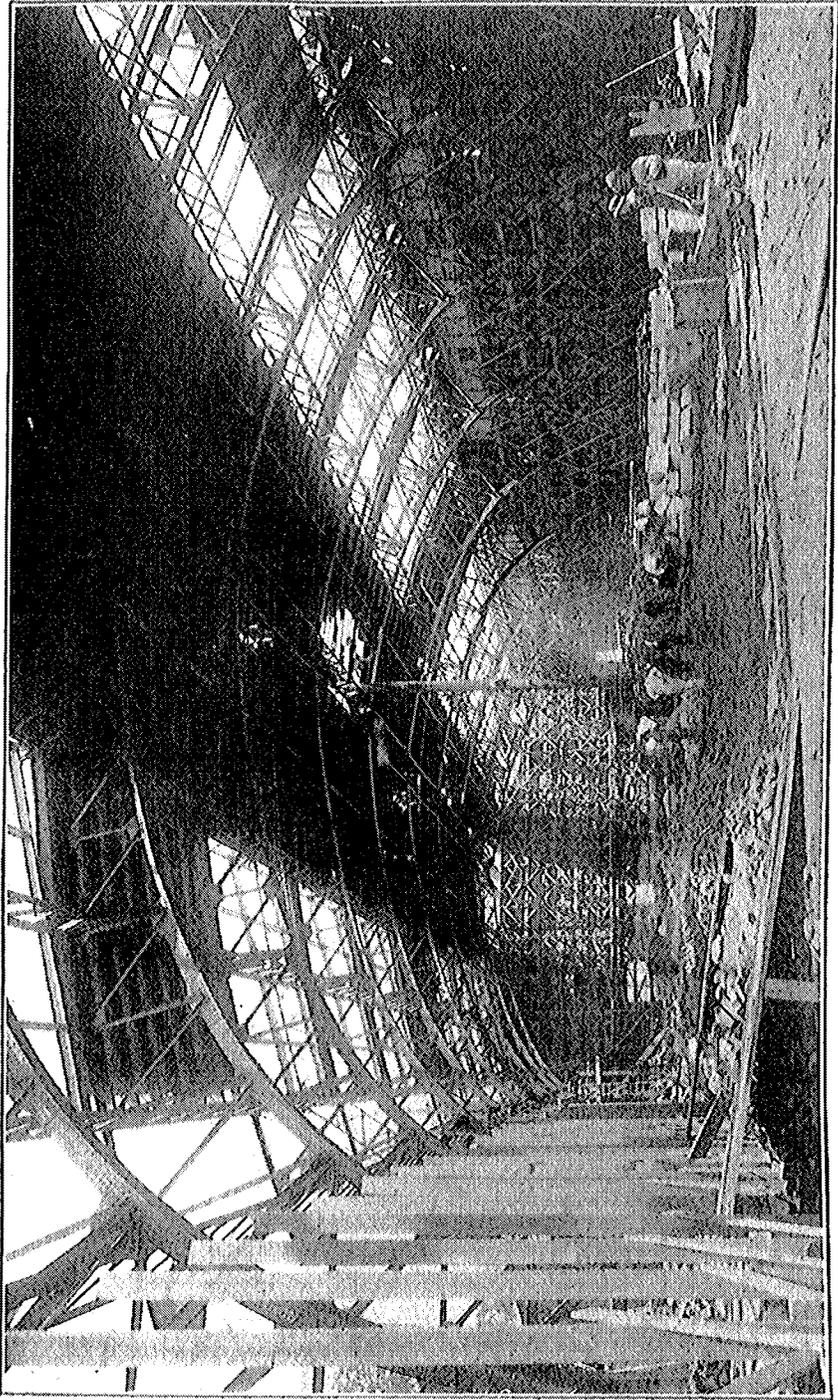
Very respectfully,

H. L. SCOTT,

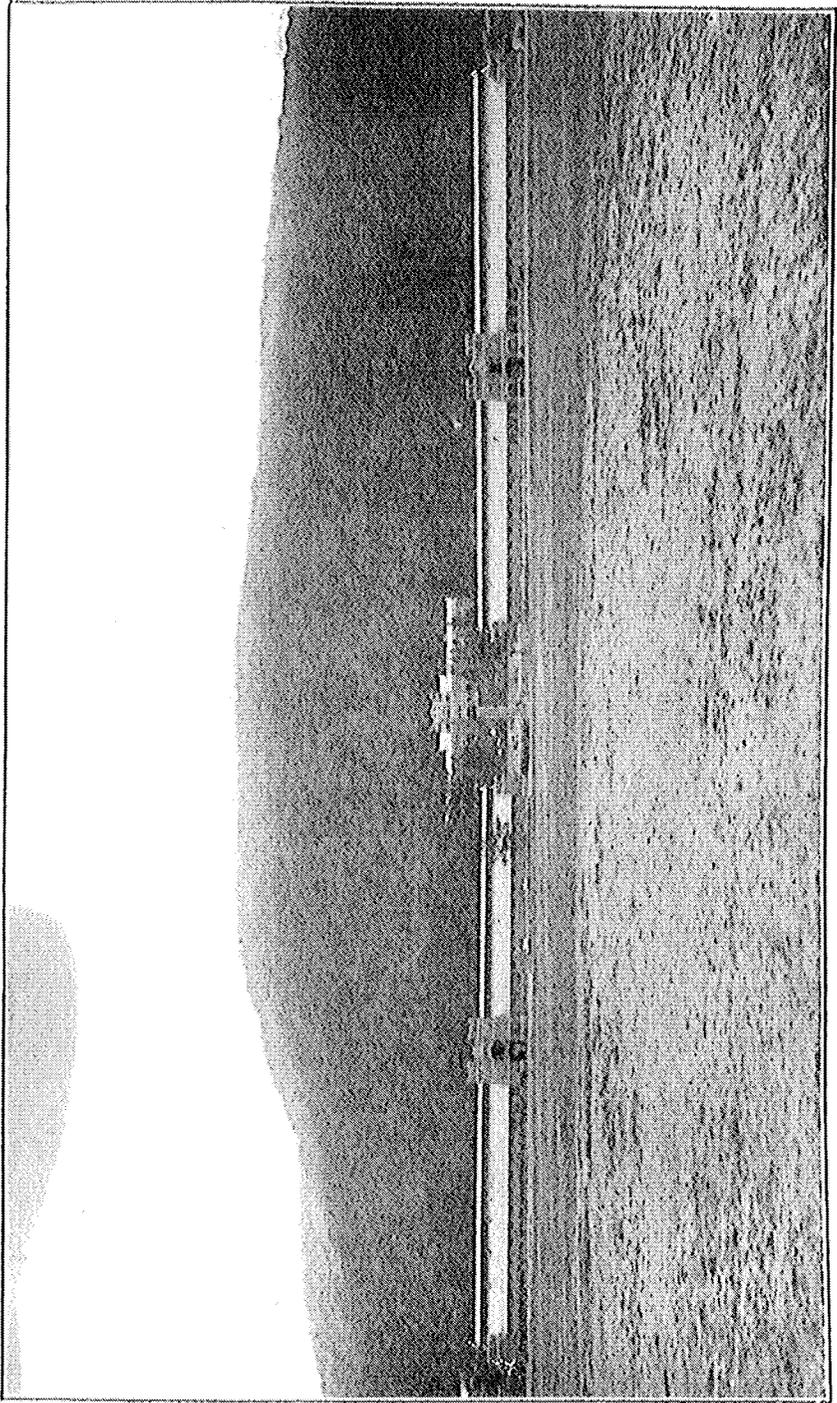
Colonel, U. S. Army, Superintendent.

THE ADJUTANT-GENERAL, U. S. ARMY,

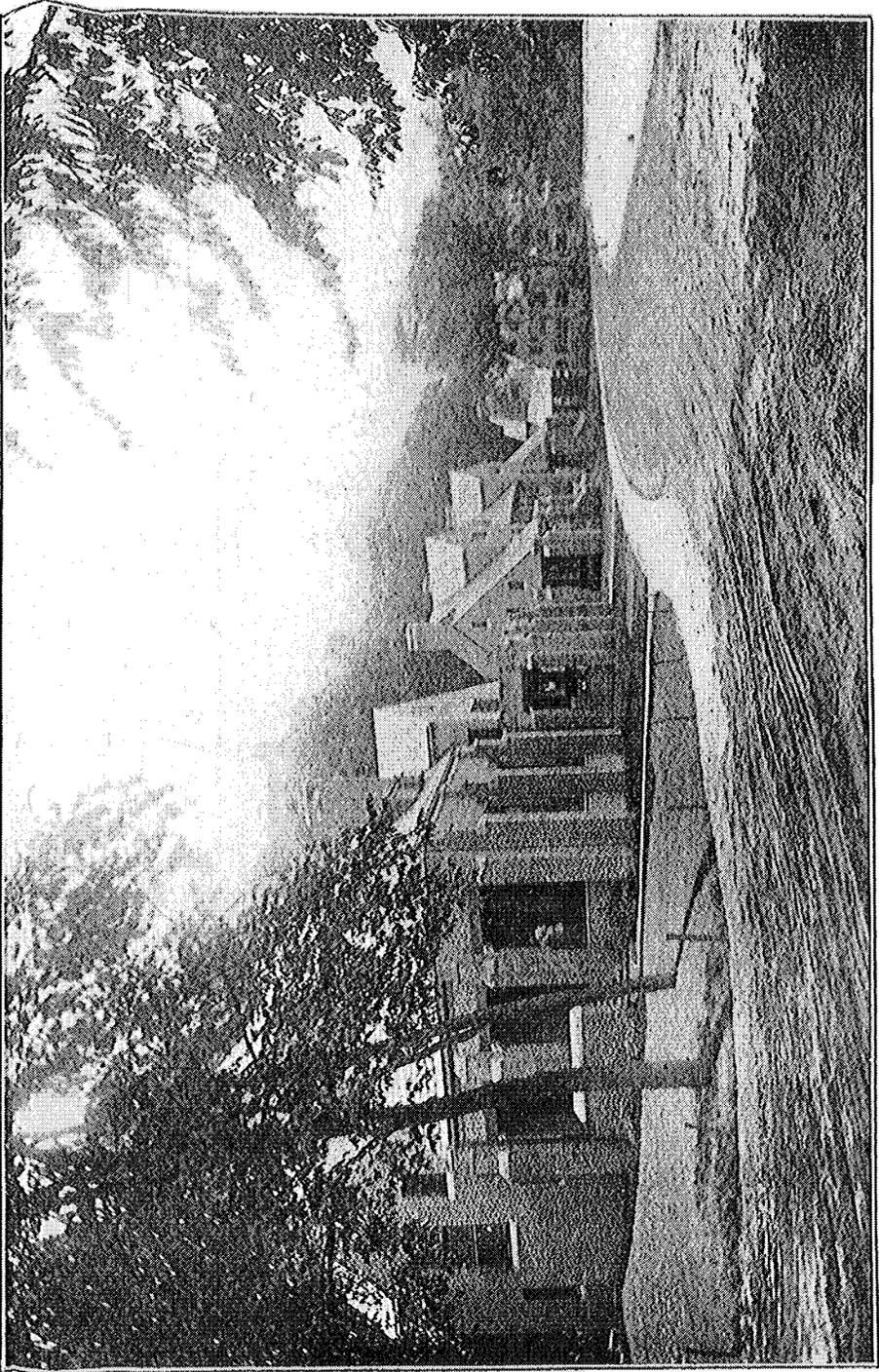
War Department, Washington, D. C.



INTERIOR OF NEW RIDING HALL.



NEW CAVALRY BARRACKS AND STABLES, AND ARTILLERY STABLES, PACK TRAIN, AND NEW MOUNTED DRILL GROUND AT SOUTH END OF POST.



NEW OFFICERS' QUARTERS AT NORTH END OF POST.

APPENDIX A.

ROSTER OF OFFICERS AND TROOPS SERVING AT THE UNITED STATES MILITARY ACADEMY, WEST POINT, N. Y., JUNE 30, 1910.

SUPERINTENDENT AND COMMANDANT.

Col. Hugh L. Scott (major, Fourteenth Cavalry).

MILITARY STAFF.

Capt. Oscar J. Charles, Seventeenth Infantry, adjutant of the Military Academy and of the post; secretary of the academic board; recruiting officer.

Lieut. Col. John M. Carson, jr., deputy quartermaster-general; quartermaster of the Military Academy and of the post; disbursing officer; in charge of construction.

Capt. William R. Grove, commissary; treasurer of the Military Academy; quartermaster and commissary of the Corps of Cadets.

Lieut. Col. Charles M. Gandy, Medical Corps, surgeon.

Capt. William L. Keller, Medical Corps.

Capt. Lloyd L. Smith, Medical Corps.

First Lieut. George M. Edwards, Medical Corps.

Capt. Joseph W. Beacham, jr., Ninth Infantry, assistant to quartermaster.

First Lieut. William B. Wallace, Twentieth Infantry, post treasurer and commissary; in charge of post exchange; assistant to commissary of the Corps of Cadets.

First Lieut. Richard M. Thomas,^a Fifteenth Cavalry, on duty at Headquarters Military Academy; inspector of small-arms rifle practice; summary court.

First Lieut. Guy Kent, First Cavalry, assistant to quartermaster.

ACADEMIC STAFF.

Professors whose service at the academy as professor exceeds ten years have the rank, pay, and allowances of colonel, and all other professors the rank, pay, and allowances of lieutenant-colonel. The academic departments are arranged in the order in which they were created by law.

DEPARTMENT OF TACTICS.

Lieut. Col. Frederick W. Sibley, Fourth Cavalry, commandant of cadets and instructor of tactics.

Capt. Morton F. Smith, Twentieth Infantry, assistant to the commandant of cadets (commanding First Battalion); senior assistant instructor of infantry tactics.

Capt. Isaac Newell, Twenty-second Infantry (commanding Second Battalion), instructor of tactics; commanding company of cadets.

^a Also on duty in department of English and history.

Capt. Charles P. Summerall, Second Field Artillery, senior assistant instructor of artillery tactics.

Capt. Herman J. Koehler, U. S. Army, master of the sword; instructor of military gymnastics and physical culture.

Capt. Guy V. Henry, Twelfth Cavalry, senior assistant instructor of cavalry tactics.

Capt. John D. Long, Twelfth Cavalry, instructor of tactics; commanding company of cadets.

Capt. Alfred A. Maybach, Coast Artillery Corps, instructor of tactics; commanding company of cadets.

First Lieut. Edward H. De Armond, Sixth Field Artillery, instructor of tactics.

First Lieut. Henry M. Nelly,^a Twentieth Infantry, instructor of tactics.

First Lieut. Francis H. Farnum, Twenty-fourth Infantry, instructor of tactics; commanding company of cadets.

First Lieut. Benjamin E. Grey, Twenty-first Infantry, instructor of tactics and gymnastics; commanding company of cadets.

First Lieut. E. Llewellyn Bull, Twenty-first Infantry, instructor of tactics; commanding company of cadets.

Francis Dohs, civilian instructor in fencing and military gymnastics.

Louis Vauthier, civilian instructor in fencing and military gymnastics.

Thomas Jenkins, civilian instructor in fencing and military gymnastics.

DEPARTMENT OF CIVIL AND MILITARY ENGINEERING.

Col. Gustav J. Fiebeger, U. S. Army, professor.

Capt. William A. Mitchell, Corps of Engineers, assistant professor.

First Lieut. Harold C. Fiske, Corps of Engineers, instructor.

First Lieut. Julian L. Schley, Corps of Engineers, instructor.

First Lieut. Charles R. Pettis,^b Corps of Engineers, instructor.

First Lieut. William A. Johnson, Corps of Engineers, instructor.

DEPARTMENT OF NATURAL AND EXPERIMENTAL PHILOSOPHY.

Lieut. Col. William B. Gordon, U. S. Army, professor.

First Lieut. William F. Morrison, Second Field Artillery, assistant professor.

First Lieut. Matthew A. Cross, Coast Artillery Corps, instructor.

First Lieut. Benjamin H. L. Williams, Coast Artillery Corps, instructor.

First Lieut. Halsey Dunwoody, Coast Artillery Corps, instructor.

Second Lieut. Frederick E. Shnyder, Second Cavalry, instructor.

Second Lieut. Jay L. Benedict, Fourteenth Infantry, instructor.

DEPARTMENT OF MATHEMATICS.

Lieut. Col. Charles P. Echols, U. S. Army, professor.

Capt. George B. Pillsbury, Corps of Engineers, associate professor.

First Lieut. Charles R. Pettis,^c Corps of Engineers, assistant professor.

^a On duty in department of drawing.

^b Also on duty in department of mathematics.

^c On duty in department of civil and military engineering.

First Lieut. Samuel Frankenberger, Third Field Artillery, instructor.
 First Lieut. Charles R. Alley, Coast Artillery Corps, instructor.
 First Lieut. Chauncey L. Fenton, Coast Artillery Corps, instructor.
 First Lieut. William Bryden, Fifth Field Artillery, instructor.
 First Lieut. Francis W. Honeycutt, Fifth Field Artillery, instructor.
 First Lieut. George M. Morrow, jr., Coast Artillery Corps, instructor.
 First Lieut. Forrest E. Williford, Coast Artillery Corps, instructor.
 First Lieut. Joseph A. Green, Coast Artillery Corps, instructor.
 First Lieut. Harold W. Huntley, Third Field Artillery, instructor.
 Second Lieut. Charles Telford, Twelfth Cavalry, instructor.
 Second Lieut. Vaughn W. Cooper, Twelfth Cavalry, instructor.

DEPARTMENT OF CHEMISTRY, MINERALOGY, AND GEOLOGY.

Col. Samuel E. Tillman, U. S. Army, M. A., professor.
 Maj. Wirt Robinson, Coast Artillery Corps, assistant professor.
 Capt. Thomas W. Darrah, Twenty-seventh Infantry, instructor.
 Capt. William F. Nesbitt, Fourth Infantry, instructor.
 Capt. Charles B. Clark, Fourteenth Infantry, instructor.
 Capt. Henry C. Jewett, Corps of Engineers, instructor.
 First Lieut. Clifford Jones, Coast Artillery Corps, instructor.
 First Lieut. Samuel M. Parker, Twentieth Infantry, instructor.

DEPARTMENT OF DRAWING.

Col. Charles W. Larned, U. S. Army, professor.
 Capt. Frederick W. Lewis, Twenty-ninth Infantry, assistant professor.
 First Lieut. Pelham D. Glassford, Second Field Artillery, instructor.
 First Lieut. Henry M. Nelly,^a Twentieth Infantry, instructor.
 Second Lieut. Richard J. Herman, Twenty-third Infantry, instructor.
 Second Lieut. Frederick W. Manley, Thirteenth Infantry, instructor.

DEPARTMENT OF MODERN LANGUAGES.

Col. Edward E. Wood, U. S. Army, professor.
 Capt. Peter E. Traub, Twelfth Cavalry, associate professor.
 Capt. Ora E. Hunt,^b Thirtieth Infantry, assistant professor of the Spanish language.
 First Lieut. George M. Russell, Fifteenth Cavalry, assistant professor of the French language.
 First Lieut. Owen G. Collins, Coast Artillery Corps, instructor.
 First Lieut. Donald C. McDonald, Coast Artillery Corps, instructor.
 First Lieut. Thomas M. Spaulding, Coast Artillery Corps, instructor.
 First Lieut. Edward J. Moran,^b Twenty-second Infantry, instructor.
 Second Lieut. Edward M. Zell,^b Seventh Cavalry, instructor.
 Second Lieut. Robert C. Richardson, jr., Fourteenth Cavalry, instructor.
 Second Lieut. Joseph W. Stilwell, Twelfth Infantry, instructor.
 Second Lieut. Martin C. Wise,^b Twentieth Infantry, instructor.
 Justin M. Chenal, civilian instructor in French.
 Joseph Perret, civilian instructor in French.
 José M. Asensio, civilian instructor in Spanish.
 N. T. Quevedo, civilian instructor in Spanish.

^a Also on duty in department of tactics.^b Also on duty in department of English and history.

DEPARTMENT OF LAW AND HISTORY.

Lieut. Col. Walter A. Bethel (major and judge-advocate, U. S. Army), professor. (By assignment under act of June 6, 1874.)
 Capt. Daniel G. Berry, Twenty-second Infantry, assistant professor.
 Capt. Clement A. Trott, Fifth Infantry, instructor.
 First Lieut. Kerr T. Riggs,^a Fourteenth Cavalry, instructor.
 First Lieut. Harry S. Grier, Twenty-second Infantry, instructor.
 Second Lieut. Henry E. Mitchell, Third Cavalry, instructor.
 Second Lieut. John de B. W. Gardiner, Eleventh Cavalry, instructor.

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

Capt. William P. Wooten, Corps of Engineers, instructor.
 First Lieut. W. D. A. Anderson, Corps of Engineers, senior assistant instructor.

DEPARTMENT OF ORDNANCE AND GUNNERY.

Lieut. Col. Colden L'H. Ruggles, U. S. Army (major, Ordnance Department), professor. (By detail August 21, 1908, under act of March 2, 1907.)
 Capt. Otho V. Kean, Ordnance Department, senior assistant instructor.
 First Lieut. Ned B. Rehkopf, Second Field Artillery, assistant instructor.
 First Lieut. George R. Allin, Sixth Field Artillery, assistant instructor.

DEPARTMENT OF MILITARY HYGIENE.

Lieut. Col. Charles M. Gandy, Medical Corps, instructor.

DEPARTMENT OF ENGLISH AND HISTORY.

Capt. Ora E. Hunt,^b Thirtieth Infantry, instructor.
 First Lieut. Lewis S. Morey, Twelfth Cavalry, instructor.
 First Lieut. Richard M. Thomas,^c Fifteenth Cavalry, instructor.
 First Lieut. Kerr T. Riggs,^d Fourteenth Cavalry, instructor.
 First Lieut. Edward J. Moran,^b Twenty-second Infantry, instructor.
 Second Lieut. Edward M. Zell,^b Seventh Cavalry, instructor.
 Second Lieut. Martin C. Wise,^b Twentieth Infantry, instructor.

LIBRARIAN.

Edward S. Holden, M. A., Sc. D., LL. D., Litt. D. (July 1, 1902.)

CHAPLAIN.

Edward S. Travers. (December 1, 1905.)

DENTAL SURGEONS.

Alden Carpenter. (January 3, 1910.)
 William H. Chambers. (June 30, 1907.)

^a Also on duty in department of English and history.

^b On duty in department of modern languages.

^c On duty at Headquarters Military Academy.

^d On duty in department of law and history.

TEACHER OF MUSIC.

Philip Egner. (June 17, 1909.)

FORESTER.

Roy L. Marston, M. F. (April 1, 1905.)

ORGANIZATIONS.

CORPS OF CADETS.

Lieut. Col. Frederick W. Sibley, Fourth Cavalry, commanding.

First Battalion.

Capt. Morton F. Smith, Twentieth Infantry, commanding.

Company A, Capt. Alfred A. Maybach, Coast Artillery Corps. commanding.

Company B, Capt. John D. Long, Twelfth Cavalry, commanding.

Company C, First Lieut. Benjamin E. Grey, Twenty-first Infantry, commanding.

Second Battalion.

Capt. Isaac Newell, Twenty-second Infantry, commanding.

Company D, First Lieut. E. Llewellyn Bull, Twenty-first Infantry, commanding.

Company E, Capt. Isaac Newell, Twenty-second Infantry, commanding.

Company F, First Lieut. Francis H. Farnum, Twenty-fourth Infantry, commanding.

UNITED STATES MILITARY ACADEMY BAND AND DETACHMENT OF FIELD MUSIC.

Capt. Oscar J. Charles, Seventeenth Infantry, commanding.

DETACHMENT OF HOSPITAL CORPS.

Lieut. Col. Charles M. Gandy, Medical Corps, commanding.

Capt. William L. Keller, Medical Corps.

Capt. Lloyd L. Smith, Medical Corps.

DETACHMENT OF ENGINEERS.

Capt. William P. Wooten, Corps of Engineers, commanding.

Capt. Mark Brooke, Corps of Engineers.

DETACHMENT OF ORDNANCE.

Capt. Otho V. Kean, Ordnance Department, commanding.

UNITED STATES MILITARY ACADEMY DETACHMENT OF CAVALRY.

Capt. Guy V. Henry, Twelfth Cavalry, commanding.

First Lieut. Edward H. De Armond, Sixth Field Artillery.

UNITED STATES MILITARY ACADEMY DETACHMENT OF FIELD ARTILLERY.

Capt. Charles P. Summerall, Second Field Artillery, commanding.

UNITED STATES MILITARY ACADEMY DETACHMENT OF ARMY SERVICE MEN.

Capt. Joseph W. Beacham, jr., Ninth Infantry, commanding.

First Lieut. Guy Kent, First Cavalry.

List of officers at the United States Military Academy.

Name.	Corps or regiment.	On duty at academy since—
SUPERINTENDENT.		
Scott, Hugh L.....	Colonel, U. S. Army (major, Fourteenth Cavalry).	Aug. 31, 1906
COLONELS.		
Larned, Charles W.....	Professor (July 25, 1876).....	Aug. 28, 1874
Tillman, Samuel E.....	Professor (Dec. 21, 1890).....	Aug. 28, 1879
Wood, Edward E.....	Professor (Oct. 1, 1892).....	Aug. 28, 1889
Fiebigler, Gustav J.....	Professor (May 4, 1890).....	May 30, 1890
LIEUTENANT-COLONELS.		
Gordon, William B.....	Professor (Mar. 27, 1901).....	May 2, 1901
Echols, Charles P.....	Professor (June 29, 1904).....	Dec. 27, 1898
Ruggles, Colden L'H.....	Professor (Aug. 21, 1908) (major, Ordnance Department).	Aug. 21, 1908
Gandy, Charles M.....	Medical Corps.....	June 20, 1906
Sibley, Frederick W.....	Fourth Cavalry, commandant of cadets.....	Feb. 1, 1909
Bethel, Walter A.....	Professor (Aug. 22, 1909) (major and judge-advocate).	Aug. 22, 1909
Carson, John M., jr.....	Quartermaster's Department.....	July 8, 1903
MAJORS.		
Robinson, Wirt.....	Coast Artillery.....	Dec. 30, 1906
CAPTAINS.		
Traub, Peter E.....	Twelfth Cavalry.....	July 1, 1907
Hunt, Ora E.....	Thirtieth Infantry.....	Aug. 22, 1908
Darrah, Thomas W.....	Twenty-seventh Infantry.....	Aug. 22, 1907
Grove, William R.....	Subsistence Department.....	Dec. 16, 1907
Smith, Morton F.....	Twentieth Infantry.....	Feb. 26, 1906
Charles, Oscar J.....	Seventeenth Infantry.....	Nov. 14, 1906
Newell, Isaac.....	Twenty-second Infantry.....	Aug. 22, 1908
Lewis, Frederick W.....	Twenty-ninth Infantry.....	Aug. 22, 1905
Summerall, Charles P.....	Second Field Artillery.....	Do.
Nesbitt, William F.....	Fourth Infantry.....	Aug. 22, 1907
Berry, Daniel G.....	Twenty-second Infantry.....	Do.
Koehler, Herman J.....	Captain, U. S. Army.....	Feb. 1, 1885
Wooten, William P.....	Engineers.....	Aug. 25, 1908
Henry, Guy V.....	Twelfth Cavalry.....	Aug. 28, 1908
Long, John D.....	do.....	Aug. 6, 1909
Pillsbury, George B.....	Engineers.....	Aug. 22, 1908
Clark, Charles B.....	Fourteenth Infantry.....	Aug. 22, 1906
Trotter, Clement A.....	Fifth Infantry.....	Do.
Keller, William L.....	Medical Corps.....	Mar. 27, 1910
Smith, Lloyd L.....	do.....	Aug. 25, 1906
Beacham, Joseph W., jr.....	Ninth Infantry.....	Apr. 11, 1910
Jewett, Henry C.....	Engineers.....	Aug. 22, 1907
Kear, Otto V.....	Ordnance Department.....	Aug. 22, 1909
Meybach, Alfred A.....	Coast Artillery.....	Aug. 22, 1907
Mitchell, William A.....	Engineers.....	Aug. 28, 1907
FIRST LIEUTENANTS.		
Morey, Lewis S.....	Twelfth Cavalry.....	Oct. 1, 1908
Thomas, Richard M.....	Fifteenth Cavalry.....	Aug. 22, 1907
Fiske, Harold C.....	Engineers.....	Aug. 22, 1908
Schley, Julian L.....	do.....	Do.
Wallace, William B.....	Twentieth Infantry.....	Dec. 30, 1907
Russell, George M.....	Fifteenth Cavalry.....	Aug. 28, 1906
Pottis, Charles R.....	Engineers.....	Aug. 22, 1909
Riggs, Kerr T.....	Fourteenth Cavalry.....	Do.
Anderson, William D. A.....	Engineers.....	July 30, 1908
De Armond, Edward H.....	Sixth Field Artillery.....	June 14, 1909
Kent, Guy.....	First Cavalry.....	Feb. 4, 1907
Frankenberger, Samuel.....	Third Field Artillery.....	Aug. 22, 1907
Morrison, William F.....	Second Field Artillery.....	Oct. 29, 1906
Rehkopf, Ned B.....	do.....	Sept. 26, 1907
Collins, Owen G.....	Coast Artillery.....	Oct. 5, 1907
Jones, Clifford.....	do.....	Aug. 22, 1909
Alley, Charles R.....	do.....	Aug. 22, 1906
Fenton, Chauncey L.....	do.....	Do.
Allin, George R.....	Sixth Field Artillery.....	Aug. 22, 1908
Glassford, Pelham D.....	Second Field Artillery.....	Aug. 22, 1907
Bryden, William.....	Fifth Field Artillery.....	Aug. 22, 1908
McDonald, Donald C.....	Coast Artillery.....	Aug. 22, 1909
Honeycutt, Francis W.....	Fifth Field Artillery.....	Aug. 22, 1907

List of officers at the United States Military Academy—Continued.

Name.	Corps or regiment.	On duty at academy since—
FIRST LIEUTENANTS—continued.		
Cross, Matthew A.	Coast Artillery.....	Aug. 22, 1909
Spaulding, Thomas M.	do.....	July 1, 1908
Williams, Benjamin H. L.	do.....	Aug. 22, 1909
Dunwoody, Halsey.....	do.....	Do.
Morrow, George M., jr.	do.....	Do.
Willford, Forrest E.	do.....	Mar. 1, 1910
Green, Joseph A.	do.....	Do.
Huntley, Harold W.	Third Field Artillery.....	Do.
Moran, Edward J.	Twenty-second Infantry.....	Aug. 22, 1906
Nelly, Henry M.	Twentieth Infantry.....	Aug. 22, 1907
Johnson, William A.	Engineers.....	June 15, 1910
Parker, Samuel M.	Twentieth Infantry.....	Aug. 22, 1908
Farnum, Francis H.	Twenty-fourth Infantry.....	Aug. 22, 1907
Grey, Benjamin E.	Twenty-first Infantry.....	Aug. 22, 1906
Case, Roland W.	Ordnance Department.....	Aug. 22, 1908
Donavin, Charles S.	do.....	Do.
Bull, E. Llewellyn.....	Twenty-first Infantry.....	Dec. 19, 1907
Grier, Harry S.	Twenty-second Infantry.....	Aug. 22, 1907
Edwards, George M.	Medical Corps.....	June 4, 1910
SECOND LIEUTENANTS.		
Mitchell, Henry E.	Third Cavalry.....	Aug. 22, 1907
Telford, Charles.....	Twelfth Cavalry.....	Do.
Shnyder, Frederick E.	Second Cavalry.....	Do.
Zell, Edward M.	Seventh Cavalry.....	Aug. 22, 1908
Cooper, Vaughn W.	Twelfth Cavalry.....	Aug. 22, 1907
Richardson, Robert C., jr.	Fourteenth Cavalry.....	Nov. 1, 1906
Benedict, Jay L.	Fourteenth Infantry.....	Oct. 24, 1908
Stillwell, Joseph W.	Twelfth Infantry.....	Aug. 22, 1906
Herman, Richard J.	Twenty-third Infantry.....	Aug. 22, 1907
Wise, Martin C.	Twentieth Infantry.....	Do.
Gardner, John de B. W.	Eleventh Cavalry.....	Sept. 1, 1907
Manley, Frederick W.	Thirteenth Infantry.....	Aug. 22, 1908

APPENDIX B.

REPORT OF THE SURGEON.

UNITED STATES MILITARY ACADEMY,

SURGEON'S OFFICE,

West Point, N. Y., July 10, 1910.

SIR: In compliance with instructions contained in Memorandum No. 41, dated Headquarters United States Military Academy, May 31, 1910, I have the honor to submit the following report, showing the work of the medical department for the past fiscal year:

CORPS OF CADETS.

The general health of the cadets has been excellent.

The total number of admissions have been 7 more than last year, with a loss of 391 more days on account of sickness.

There have been 127.6 admissions per 1,000 on account of malarial fever, a slight increase over last year, when the ratio was 126.3 per 1,000. These cases have all been of a nonmalignant type.

There has been no typhoid fever during the year, and the cadets have been entirely free from scarlet fever, measles, and other exanthematous infectious diseases.

During the autumn, winter, and spring there have been many cases of catarrhal troubles of the respiratory tract, varying from a mild

coryza to a bronchitis of moderate severity. Not a single case of pneumonia has occurred during the year.

There have been the usual number of cases of acute indigestion, due usually to carelessness on the part of the sufferer.

Several cases of contagious mucopurulent conjunctivitis ("pink eye") occurred among the cadets in March, the infection having been introduced by a member of the incoming new class.

There have been 13 operative cases of appendicitis during the year. In a number of these I have been able to obtain histories of attacks prior to admission to the Military Academy.

There have been the usual number of accidents and injuries resulting from various drills, from athletics, and from athletic sports. With one exception, no permanent injury has resulted. The excepted case is that of Cadet Byrne, who sustained an atlo-axoid dislocation with laceration and compression of the cord while playing football. Death resulted, the fatal termination occurring about fifteen hours after the accident. In this case there was a complete paralysis of respiration from the first. This was the only death during the year.

Sixty-five operations were performed on cadets during the year. Successful results were obtained in all cases.

Inasmuch as the constant wearing of an impervious, polished black shoe during the summer months causes excessive perspiration of the feet, and results in maceration, softening, and excoriation between the toes, and on various other parts of the feet, I renew my recommendation that a light-weight, low-quarter shoe of canvas or other pervious material be authorized for wear in camp when not on duty.

OFFICERS AND ENLISTED MEN.

The general health of officers and enlisted men has been good.

There have been the usual number of cases of catarrhal troubles of the upper air passages due to climatic causes.

The number of admissions on account of malarial fevers has somewhat decreased—76.2 per 1,000 as against 97.2 per 1,000 during the preceding year.

There has been a slight increase in the ratio of admissions on account of venereal diseases—23.6 per 1,000 as against 21.8 last year.

Only one case of typhoid fever has occurred. This was contracted by a soldier while absent from the post on detached service.

There have been no other cases of infectious diseases during the year.

There have been about the usual number of accidents and injuries.

There have been 53 operations performed on officers and enlisted men, 11 of which have been appendectomies.

There have been no deaths among officers or enlisted men on the active list.

One retired enlisted man died on the post.

Five enlisted men have been transferred to other hospitals, as follows: General Hospital, Fort Bayard, N. Mex., 2; Government Hospital for the Insane, Washington, D. C., 1; Fort Slocum, N. Y., with a view to discharge on surgeon's certificate of disability, 2. Of the 2 last mentioned, 1 man was discharged and 1 was returned to duty.

The total number of recruits examined for enlistment was 144, of which number 18 were rejected and 6 declined enlistment.

CIVILIAN POPULATION.

The civilian population is probably proportionally, if not actually, larger than that at any military post in our service. It comprises not only the families and guests of officers and enlisted men—a large proportion of the latter being married—but in addition a large number of civilian employees of the various departments.

In addition to these, the extensive construction work necessitates the employment by contractors of a large number of artisans and laborers. Among this class of people there are constantly occurring serious accidents and severe injuries. While such persons have absolutely no claim upon the medical department, they have always received prompt and cheerful medical and surgical assistance in every case of emergency. So freely has this been given that there has been a tendency on the part of these civilians to look upon the military hospitals as charitable institutions where all are entitled to free medical attendance, and the resulting demands have at times been both insistent and unreasonable.

During the year 51 surgical operations have been performed for civilians; 6 of these have involved abdominal section.

Among the infectious diseases which have come under treatment among the civilian population have been chicken pox, diphtheria, measles, mumps, scarlet fever, typhoid fever, and tuberculosis.

There have been 4 deaths among civilians during the year, only 1 of which resulted from disease.

HOSPITALS.

During the year the lower north ward of the cadet hospital has been remodeled to correspond with the remaining wards of the building. All wards now have tiled walls and floors and are in strict accord with advanced sanitary ideas. Two of them are still defective in so far as lavatories and toilet rooms are concerned, but an item in the appropriation bill for the current fiscal year provides for putting these in a condition to correspond with the wards to which they belong.

The water supply for the soldiers' hospital has been improved and is now satisfactory. The building, however, is inadequate for the requirements of the post and is inconveniently located with reference to the barracks.

I renew my recommendation of last year that a new and modern 48-bed hospital be constructed on a suitable site near the southern extremity of the post in convenient proximity to the new barracks.

SANITATION.

The general sanitary condition of the post is good.

The purity of the water supply has received practical demonstration by the freedom of the post from water-borne diseases and the fact that the single case of typhoid fever occurring among the military population and the civilian case have been traced to outside sources.

Weekly examinations of both raw and filtered water have been made by biological methods in the laboratory of the cadet hospital. No evidence of contamination by the colon bacillus has been dis-

covered even in the raw water, which is very satisfactory in every respect.

The quality of this is further improved by the highly efficient action of the 4 filter beds, which remove from 97 to 99 per cent of all bacteria.

A plentiful supply of good ice was harvested during the past winter, and it is not probable that the trouble of last summer on account of contaminated ice will be repeated.

The war on the mosquito is still in progress and thus far this summer the insects have been less annoying than usual, and there have been a smaller number of malarial cases on sick report.

Attention is invited to the appended tables which furnish more detailed information covering the work of the medical department.

I also append the reports of the two dental surgeons, Doctors Chambers and Carpenter, both of whom I wish to commend.

In closing this, my last annual report as surgeon of the Military Academy, I desire to express my appreciation of the arduous, untiring, and efficient work of my late assistants, Capts. John W. Hanner, Robert C. Loving, and Lloyd L. Smith, of the Medical Corps of the Army, and to commend the faithfulness and efficiency of my present assistants, Capt. William L. Keller and First Lieut. George M. Edwards, of the same corps.

Very respectfully,

CHAS. M. GANDY,
Lieutenant-Colonel, Medical Corps, Surgeon.

The ADJUTANT, UNITED STATES MILITARY ACADEMY.

EXHIBIT A.—*Sickness in command, etc.*

Admissions to cadet hospital, fiscal year—	
1909-10.....	1,028
1908-9.....	1,021
Increase in number of admissions for present year.....	7
Number of days lost to cadets in study through sickness during fiscal year—	
1909-10.....	5,894
1908-9.....	5,503
Increase in number of days lost in study for present year.....	391
Admissions to soldiers' hospital during the fiscal year.....	674
Number of prescriptions filled at cadet hospital dispensary (exclusive of routine prescriptions in wards).....	7,821
Number of prescriptions filled at soldiers' hospital dispensary (exclusive of routine prescriptions in wards) and at subdispensary.....	3,831
Recruits examined (accepted 120, rejected 13, declined 6).....	144
Number of births on post.....	23
Number of enlisted men transferred to general and special hospitals.....	5

EXHIBIT B.—Classification of admissions to hospital, with reference to causes, and ratio per thousand of mean strength.

Disease.	Cadets.		Officers and enlisted men.	
	Admissions.	Ratio per 1,000 of mean strength.	Admissions.	Ratio per 1,000 of mean strength.
Abrasions.....	18	41.76	11	14.96
Abscess.....	8	18.56	12	16.32
Abscess, dental alveolar.....	10	23.20	2	2.72
Acanthosis.....	1	2.32	.....	.....
Actinomyces.....	.....	.....	1	1.36
Albuminuria.....	1	2.32	.....	.....
Alcoholism.....	.....	.....	17	23.12
Ankylosis.....	1	2.32	.....	.....
Aortic regurgitation.....	.....	.....	1	1.36
Appendicitis.....	16	37.12	10	13.60
Arthritis, gonorrhoeal.....	.....	.....	3	4.08
Arthritis.....	.....	.....	1	1.36
Asthenopia.....	2	4.64	.....	.....
Asthma.....	1	2.32	6	8.16
Astigmatism.....	.....	.....	1	1.36
Blisters.....	.....	.....	2	2.72
Bronchitis.....	57	132.24	29	39.44
Buboes.....	.....	.....	1	1.36
Burns.....	2	4.64	1	1.36
Bursitis.....	1	2.32	4	5.44
Calculi, biliary.....	1	2.32	.....	.....
Callosities.....	.....	.....	2	2.72
Carbuncles.....	.....	.....	1	1.36
Caries.....	2	4.64	.....	.....
Catarrh, nasal.....	1	2.32	.....	.....
Cellulitis.....	3	6.96	8	10.88
Chancre.....	.....	.....	1	1.36
Chancroid.....	1	2.32	4	5.44
Circumcisions.....	11	25.52	.....	.....
Colic.....	13	30.16	5	6.80
Concussion of brain.....	6	13.62	.....	.....
Conjunctivitis.....	19	44.08	5	6.80
Constipation.....	13	30.16	11	14.96
Contusions.....	48	111.36	53	78.88
Convalescent from operations.....	3	6.96	.....	.....
Corns.....	5	11.60	4	5.44
Coryza.....	100	232.00	3	4.08
Cystitis:	.....	.....	.....	.....
Gonorrhoeal.....	.....	.....	1	1.36
Nonvenereal.....	1	2.32	1	1.36
Deviated nasal septum.....	.....	.....	2	2.72
Deformity of nose.....	.....	.....	1	1.36
Dellirium tremens.....	.....	.....	1	1.36
Dermatitis (rhus tox).....	16	37.12	5	6.80
Dermatitis due to kerosene.....	1	2.32	.....	.....
Diarrhea.....	17	38.44	18	24.48
Dislocations.....	3	6.96	4	5.44
Dyspepsia.....	.....	.....	19	25.84
Echymosis.....	.....	.....	1	1.36
Eczema.....	4	9.28	1	1.36
Epididymo-orchitis.....	.....	.....	1	1.36
Epileptiform convulsions.....	.....	.....	2	2.72
Epiptaxis.....	.....	.....	1	1.36
Erythema.....	.....	.....	2	2.72
Eversion of nail.....	.....	.....	1	1.36
Excision, tip of finger.....	.....	.....	1	1.36
Excoriations.....	5	11.60	.....	.....
Exostosis.....	1	2.32	.....	.....
Eye strain.....	1	2.32	.....	.....
Fainting.....	1	2.32	.....	.....
Fever:	.....	.....	.....	.....
Hay.....	2	4.64	.....	.....
Malarial.....	55	127.60	56	76.16
Simple.....	3	6.96	.....	.....
Typhoid.....	.....	.....	1	1.36
Foreign body in eye.....	1	2.32	2	2.72
Fractures.....	7	16.24	14	19.04
Frost bites.....	.....	.....	2	2.72
Furuncles.....	20	46.40	8	10.88
Gastritis.....	.....	.....	10	13.60
Gastritis, alcoholic.....	.....	.....	5	6.80
Gastro-enteritis.....	.....	.....	1	1.36
Gingivitis.....	.....	.....	1	1.36

EXHIBIT B.—Classification of admissions to hospital, with reference to causes, and ratio per thousand of mean strength—Continued.

Disease.	Cadets.		Officers and enlisted men.	
	Admissions.	Ratio per 1,000 of mean strength.	Admissions.	Ratio per 1,000 of mean strength.
Glossitis.....	1	2.32		
Gumma.....			1	1.35
Hallux valgus.....			1	1.35
Hemorrhage into vitreous of eye.....			1	1.35
Hemorrhoids.....	2	4.64	2	2.72
Herpes preputial.....	1	2.32		
Herpes tonsurans.....	1	2.32		
Herpes zoster.....	2	4.64	2	2.72
Hordeolum.....			1	1.35
Hernia.....	2	4.64	3	4.65
High-arched foot.....	1	2.32		
Hydrocele.....			2	2.72
Impetigo, contagiosa.....	4	9.28	1	1.35
Indigestion.....	164	380.48	1	1.35
Infections.....			2	2.72
Inflammation of gum.....	2	4.64	1	1.35
Inflammation of testicles.....			2	2.72
Influenza.....	21	48.72	19	25.81
Ingrowing toe nail.....	9	20.88	3	4.05
Insanity.....			1	1.35
Insomnia.....	3	6.96		
Jaundice.....	3	6.96	2	2.72
Laryngitis.....			2	2.72
Lumbago.....	2	4.64		
Lymphangitis.....			1	1.35
Migraine.....	2	4.64	1	1.35
Myalgia.....	8	18.56	6	8.11
Mydriasis.....	1	2.32	1	1.35
Myocarditis.....			3	4.05
Myositis.....	2	4.64		
Nasal spur.....			1	1.35
Neuralgia.....	2	4.64		
Neurasthenia.....	1	2.32	10	13.00
Neuritis.....	2	4.64		
Obstruction, nasal.....			1	1.35
Odontalgia.....	3	6.96		
Orchitis:				
Venereal.....	2	4.64		
Nonvenereal.....	1	2.32	1	1.35
Osteoperiostitis.....			1	1.35
Otalgia.....	1	2.32		
Otitis media.....	4	9.28	5	6.60
Pain at old fracture.....			1	1.35
Painful cicatrix.....			2	2.72
Palpitation of heart.....			2	2.72
Paralysis:				
Facial.....			1	1.35
Partial.....			1	1.35
Pediculosis.....			1	1.35
Peritonsillar abscess.....			1	1.35
Pes planus.....			1	1.35
Pharyngitis.....	2	4.64	3	4.05
Phimosis.....			1	1.35
Phlebitis.....	1	2.32		
Pleurisy.....			2	2.72
Pleurodynia.....			1	1.35
Pompholyx.....	2	4.64		
Proctitis.....			1	1.35
Psoriasis.....			1	1.35
Pterygium.....	1	2.32		
Pulpitis.....	2	4.64		
Rheumatism.....	20	46.40	19	25.81
Rhinitis.....			1	1.35
Sebaceous cyst.....			1	1.35
Sinusitis.....			1	1.35
Sore on penis (cause undetermined).....	2	4.64		
Sore in mouth.....	1	2.32		
Sprain.....	62	143.84	24	32.64
Stomatitis.....	1	2.32		
Strain.....	3	6.96	11	14.66
Synovitis.....			4	5.41
Syphilis.....	17	39.44		
Taenia, saginata.....			1	

EXHIBIT B.—Classification of admissions to hospital, with reference to causes, and ratio per thousand of mean strength—Continued.

Disease.	Cadets.		Officers and enlisted men.	
	Admissions.	Ratio per 1,000 of mean strength.	Admissions.	Ratio per 1,000 of mean strength.
Tinea sycosis.....	1	2.32		
Tonsillitis.....	106	245.92	37	50.32
Trachoma.....	3	6.96		
Tuberculosis, pulmonary.....			2	2.72
Tube-tympaanitis.....			1	1.36
Ulcers.....			3	4.08
Under observation.....	2	4.64		
Urethritis, gonorrhoeal.....	8	18.56	41	55.76
Urticaria.....	1	2.32	1	1.36
Vaccinia.....	1	2.32	3	10.88
Varicose veins.....	2	4.64		
Variocoele.....	3	6.96	3	4.08
Warts.....			1	1.36
Wounds.....	18	30.16	39	53.04

EXHIBIT C.—Deaths.

CADET.

Atlo-axoid dislocation, with laceration and compression of upper portion of spinal cord..... 1

RETIRED ENLISTED MAN

Myocarditis, chronic; nephritis, interstitial, chronic, bilateral; general arteriosclerosis..... 1

CIVILIANS.

- (a) Families of enlisted men:
 - Asphyxiation, due to accidental drowning in Crow's Nest Pond, at West Point, N. Y..... 1
 - (b) Employee of construction company:
 - Fracture of skull, sustained by falling from truss at riding hall, West Point, N. Y..... 1
 - (c) Civilian guest of enlisted man:
 - Acute bronchial pneumonia and senility..... 1
 - (d) Civilian:
 - Unknown male negro infant (newly born, found dead on post). Cause: Hemorrhage, cerebral, traumatic, caused by persons and by means not known..... 1
- Total..... 4

SUMMARY.

Cadet..... 1
 Retired enlisted man..... 1
 Civilians..... 4
 Total..... 6

EXHIBIT D.—*Surgical operations.*

OPERATIONS PERFORMED BY CAPT. JOHN W. HANNER, MEDICAL CORPS, U. S. ARMY.

Nature of operation.	Officers.	Cadets.	En-listed men.	Civilians.	Total.
Abscess:					
External auditory canal, incised and drained				1	1
Cervical, incised and drained			1		1
Adenoids:					
Curetment of		2		1	3
Removal of				2	2
Amputation (partial) of penis for epithelioma				1	1
Appendectomy		7	9	5	21
Aspiration, synovial sac, right knee	1				1
Circumcision		2		2	4
Chalazion, incised and curetment of	2	4	1		7
Curetment of—					
Uterus and cervix				2	2
Bone, superior maxillary process, above right second incisor		1			1
Excision of—					
First phalanx, first metatarsal bone, right			1		1
Bursa, right great toe			1		1
Corns	1	2			3
Hemorrhoids		1			1
Ingrowing toe nails		3	1		4
Epithelioma, left cheek			1		1
Sebaceous cysts	1	2			3
Broken piece of glass from ball of right great toe				1	1
Nasal spur			1		1
Warts		2			2
Blood clot				1	1
Pterygium		1			1
Uvula		1			1
Varicocele		3	1		4
Varicose veins		2	2		4
Hernia		1	1		2
Hydrocele, operation for		1		1	1
Incision, curetment, and drainage of fistula-in-ano				1	1
Incision and curetment of meibomian cyst				1	1
Incision and curetment of bone, distal phalanx, thumb				1	1
Incision and drainage of whitlow				2	2
Luxation, subcoracoid, left shoulder		1			1
Resection of nasal septum			1		1
Resection of tonsil				1	1
Tonsillectomy		2		1	3
Total	5	37	21	24	87

OPERATIONS PERFORMED BY CAPT. WILLIAM L. KELLER, MEDICAL CORPS, U. S. ARMY.

Adenoids, removal of				3	3
Adhesions, breaking of, right knee		1			1
Amputation of right leg			1		1
Appendectomy		6	2		8
Circumcision		12			12
Excision of—					
Axillary glands			1		1
Exostosis, lower external condyle, right femur		1			1
Goiter				1	1
Hemorrhoids		1			1
Nasal septum			1		1
Sebaceous cyst		1			1
Hernia		1	2		3
Hydrocele, operation for	1				1
Paracentesis, tympani, right ear		1	1		2
Reduction and immobilization, simple fracture				1	1
Tonsillectomy				3	3
Trachelorrhaphy and perineorrhaphy				1	1
Total	1	24	8	9	42

EXHIBIT D.—*Surgical operations*—Continued.

OPERATIONS PERFORMED BY CAPT. ROBERT C. LOVING, MEDICAL CORPS, U. S. ARMY.

Nature of operation.	Officers.	Cadets.	En-listed men.	Civilians.	Total.
Circumcision.....				1	1
Excision of ingrowing nails.....		3			3
Salpingo-ophorectomy, bilateral.....				1	1
Total.....		3		2	5

OPERATIONS PERFORMED BY CAPT. LLOYD L. SMITH, MEDICAL CORPS, U. S. ARMY.

Abscess:					
Axillary, incision and drainage of.....			1		1
Peritonsillar, incision and drainage of.....				2	2
Ischioanal, incision, curettment, and drainage of.....			1		1
Adenoids, removal of.....			1	2	3
Bubo, chancroidal, incision and drainage of.....			1		1
Circumcision.....				4	4
Dislocations, reduction of.....			1	2	3
Fractures:					
Colles', reduction of.....			1		1
Simple, complete, reduction of.....		1	1	1	3
Hemorrhoids, removal of.....	1		1		2
Hydrocele, incision and drainage.....				1	1
Incision and drainage for suppurative cellulitis.....			2		2
Ingrowing toe nails, removal of.....			3		3
Myringotomy, left ear.....	1				1
Paracentesis, thoracic, fluid removed.....			1		1
Prepatellar bursitis, tapping of.....			1		1
Sebaceous cyst, excision of.....				1	1
Warts, excision of.....	1				1
Wounds, sutured.....				3	3
Total.....	3	1	15	16	35

EXHIBIT E.—*Diseases of the eye treated by Capts. John W. Hanner, Robert C. Loving, and Lloyd L. Smith, Medical Corps, U. S. Army.*

Disease.	Captain Hanner.	Captain Loving.	Captain Smith.
Atrophy of optic nerve.....	1		
Anisometropia.....		2	
Astigmatism:			
Hyperopic, simple.....	1	6	3
Myopic, simple.....	1	3	
Hyperopic, compound.....	31	14	9
Myopic, compound.....	9	3	1
Mixed.....	3	1	1
Blepharitis, acute.....			1
Conjunctivitis:			
Acute.....		2	
Follicular.....	1	2	
Foreign bodies imbedded in cornea removed.....		2	4
Hyperopia.....	7	9	12
Iritis, acute.....		1	1
Keratitis, acute, interstitial.....		1	
Myopia.....	1		2
Presbyopia with astigmatism.....	1		1
Presbyopia.....	5	8	3
Retinitis.....	1		
Trachoma, chronic.....		1	1
Ulcer, corneal.....		1	1
Total.....	62	56	50

EXHIBIT F.

OFFICE OF THE DENTAL SURGEON,
 UNITED STATES MILITARY ACADEMY,
West Point, N. Y., June 30, 1910.

SIR: I have the honor to submit the following report for the fiscal year ending June 30, 1910:

Number of cases presented.....	1,282
Number of operations performed.....	812
Number of patients.....	705
Number of sittings recorded.....	1,031

TABLE OF CASES PRESENTED.

Abrasion, mechanical.....	1	Gingivitis, simple.....	1
Abscess of jaw.....	6	Gum tumors.....	2
Broken bridge.....	1	Hypercementosis.....	1
Broken denture.....	1	Hypertrophied gums.....	12
Broken regulating appliance.....	1	Impacted teeth.....	1
Caries.....	499	Irregularities.....	12
Caries, left superior maxilla.....	1	Necrotic teeth.....	22
Defective bridges.....	2	Necrosis, alveolar.....	5
Defective crowns.....	14	Odontalgia.....	45
Defective enamel.....	2	Partial edentulous, lower.....	3
Defective fillings.....	151	Partial edentulous, upper.....	8
Defective gold inlays.....	3	Pericemental abscess.....	1
Defective porcelain inlays.....	2	Pericementitis, acute.....	20
Defective root fillings.....	10	Pulpitis, acute.....	107
Dento-alveolar abscess.....	58	Pulp stone.....	1
Devitalized pulp.....	1	Putrescent pulps.....	59
Edema.....	1	Putrescent root canals.....	23
Erosion, chemical.....	7	Pyorrhea alveolaris.....	6
Erupting teeth, painful.....	9	Recession of gums.....	1
Exposed pulps.....	63	Salivary deposit.....	31
Fistula.....	5	Sensitive dentine.....	31
Fractured crown.....	1	Sensitive developmental pits.....	1
Fractured cusps.....	2	Stomatitis.....	3
Fractured edges.....	1	Trigeminal neuralgia.....	1
Fractured teeth.....	42	Trismus.....	3

TABLE OF OPERATIONS—DENTAL [AND SURGICAL.

Abscesses lanced.....	17	Pressure anesthesia.....	8
Alveolectomy.....	2	Pulps capped.....	8
Bone scraped.....	1	Pulps devitalized.....	43
Calculus removed.....	31	Pulps extirpated.....	58
Caries ground out and polished.....	2	Regulating appliances inserted.....	7
Cavities cut together.....	5	Regulating appliances repaired.....	1
Cavities lined.....	1	Retaining appliance inserted.....	1
Cavities packed with antiseptic gauze.....	6	Retaining appliance repaired.....	1
Clasps readjusted and tightened.....	1	Roots filled with gutta-percha.....	56
Defective bridges removed.....	1	Root fillings removed.....	3
Defective crowns removed.....	4	Root fillings repaired.....	1
Defective fillings removed.....	50	Surgical removal of carious bone.....	1
Defective porcelain inlay removed.....	1	Teeth cleaned and polished.....	11
Gums excised.....	11	Teeth extracted.....	42
Gutta-percha removed.....	8	Teeth ground to normal contour.....	1
Prepared for gold bridges.....	1	Teeth opened.....	9
Prepared for gold crowns.....	14	Teeth treated.....	344
Prepared for gold inlays.....	47	Tumor excised.....	1
Prepared for porcelain inlays and restorations.....	2		

FILLINGS.

Amalgam.....	157	Oxyphosphate.....	85
Gold fillings.....	10	Oxyphosphate and amalgam.....	16
Gold fillings reset.....	1	Porcelain inlays and restorations....	9
Gold inlays.....	48	Porcelain inlays reset.....	1
Gold inlays reset.....	2	Silicate.....	7
Gutta-percha.....	19		

CROWNS.

Gold shell.....	10	Logan.....	1
Gold shell repaired.....	1	Logan, reset.....	1
Gold shell reset.....	3	Richmond, cast.....	2
Gold and porcelain.....	1	Richmond, repaired.....	1

BRIDGES.

Gold, cast.....	3	Gold, reset.....	1
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ARTIFICIAL DENTURES.

Partial, vulcanite, lower.....	1	Partial, vulcanite, upper.....	4
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Very respectfully,

ALDEN CARPENTER,
Dental Surgeon, U. S. Army.

The SURGEON, UNITED STATES MILITARY ACADEMY.

EXHIBIT G.

OFFICE OF THE DENTAL SURGEON,
UNITED STATES MILITARY ACADEMY,
West Point, N. Y., July 2, 1910.

SIR: I have the honor to submit the following report of cases presented and operations performed by me for the fiscal year ending June 30, 1910:

CASES PRESENTED.

Alveolar necrosis.....	1	Pericementitis, acute.....	2
Defective fillings.....	35	Pericementitis, chronic.....	3
Dental caries.....	722	Pulpitis, acute.....	3
Dento-alveolar abscess.....	11	Putrescent pulp.....	25
Exposed pulps.....	20	Putrescent root canals.....	1
Fracture of the teeth.....	2	Resorption of the alveolar process..	1
Neuralgia, facial.....	1	Salivary deposit.....	26
Lost teeth.....	1		

OPERATIONS.

Abscesses lanced.....	3	Roots filled (gutta-percha).....	46
Defective Logan crown removed....	1	Root canal fillings removed.....	1
Necrosis process removed.....	1	Salivary deposit removed.....	22
Pulps capped.....	17	Teeth cleaned and polished.....	12
Pulps devitalized.....	2	Teeth extracted.....	7
Pulps extirpated.....	50	Teeth extracted, roots.....	5
Defective gold shell crown and roots removed.....	1	Cocaine anesthesia.....	24
		Teeth treated, medicated.....	61

FILLINGS.

Amalgam.....	331	Gutta-percha.....	1
Oxyphosphate and amalgam.....	101	Repaired amalgam.....	20
Gold.....	33	Amalgam with platinum pin anchor- age.....	2
Gold removed (defective).....	1		
Oxyphosphate.....	22		

INLAYS.

Gold.....	98	Porcelain removed (defective).....	1
Porcelain.....	45	Combination gold and porcelain....	1

BRIDGES.

Gold and porcelain.....	1	Wing bridge, tooth facing attached, to gold inlay.....	1
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CROWNS.

Gold shell.....	6	Logan.....	11
Gold shell crown removed (defective).....	6	Richmond.....	1
Gold recemented.....	1	Logan with gold inlay base.....	2

ARTIFICIAL DENTURES.

Vulcanite, partial superior.....	2	Vulcanite, partial lower repaired....	1
Vulcanite, full superior.....	1		

Total number sittings during this period.....	1,185
Total number of persons treated during this period.....	658

Very respectfully,

WM. H. CHAMBERS,
Dental Surgeon, U. S. Army.

The SURGEON, UNITED STATES MILITARY ACADEMY.

APPENDIX C.

REPORT OF THE TREASURER.

OFFICE OF THE TREASURER,
UNITED STATES MILITARY ACADEMY,
West Point, N. Y., June 10, 1910.

SIR: In compliance with instructions contained in Memorandum No. 41, I have the honor to submit the following report of the operations of the departments under my supervision for the fiscal year ending April 30, 1910:

TREASURER'S OFFICE.

The financial transactions of the treasurer for the year ending April 30, 1910, were as follows:

	Debit.	Credit.
Assistant treasurer.....	\$200,747.51	\$208,042.09
Army athletic council.....	3,398.00	4,249.00
Balances paid.....	4,056.13	3,612.42
Barber.....	1,540.00	1,540.00
Breakage, gas and electric.....	44.61	44.61
Cadet cash.....	14,061.40	13,865.63
Cadet hospital.....	2,474.02	2,474.02
Cadet laundry.....	15,477.43	16,581.07
Cadet mess.....	101,000.01	97,669.53
Cadet store.....	113,652.39	120,561.85

	Debit.	Credit.
Confectioner	\$9.00	\$9.00
Corps of Cadets	278,574.91	284,213.25
Damages, ordnance	241.52	241.52
Dancing	720.72	720.72
Dentist	494.25	494.25
Deposits	21,779.21	21,779.23
Dialectic society	465.66	468.77
Equipment fund	7,127.62	61,534.45
Expressage	36.35	41.70
Glee club	2.26	
Hops and german	2,176.85	2,327.67
Miscellaneous fund	3.02	28.24
Miscellaneous items	2,039.07	1,887.37
Oath	35.75	35.75
Paymaster	211,090.18	211,090.18
Purchasing commissary	38,537.20	38,537.20
Periodicals	53.81	53.81
Telephone and telegraph	46.54	46.54
Travel pay	4,577.09	4,568.99
Young Men's Christian Association	162.32	4*2.99

The last inspection, May 26, 1910, showed the following:

ASSETS.		LIABILITIES.	
Assistant treasurer.....	\$114,196.98	Army athletic council.....	\$59.00
Cadet cash	259.25	Balances paid	30.43
Cadet store	28,023.13	Cadet laundry	4,477.18
Cadet mess	14,620.05	Corps of Cadets	12,329.77
Dialectic society	251.60	Deposits	122.31
Miscellaneous items	151.70	Equipment fund	142,261.48
Cash	2,222.32	Miscellaneous fund	186.99
		Glee club	41.33
		Hops and german	150.82
		Young Men's Christian Asso- ciation.....	65.72
	159,725.03		159,725.03

CADET STORE.

There is nothing unusual to report in the business of the cadet store. A larger building will be a great necessity when the Corps of Cadets is enlarged next spring, and the store will have some difficulty in handling the increased number of men until the new building is finished.

The dry-cleaning plant operated by the store has proved of great benefit to the Corps of Cadets and to the officers of the post.

CADET LAUNDRY.

Improved business methods at the laundry have warranted a further reduction in the prices of laundry charges to cadets amounting to \$100 per month, effective July 1, 1910.

CADET MESS.

There has been very little change in the affairs at the cadet mess, except that the price of board has averaged 67 cents per day for the last year, an increase of 1 cent per day over previous year.

Very respectfully,

WM. R. GROVE,

Captain and Treasurer, United States Military Academy.

The ADJUTANT, *Present.*

APPENDIX D.

REPORT OF THE COMMANDANT OF CADETS.

HEADQUARTERS UNITED STATES CORPS OF CADETS,
West Point, N. Y., June 10, 1910.

SIR: In compliance with Memorandum No. 41, Headquarters United States Military Academy, dated May 31, 1910, I have the honor to submit the following report:

The usual program of exercises for the year up to date of this report was carried out to successful completion.

The practice march on west side of river proved satisfactory. The instruction was carefully given, the problems well handled, and officers, cadets, and enlisted men entered keenly and intelligently into the spirit of the work. The march was made under service conditions; problems carefully thought out were had each day and the camps were made according to regulations. The results were satisfactory. A similar practice march will take place this year August 22 to August 27, inclusive. It is believed that, as heretofore, this march will be successful and that the cadets will receive valuable information in marching, construction of camps, camp sanitation, making of route sketches, solution of problems in minor tactics, etc. This practice march is the termination of the practical work of the summer, the preliminary work prior to it being conducted in a progressive way and leading up to this week's field work.

During the past years there has been no money available to pay for camp sites during the practice marches. The owners of land, as a favor, have permitted the use of their lands as camping places. Each year it is more difficult to get their permission. It matters not what care is exercised, some damage is always done by the wagons, by the horses on picket line, and by the fires used for cooking. I recommend that in the next estimate for appropriations this matter be considered.

COAST ARTILLERY.

The instruction in coast artillery has progressed in a systematic manner and the results have been as satisfactory as can be expected from the time allotted. Battery Schofield, as the new 6-inch battery has been named, has demonstrated its value in teaching the service of guns on disappearing carriages. The fire-control system is complete in every detail and is as efficient as any in the service.

During the year a new model 60-inch searchlight, with a Rosenberg generator, has been installed. This will afford instruction in practice and vessel tracking at night. It can also illuminate the targets for field artillery so that the light batteries can engage in night firing.

An appropriation has been obtained for a skeleton emplacement for two 12-inch mortars. The construction will begin this summer and the battery should be ready for use next year.

This will be a most valuable addition to the coast artillery equipment. The cadets have been at a great disadvantage in mortar firing on account of having no adequate facilities for preparation here. The time has come when, in order to keep pace with developments

of the military art in the service, the Military Academy must have a sufficient submarine mine equipment to give cadets practical knowledge of the subject. Efforts have been made to compensate for this deficiency by having a mine planter at the fortifications during the period of coast artillery practice, but last year no mine planter could be spared for this purpose. An estimate has been submitted, and it is hoped that funds will be allotted in the next bill for the support of the Military Academy to meet this urgent need.

The first class went to Fort Hancock, N. J., for coast artillery target practice from August 16 to August 21 of last year. The change from Fort H. G. Wright to Fort Hancock had been made by the War Department in the redistribution of troops for practice at those posts. Fort Hancock is one of the best equipped posts in the country, and the instruction of the class was most satisfactory. Col. Henry L. Harris, who commanded the post and the district, and the officers and men of his command did everything possible to make the visit of the class profitable. A storm prevented practice for the first two days, but the preparation at West Point enabled the class to proceed with the firing of the 6-inch guns without additional instruction. The records made with the 6-inch and the 10-inch rifles and the 12-inch mortars were entirely satisfactory.

Arrangements have been completed for the first class to go to Fort Hancock again next August for practice.

FIELD ARTILLERY.

During the past year the use of the old cavalry plain was discontinued for mounted drills, and the new mounted drill ground at the south end of the post was completed. The time required to march to and from this place has seriously interfered with the progress of mounted instruction. It will be necessary to provide some means of rapidly transporting the details to and from the drill ground or to lengthen the drill period, if full value is to be derived from the equipment provided.

Last year the Military Academy was fortunate enough to secure from the War Department an allowance of ammunition for target practice with the mountain battery, the light batteries, and the siege and howitzer batteries. The value of this firing can not be overestimated, for it is only by *shooting* that gunnery and the conduct of fire can be taught.

An allotment for these guns has also been generously made by the War Department for the current year. While these allowances are greatly appreciated, they are not adequate, and they can not always be spared. It is of the first importance that an appropriation should be obtained in the Military Academy bill to purchase the necessary ammunition for coast and field artillery practice of cadets, and an estimate for this purpose has again been submitted for the fiscal year of 1912.

It is hoped that the Ordnance Department will be able to supply a battery of the new siege rifles this summer. The time for any kind of instruction is so limited that it can be utilized to the best advantage only by having the latest equipment. As there are no organized batteries of siege artillery, it is the more important that the service of this class of guns should be taught at West Point.

THE DETACHMENT OF FIELD ARTILLERY.

The efficiency of the detachment of field artillery has greatly increased during the past year, and it is believed that the instruction and the *morale* of the men will compare favorably with other organizations in the service. One man was sent to the department of enlisted specialists at the Coast Artillery School and 2 to the School for Wireless Telegraphy.

Four men are regularly assigned to the coast artillery equipment, and 3 of them are qualified wireless operators.

One organized section of mountain artillery is maintained, and through the close association with the pack train it is believed that a superior method of packing the mountain guns has been devised. During the summer period it has been necessary to furnish large details to the small-arms target range and 2 men to assist the ordnance detachment.

The detachment has been maintained at nearly full strength. It now has 119 horses and 8 mules. Additional mechanics are especially needed to care for the two light batteries and the mountain battery, and this need will be increased with the arrival of the new siege battery.

The detachment has qualified gunners. It is due the men to say that the armament officer has reported the condition of the material as "Excellent."

The Inspector-General of the Army reported:

The enlisted men of this detachment presented an excellent appearance; their uniforms were clean, well fitting, and the men soldierly in appearance. The barracks were a model of neatness, cleanliness, order, and systematic arrangement. The stables were also inspected and found to be in excellent condition.

THE PACK TRAIN.

The value of the pack train as a means of teaching the art of packing to cadets has been abundantly shown. Instruction has been regularly given in setting up the *aparejo*, putting on the rigging, and loading, with satisfactory progress.

The train has taken supplies on the two days' marches made by the first class, as a battery or a troop, and during the practice march it packed supplies to the different camps from the post. Especial credit for the efficiency of the train is due to the packmaster, who has not only worked the train loyally, but has cooperated cheerfully in every detail connected with the instruction of cadets.

CAVALRY.

The instruction of cadets has progressed satisfactorily during the year. Special attention has been given to the use of the "aids" in horsemanship. The first class has had the advantage of handling a number of new horses during the year. These horses were obtained from the Fort Reno remount depot and are turning out very satisfactorily.

An innovation was started in the instruction of the first class during camp. Each alternate Friday about 40 members of this class went on a cavalry practice march, returning Saturday morning. Only 2 enlisted men were taken along, and nothing but pack transportation,

the cadets being required to perform all the duties of a cavalry soldier, including those of cook, farrier, horseshoer, etc. This gives each member of the class about three of these marches during the summer. These, together with the week devoted to the combined practice march of the whole corps, should give the cadet a very fair insight to the duties of a cavalry soldier in the field.

The outdoor instruction during the academic year is much hampered by the long distance from cadet barracks to the new cavalry drill field.

CAVALRY DETACHMENT.

The general conditions in the cavalry detachment have been excellent. The character of the men is excellent. This is the third consecutive year without any desertions, the detachment only having had one since its organization in March, 1907.

The detachment has been at its maximum strength of 100 men during the year.

INFANTRY.

During the summer drill periods, until the corps went on the annual practice march, infantry drills, both close and extended order, took place daily, except Saturdays and Sundays, from 7.15 a. m. to 7.45 a. m. Saturdays were devoted to field instruction and consisted in practical instruction in the formation and use of advance and rear guards, establishing outposts, making reconnoissance, and the attack and defense of positions with small forces. This work was preliminary to the practice march which took place August 23 to August 28, 1909.

During the fall and spring drill periods the instruction consisted of drills daily from 3.40 to 4.40 p. m., and comprised close and extended order, through the school of the battalion, tent pitching, and instruction in field work.

In target practice the first class was given the entire marksmen's course, and the following records were made:

Expert riflemen, 18; sharpshooters, 24; marksmen, 13; first-class men, 24; second-class men, 4; third-class men, 0. Individual figure of merit, 130.42. This is the best record ever made at the Military Academy.

The third class fired "Special Course A."

Lectures and map problems were given this year as was done last year to the first class, with satisfactory results.

The battalion of cadets is proficient in all drills, and on the whole the instruction given and progress made have been satisfactory.

Instruction in gymnastics, fencing, wrestling, boxing, and swimming of the Corps of Cadets was carried out in accordance with the prescribed program during the past year, and the results have been equal to those of previous years in spite of the restrictions placed upon it by reason of the inadequate facilities of the old gymnasium, which were becoming more noticeable each year.

The contemplated increase in the Corps of Cadets will necessitate an increase in the number of instructors in this instruction. I believe that, so far as it is possible to do so, this instruction should be given by officers, and I recommend that but 1 additional civilian in fencing be engaged, and that another officer, in addition to the 1 now detailed, be added to the staff of instructors. This would provide 2 officer

assistants and 4 civilian assistants, which, in my opinion, will be ample to meet the demands of the increase.

Very respectfully,

F. W. SIBLEY,
Lieutenant-Colonel Fourth Cavalry,
Commandant of Cadets.

The ADJUTANT, UNITED STATES MILITARY ACADEMY.

APPENDIX E.

REPORT OF THE INSTRUCTOR OF PRACTICAL MILITARY
ENGINEERING.

DEPARTMENT OF PRACTICAL MILITARY ENGINEERING,
UNITED STATES MILITARY ACADEMY,
West Point, N. Y., June 10, 1910.

SIR: In compliance with the instructions contained in Memorandum No. 41, Headquarters United States Military Academy, West Point, N. Y., May 31, 1910, I have the honor to submit the following report upon the work of the department of practical military engineering, military signaling, and telegraphy, covering the period from June 11, 1909, to June 9, 1910:

DEPARTMENT OF PRACTICAL MILITARY ENGINEERING.

The annual appropriation of \$2,000 for the use of the department during the fiscal year ending June 30, 1910, was expended for the purchase of tools, instruments, materials for instruction purposes, for the repair of equipment, and for the extra pay of skilled mechanics from the engineer detachment, as authorized by law.

CADET INSTRUCTION.

Two officers of the Corps of Engineers were on duty in the department throughout the year, and 12 additional officers were on duty during a portion of the year—5 during the summer instruction period, 1 in the fall, 1 in the spring, and 5 during the instruction of the fourth class in the theory of surveying, in February.

Fourth class.—Throughout the whole month of February a course of theoretical instructions in surveying was given to the fourth class, the whole class attending daily, Saturdays and Sundays excepted, for one hour in the afternoon. Four instructors from the department of modern languages and one from the department of law and history were temporarily assigned to this department to assist in giving instructions in this course. The text-book used was Johnson's *Theory and Practice of Surveying*.

Third class.—During the summer instruction period the third class was given a course in practical surveying. The instruction was purely practical; the instruments were carefully explained to them, and they were shown the adjustments and uses; the instruments were then placed in the hands of the cadets, and under the supervision of their instructors they were required to make the different

adjustments and to use the instruments in making a survey of a portion of the reservation. Pence and Ketchum's Survey Manual was used as a reference book for this course, and proved a valuable aid to both instructors and cadets.

Second class.—During the fall instruction period one-fourth of this class attended drill each week day, Wednesdays and Saturdays excepted, and was given instructions in signaling with the flag, heliograph, and acetylene lantern. The department was assisted in the instruction by the temporary detail of one officer from the department of mathematics. During the spring instruction period one-fourth of this class attended each week day, Wednesdays and Saturdays excepted, and was given instruction in electrical methods of signaling, including the use of the field and cavalry buzzers and the wireless telegraph outfit. In this course the department was assisted by the temporary detail of 1 officer from the department of chemistry.

First class.—During the summer instruction period one-half of this class attended daily, Saturdays and Sundays excepted, and was given instruction in building pile, trestle, and ponton bridges, and in improvised methods of crossing streams, after which instruction in military topography was taken up. This course includes the use of the sketching case and the engineer note book, both dismounted and mounted, and combined position sketching. During the practice march road sketches and combined position sketches were made by the members of this class each day. During the fall instruction period one-fourth of the class attended daily and were instructed in making knots, lashings, improvising and using field appliances for engineer work, erection of spar bridges, and the use of explosives in making demolitions. During the spring period one-third of the class attended daily and received instruction in laying out and constructing works of field fortification.

RECONSTRUCTION OF FORT PUTNAM.

The appropriation of \$5,000 for continuing the work of restoring Fort Putnam was expended in finishing off the top of the outer walls and rebuilding four casemates and interior wall on the east side. As explained in an estimate previously submitted, a further appropriation of \$4,000 is needed for properly finishing this work.

MARKING HISTORIC SITES.

The work of preserving and marking the various Revolutionary forts and redoubts on this reservation has been carried on by this department during the past year in accordance with the recommendations of the board which reported upon this subject.

The work done has consisted of the erection of five bronze tablets, the cutting of inscriptions in the rock at the five different sites, and such work on the old redoubts as was necessary to preserve the existing walls from further ruin.

Very respectfully,

W. P. WOOTEN,
*Captain, Corps of Engineers,
 Instructor of Practical Military Engineering.*

The ADJUTANT, UNITED STATES MILITARY ACADEMY,
Present.

APPENDIX F.

REPORT OF THE COMMANDER OF THE DETACHMENT OF
CAVALRY.

DETACHMENT OF CAVALRY,
UNITED STATES MILITARY ACADEMY,
West Point, N. Y., July 4, 1910.

SIR: Referring to your letter of June 22, I have the honor to submit the following:

The condition of the cavalry detachment during the past year has been excellent. The men seem contented, and a large number of applications are received for enlistment. Nothing but old soldiers of excellent character are accepted.

The detachment's work is continuous and hard, but the men are cheerful and perform their duties well, showing the advisability of having colored troops for this work.

There have been no desertions for the past three years, and only one since the organization of the detachment in March, 1907.

Very respectfully,

GUY V. HENRY,
Captain, Twelfth Cavalry, Commanding Detachment.

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

APPENDIX G.

REPORT OF THE LIBRARIAN.

THE LIBRARY, UNITED STATES MILITARY ACADEMY,
West Point, N. Y., May 18, 1910.

SIR: I have the honor to submit herewith a brief report of the work of the library for the past nine months. I respectfully refer to previous reports for data referring to matters not mentioned here.

LIBRARY COMMITTEE.

The library committee consists of the professors of drawing, chemistry, modern languages, and engineering. All important matters are decided by them on the recommendation of the librarian. Purchases are made through the quartermaster of the United States Military Academy, whose office conducts all the business affairs of the library and saves much thankless labor to the library staff, which is correspondingly grateful.

LIBRARY POLICY.

The experience of the past nine years appears to lead to the conclusion that the library of the United States Military Academy must be considered as composed of several partial collections very different in their nature and objects. The chief of these are:

- I. What may be called a university or college library.
- II. A special military library.

III. A library of congressional documents.

IV. A small and select library of the general principles of law, etc., including all the publications of the United States on law. (The law department of the United States Military Academy already has a special law library, catalogued—of about 2,415 volumes—state reports, etc.)

I. The college library should contain (1) all books likely to be of service to the instructors and cadets in the pursuit of the studies of our special curriculum. Together with the excellent libraries of the various departments, which are housed in the academic building, it must furnish every facility for research in our special courses of study. The very latest information should be available (usually through periodicals) and the whole history of each science should be represented by the standard books of past times; (2) a considerable assortment of the latest standard books on topics not included in our curriculum. These books will supplement the teaching of the departments and open new insights to cadets; (3) a very complete collection of books of reference on all subjects that are likely to be inquired about here.

It may be said, I think, that our collections of this sort are now fairly complete, though very important additions still remain to be made. The important books of each successive year must, of course, be added annually, and lacunæ must be filled as fast as practicable. The excellence of a collection of this sort depends far more on quality than on quantity. Other things being equal, a well-selected collection of 10,000 volumes will be more useful to cadets than an ill-assorted collection of 50,000. When a book has become really obsolete it should be removed from the shelves of our college library unless it represents an important epoch in the historical development of its topic. A great public library, like that of Congress, must accumulate all books on a subject, because any book may be asked for by its readers. The case is different with us, where a selection of the best books is sufficient. Moreover, the books of the library of the United States Military Academy are useful just in proportion as they can be seen and handled by cadets on the open shelves, and there is a practical limit to the number of books that can be so displayed. Of course, no volume should ever be classed as obsolete and removed from the library until it has been condemned by several independent judges, each of whom represents a different view. A single vote in its favor should keep it on our shelves. There are, however, a number of volumes which will, I think, be found to be of no value to us—as, for example, books on yellow fever or malaria that were written before 1898. A complete plan for the treatment of duplicates was approved by the library committee, and by the superintendent, on April 19, 1906.

II. The special military library ought to contain (1) substantially every military book printed in America; (2) every important military book printed elsewhere; (3) all military manuscripts that can be accumulated which bear on the history of the American Army, especially during periods of war; (4) a sufficient collection of military and other maps.

It should be possible for an officer to write the history of cavalry, artillery, fortifications, and the like, from books on our shelves, and this for any country and for any epoch. The library already con-

tains excellent and extensive collections of the sort, but very much remains to be done to bring it to the desired state. The literature relating to the civil war, for example, is inadequate.

SELECTION OF BOOKS FOR PURCHASE.

The librarian gratefully acknowledges the aid of professors and officers of the academy in selecting books for purchase. The general library is now fairly representative of all subjects. The military library will demand great attention for a number of years to come.

USERS OF THE LIBRARY.

The library is available to 92 officers stationed at West Point, 530 cadets, to all enlisted men of the post whose applications are approved by their detachment commanders, and to 172 civilians to whom its privileges have been extended by order of the superintendent.

ACCESSIONS.

Two thousand nine hundred and seventy-nine books, pamphlets, etc., have been recorded as received since July 23, 1909. Maps, bound volumes of periodicals, and the separate numbers of the publications of various departments of the United States are not separately accessioned.

SPECIAL GIFTS.

The library has received many gifts during the year. A list of the more important is given below, and others are mentioned at the end of this report, and also under the caption "Orderly books," etc. The grateful thanks of the library are returned for these gifts, which come from many friends of the academy.

Major Piorkowski, Imperial German Army, has been kind enough to regularly send to the library the publications of Krupp & Co., so far as these relate to artillery and armored forts.

The council of the West Point army mess has loaned an original memorial of officers of the American Army stationed at West Point in June, 1784 (four pages, folio).

The Library of Congress continues its generous policy of transferring to this library such of its duplicate military books as are needed here.

By the kindness of the chief of the Military Information Division, General Staff, the library regularly receives a typewritten copy of each important translation made for the Military Information Division from foreign books or journals. These translations are at once available to the officers and cadets of the academy, who are thus provided with the very latest and most important military intelligence in print in an English form. A list of subjects carded in the Military Information Division is received (weekly) at this library, and has been of much value to officers stationed here.

The department of ordnance and gunnery, United States Military Academy, has been good enough to mount for display on the library tables the Coehorn field mortar surrendered at Saratoga in 1777, which they transferred to the library in 1909.

We have to thank Miss Du Barry for her kindness in copying extracts from the diary of her relative John Bratt, a graduate of the year 1837; and Miss Heintzelman for her gift of the original diaries of her father, General Heintzelman, of the class of 1826.

Corpl. William Schneider, of the United States Military Academy detachment of engineers, has generously given an original certificate of service of his grandfather in the Prussian Landwehr of 1813-14.

André's maps and cipher.—Through the kindness of Mr. A. J. Bowden, of New York, the library was given the opportunity to examine and to photograph 4 manuscript maps indorsed by Major André, together with manuscript messages in a cipher whose translation, as yet unknown, is somehow involved in the verses (each fifth verse is numbered) printed in Churchill's poems. It is likely that the key of this cipher can be had without great difficulty, although the amount of available data is small.

Orderly books of the American Revolution, regimental histories, orders, etc.—The library contains a considerable number of original orderly books of American wars, 1756 to 1814, and three important originals of the civil war. Typewritten copies have been made of some of these owned by the United States Military Academy in which the ink was fading. Typewritten copies have also been made of orderly books in other libraries, especially of those relating to troops serving at and near West Point. The directors of the Essex Institute kindly consented to permit copies to be made of military manuscripts of the sort. These copies are for reference and use in our library, but must not be published without the explicit permission of the institute.

Orderly books of the same sort, and especially General Washington's orders of 1779, still unpublished, have been copied by the kind permission of the Librarian of Congress. During a considerable part of the year 1779 General Washington's headquarters were at West Point.

The grateful thanks of the library are offered to the owners of these and other manuscripts who have permitted them to be copied. It is a distinct advantage that copies of unique manuscripts should be deposited in more than one place. The library card catalogues contain 68 cards under the caption "Orderly books" (manuscript, typewritten copies, and printed copies).

The library acquired by transfer from Frankford Arsenal, some years ago, a large number of military manuscripts relating to troops serving at West Point 1759 to 1829, mostly artillerymen and engineers.

The quartermaster, United States Military Academy, has transferred, as a loan, the muster rolls of detachments serving here from 1819 to 1860. Other military manuscripts relating to West Point are calendared in Library Manual II (1908).

Chandler Smith, esq., of New York, has been kind enough to deposit with the library, as a loan, an order book of the years 1787 to 1799, from his collection of military manuscripts.

The history of the American Army remains to be written. Much of the material is in print, though the histories of regiments in the civil war have not received the attention they deserve. The library's collection of regimental histories is extensive and now contains about 500 volumes. The subject card catalogue contains over 2,000 cards under the heading "Army of the United States" (these cards relate to books and parts of books now owned by the library that refer to the history of the Army). At the beginning of 1910 the library owned

about 650 volumes of general orders of the Army, the earliest year being 1792. In April 131 volumes were purchased from the library of General Vincent, and in May 18 more from the library of General Hancock. The collection now contains about 800 volumes. Such orders are the backbone of military history. The civil history of the reconstruction period in the United States, of Cuba, of the Philippine Islands, etc., can not be written without consulting them.

Hudson-Fulton celebration exhibit.—During September and October, 1909, an exhibit of old maps, views, etc., was made in the library, by direction of the superintendent, United States Military Academy.

Visits to the splendid exhibit in New York showed that the West Point army mess contains certain pieces of colonial furniture that would have been a distinct addition to the New York collection.

Busts and portraits.—Through the great kindness of the daughters of Gen. W. T. Sherman the splendid bronze portrait bust made by Augustus St. Gaudens from life in 1881 (belonging to Mrs. Thorn-dike, of Boston) was presented to the library in July, 1908. It was lent to the St. Gaudens exhibition in Washington, D. C., in November, 1908, by Executive order. The packing was not done by experts, nor was the bust insured for its full value, as had been specially recommended by the superintendent, United States Military Academy. The bust was also exhibited at Pittsburg, Chicago, and Indianapolis, and was returned to West Point April 9, 1910. On its return the librarian reported that it had been apparently injured since it had left West Point (abrasions on the nose and right eyebrow were noticeable). The responsibility for such injuries does not attach to any official of the United States Military Academy. The bust is unique, and no copy from the plaster model can ever have the authenticity of this copy made under the eye of the sculptor.

It is respectfully suggested that this regrettable occurrence raises the question whether the valuable and often unique works of art owned by the United States Military Academy should ever be allowed to leave West Point. They are a part of the educational apparatus of the United States Military Academy and their greatest use is here, where they can be seen by successive generations of cadets.

Portraits.—A very interesting pencil portrait of Gen. Philip H. Sheridan, drawn by Mr. Carl Becker from life, was acquired by the library in November, 1909. The drawing is signed by General Sheridan, and is a careful study for the portrait in oil subsequently painted by Mr. Becker.

The library owns many hundred portraits of army officers, and these, in connection with the portraits of graduates owned by the association of graduates, make an extensive and important collection.

In a register of portraits painted by Thomas Sully, by Mr. Charles Henry Hart, it is said (p. 164) that a portrait of Colonel Thayer was painted by Sully in 1831. As soon as this book was received at West Point inquiries were at once instituted, and it was found that the portrait was in the possession of Dartmouth College. Through the kindness of the president of Dartmouth the United States Military Academy has been permitted to make a copy, in oil, of the original, and the copy now hangs in the library. It represents the great superintendent at the age of 46 years, after fourteen years of service at West Point, and admirably supplements two portraits by Weir belonging to the academy.

Civil war engravings and photographs.—In October, 1909, the library owned about 3,500 separate engravings, photographs, etc., of views and portraits relating to the civil war. The collection has been enlarged by the acquisition of about 1,000 other views of the sort. There are few duplicates. These views, together with the published collections of the Brady photographs, of portraits of officers, of the woodcuts of Harper's Weekly and Leslie's Journal (1861-1865), and other collections of the sort, constitute a very full and important pictorial history of the civil war. Similar but much smaller collections relate to the other wars of the United States.

Views of military posts, United States Army.—In September, 1909, the superintendent, United States Military Academy, sent to the commanding officer of every military post then occupied by the Army a request for photographs, etc., showing the posts, or, at least, for information as to where such photographs could be obtained. A considerable number of returns have already been received, and the views have been bound into albums for easy reference. These albums are useful to officers and also to cadets of the graduating class; and they likewise constitute a valuable item in the history of the Army. Contributions of the sort are earnestly requested from all officers.

Poe memorial.—The memorial to Edgar Allan Poe, once a cadet, United States Military Academy, spoken of in the librarian's report for the preceding year, was completed in September, 1909. It is a fitting monument to a great genius, worthy to stand alongside of the Whistler memorial erected in the previous year. Its cost (\$2,659.29) was met by subscriptions of friends of the academy. The entire sum has been expended, and vouchers for the outlay are filed in the library. The accounts have been audited by Maj. Wirt Robinson, Coast Artillery Corps, U. S. Army, and found to be correct.

ADDITIONS TO THE BUILDING.

The new map room spoken of in the reports of the librarian for 1906 and elsewhere is much needed. It is to be built in connection with the new academic building. If the map room (which is only a one-story room, about 34 by 38 feet) could be pushed to completion immediately after the work is begun, it would be a great benefit to all concerned.

The project for a receiving and packing room, mentioned in the last report of the librarian, has been studied. When it is built the building will be nearly as fireproof as it can be made.

FIRE PROTECTION.

Each toilet room, etc., is fitted with a tap from which fire buckets can be filled. Fire buckets are kept near each tap. Fire hose is kept in the basement, second-floor closet, and attic, ready for use. Two different styles of fire extinguishers have been provided and are ready for use.

VENTILATORS.

The upper galleries of the main floor of the library have been provided with ventilating holes, 8 inches in diameter, that deliver heated air to the second-floor rooms. From thence it rises through open panels of the ceiling skylights to the attic, and passes into the attic rooms.

NEW ROOF TO THE LIBRARY BUILDING.

In September, 1909, the work of constructing new glass skylights in the library roof was completed by the quartermaster, United States Military Academy. Since that date there have been no leaks during rain storms, such as have been so troublesome, and dangerous to our books, in past years. This roof is provided with a ventilating device. All the glass panels of the roof will be painted blue. Thermometers will be read daily during the coming summer to determine whether bound volumes can be shelved in the attic without danger to the bindings. If this can be done many thousand volumes of periodicals, etc., can be stored in the attic, thus postponing for years the construction of an annex to the library. The central tower now contains some 25,000 volumes.

New connections of the library with the steam power plant were made October 6, 1909, and the heating of the library has been entirely satisfactory during the winter. A larger heater in the east front hallway would be, it is thought, an advantage.

INSTRUCTION THROUGH THE EYE.

The report of the Board of Visitors for 1885 contains a recommendation respecting maps in cadet rooms and suggests that the method spoken of has wide application. The display of pictures and manuscripts in the library is a part of the plan outlined. The commandant of cadets has set up a series of military pictures in the cadet guardhouse. The department of drawing proposes to exhibit in a frieze of the new academy a series of maps to illustrate the history of topography from the earliest times. Many such maps have been selected for this purpose by Capt. C. B. Hagadorn. The department of engineering proposes to use the same method in displaying a series of plans of fortifications, arranged chronologically. The library is fortunate in owning a great number of maps and plans suitable for these purposes. An appropriation of \$5,000 would enable this plan to be well started, and annual appropriations of \$2,000 would enable it to be kept up, to the great advantage of our teaching. It is the opinion of the writer that a scheme of the sort carried out under the direction of a committee of the academic board is the most important improvement that remains to be made. The isolated life of cadets is unfavorable to the easy acquisition of much general information which the civilian acquires in his daily life. A system of instruction through the eye, as above suggested, will go far to supply the lack to the cadets of the United States Military Academy. If a duplicate of the celebrated military museum formed by M. Bloch at Lucerne were established at West Point the benefits to officers and cadets would be incalculable.

UNITED STATES GOVERNMENT AND STATE PUBLICATIONS.

On December 31, 1909, the Library of Congress furnished the library, United States Military Academy, with about 11,500 cards covering all the publications of the United States Government and those of the various States of the United States. These cards are kept in a catalogue case located at the head of the stairs in the east hallway. This catalogue is absolutely complete up to December 31, 1909. Such of its cards as have been received after January 1, 1910, and relate to books belonging to the library, United States Military

Academy, have been, or will be, removed from this catalogue and placed in other catalogues of the library.

The use of these cards to readers of the library is therefore as follows: Every government (United States) and state publication up to January 1, 1910, is represented by one card in this catalogue. Every such publication not owned by the library, United States Military Academy, whose card is printed after January 1, 1910, is also to be found in this catalogue. The regular catalogues of the library will contain at least one card representing such publications owned by the academy.

The "Depository catalogue" will not contain any cards for United States Government and state publications after January 1, 1910.

LIBRARY OF CONGRESS DEPOSITORY CARD CATALOGUE.

The Library of Congress sends to this library, free of cost, a proof sheet of every card printed for Library of Congress books. On this proof the librarian of the United States Military Academy marks the title of every book that he would recommend for purchase if this library had an income ten times as large as at present—that is, the title of every book that in his judgment might conceivably be called for here. Among the titles marked are those of the Library of Congress books, of which copies are, in fact, purchased by the library of the United States Military Academy from its annual appropriations. A single printed card is sent, free of charge, by the Library of Congress corresponding to the marks on the proof sheet. Those cards that relate to books owned by the United States Military Academy are placed in our regular catalogue cases. Other cards are placed in order in the depository catalogue. In this way printed cards are supplied corresponding to books on our shelves, and printed cards are to be found in the depository catalogue corresponding to the books that we should buy if our income were, say, \$100,000 a year. The catalogue last mentioned is, therefore, a list of books in the Library of Congress that we would own if we could afford the expense. The other catalogues furnish a list of the books that we actually do own. The arrangements made with the Library of Congress are of the highest value to us, and the business is conducted in a very simple, prompt, and generous fashion.

The work of replacing written cards in our present catalogues by printed cards, which are much more legible, will be continued during the next summer. Many thousand printed cards have already been inserted. The duplicate cards are not destroyed but utilized in the dictionary catalogue that is kept in the officers' study for their convenience.

CONGRESSIONAL DOCUMENTS.

The library, United States Military Academy, is one of the designated depositories of congressional documents. By act of Congress of April 23, 1856, it is entitled to receive one copy of every Senate document, etc. In January, 1908, a count of our congressional documents was made, and the following little table was compiled from correspondence with various libraries:

<i>Number of congressional documents after Fourteenth Congress.</i>	<i>Volumes.</i>
Library of Congress (excepting duplicates)	5, 075
New York Public Library	5, 057
New York State Library	5, 015

Total number of congressional documents.

	Volumes.
Boston Public Library.....	5,699
Harvard University Library.....	5,308
Columbia University Library.....	5,170
United States Military Academy Library.....	4,833

Since this count a considerable number of such volumes has been received here, through the kindness of the Superintendent of Documents, Washington, D. C. A very pressing need is an index to the maps contained in these volumes, many of the maps being of high value. It is very much to be desired that the United States Military Academy should obtain copies of the map indexes on file at the Army War College.

INDEXES.

Next to knowing the substance of memoirs on military and other subjects is the knowledge of where to find such writings in case of need. It has been the endeavor of the library to acquire standard bibliographies and all printed indexes to periodicals received at the library and even, in a few cases, indexes to important periodicals not yet owned. The indexes to military journals printed in successive numbers of the Journal of the United States Artillery are regularly transferred to cards and kept up to date by the assistant librarian.

LIBRARY STATISTICS.

The different card catalogues contain:

	June 30, 1909.	May 18, 1910.
Author catalogue (main room).....	67,200	70,860
Subject catalogue (main room).....	108,240	116,100
Shelf catalogue of books not military.....	33,480	35,010
Shelf catalogue of military books (officers' study).....	10,200	10,720
Dictionary catalogue (officers' study).....	34,440	39,610
Total.....	253,560	272,300

^a Increase in eleven months, about 18,740 cards. Increase since June 30, 1905, about 154,932 cards.

The Library of Congress depository catalogue contains about 27,500 cards relating to books not owned by the United States Military Academy. Every one of these books is owned by the Library of Congress and can be consulted at West Point by making application to have it lent to the United States Military Academy. From this catalogue selections of books to be bought are made, since each card represents a book that would be useful here if owned.

Military education.—The library of a military academy should contain a considerable number of volumes on military education. Many of the ideas that guided Colonel Thayer in the formation of the United States Military Academy are to be found in De Silva's *Pensees sur la Tactique* (1768), Chapter 51. The collection of the library, United States Military Academy, was but small in 1901. It contains to-day about 500 volumes under the heading "Military education," and 37 volumes under the heading "Moral education of the soldier" (a subject on which little has been written in English), and a considerable number of the standard text-books used in the military schools of England and of Europe. A very complete view of the

education offered in the military schools of the United States may be had from their catalogues, etc., on our shelves, and of foreign military schools from the report of Professor Echols, printed in 1907, as well as from the very valuable manuscript reports of American military attachés that have been furnished to this library by the kindness of successive chiefs of the Military Information Division of the General Staff, United States Army.

Standard military and other books for graduates of United States Military Academy.—The librarian has served as a member of a committee appointed by Memorandum No. 3, Headquarters United States Military Academy, January 17, 1910, to formulate a list of military and professional books to be recommended to cadets about to graduate. The library force has done all in its power to forward the work by typewriting cards, obtaining prices, etc. It is worthy of note that the library contained all the books recommended by the committee (some 230 in number), except about half a dozen volumes.

List of books recommended for a library at the headquarters of the army of Cuba.—At the personal request of Capt. George G. Gatley, Third United States Field Artillery, military attaché, the librarian prepared in October, 1909, a list of several hundred standard military books for a library to be installed at the headquarters of the Cuban army.

Dictionaries issued to cadets.—The library is the custodian of dictionaries which are issued to cadets annually. It is accountable for 120 copies of Webster's International Dictionary (English), 120 copies of the Standard Dictionary (English). It will soon be necessary to purchase new copies to replace those worn out in service, so as to provide one dictionary for each cadet room in barracks.

I venture to make the recommendation that instead of purchasing unabridged editions of English dictionaries cadets be supplied with Webster's Academic Dictionary (indexed and illustrated) and with the corresponding abridgement of the Standard Dictionary. The cost will be materially less, and the usefulness, in my opinion, at least as much. Each cadet might even be required to purchase and own such a dictionary.

Besides the dictionaries above named, the library is the custodian of the following reference books, which are annually issued to cadets: One hundred and thirty copies of Labberton's Historical Atlas, 100 copies of The Century Atlas, 100 copies of The Times Atlas, and 75 copies of Willcox's Military Dictionary (French). These atlases and dictionaries are issued to cadets in March and September and returned to the library in June. The wear and tear on the volumes in taking them to and fro is greater than the wear and tear of a whole year's use in the rooms of cadets. I venture to recommend that these volumes be transferred to the custody of the commandant of cadets, to be stored in cadet barracks and issued to cadets by the cadet quartermaster, under his direction. This recommendation is made for the sole purpose of saving government property from considerable and unnecessary wear and tear.

BINDING OF BOOKS.

All foreign books bought through the New York agents of the library (Messrs. Lemcke & Buechner) are bound abroad at a small cost and reach West Point ready for immediate use. All pamphlets

containing less than 100 pages or so (with few exceptions) are bound within the library itself in cardboard covers by Private Brownley, library attendant, at a very small cost. The only books requiring binding at West Point are, therefore, periodicals, serials, gifts, and American books in paper covers. Worn-out books are rebound and repaired as necessary.

Up to July 1, 1909, the binding of the library was done by a civilian who was allowed rooms in the United States Military Academy buildings. After that time the binding was sent to the United States Military Academy bindery established at that date. The library appropriation pays for the materials used, but nothing for the labor of the United States Military Academy binder.

The work of the binder has been assisted by the employment of a helper during parts of the fiscal year, whose wages (\$500) have been, or will be, paid from the library appropriation. In spite of this assistance the service has been inadequate, and the cost per volume of binding has been considerably larger than formerly.

In this connection the following item is of interest: The Brooklyn Public Library (see its report for 1909, p. 34) bound 39,694 volumes at an average cost of 64 cents at New York binderies. The library binding during the present fiscal year has cost at least twice this sum per volume. Moreover, all the books now at or ready to go to the bindery will not be delivered at the library before September next at the present rate of progress, and this estimate takes no account of the books that will accumulate for binding during the summer.

A book at the bindery is completely out of use, and any delay in binding reference books and periodicals is especially detrimental to the interest of readers. It appears to be a good policy for the future to bind a majority of the library books at private binderies in New York City and to use the United States Military Academy bindery only for repairing books, for mounting maps, and for binding such volumes as are required for immediate use. In this way both money and time will be saved.

MISSING BOOKS.

A considerable number of books is missing. Most of them have been taken from the library shelves and not charged, and many of them will return after a longer or shorter period.

MUTILATED BOOKS.

A few cases of mutilation of books have occurred during the year. In a library like ours (used only by officers, cadets, and a few civilians) there should be no cases of the sort.

CONCLUSION.

As in previous years, it has not been possible to do all the work seen to be necessary in the library. The most important items (the selection of new books and their cataloguing) are thoroughly done. Others scarcely less important (recataloguing of old books, frequent examination of the shelves to discover misplaced or lost volumes, revision of our catalogues, especially of serials, periodicals, and government documents, substitution of printed for written cards, binding books and pamphlets, etc.) have been done as thoroughly as the circum-

stances permitted. It is only fair to record that the entire library force has done its best not only to keep the current work well in hand (it is now and has been since 1901 up to date), but to attack the arrears that were inherited in that year.

EXCHANGES.

When a bulletin of the United States Military Academy is established it will be sent to a considerable number of military and other institutions. In return for such sendings the academy will receive like publications that will constitute very important additions to its collections. A number of institutions, as the Royal Society of London, the Ecole Polytechnique of France, etc., have generously sent their publications to the United States Military Academy for many years without return. It will be a pleasure to be able to acknowledge their considerate kindness by the exchange of a publication of our own.

GIFTS.

Besides the gifts elsewhere mentioned the library has received and acknowledged presents of books, pamphlets, manuscripts, photographs, maps, engravings, etc., from the following institutions and persons, for which sincere thanks are returned:

Adjutant-general of California, 1; Adjutant-general of New Hampshire, 1; Adjutant-general of New Jersey, 2; Gen. E. P. Alexander, 1; American Association for International Conciliation, 1; American Geographical Society, 2; American Scenic and Historical Society, 1; C. H. Ames, 1; Capt. S. T. Ansell, 2; Army School of the Line, 3; Art Commission of the City of New York, 1; J. M. Asensio, post cards; Association of Graduates, United States Military Academy, 1; Atlas Portland Cement Company, 1; E. E. Ayer, 1; W. W. Bailey, 7; Col. E. W. Bass, 1; Baylor University, 1; Maj. Gen. Sir Harcourt Bengough, 1; Berkshire Street Railway Company, 7; John Binney, 9; E. F. Bonaventure, 1; Board of Public Education, Philadelphia, 1; Bowdoin College, 2; Lieut. Charles Braden, 1; George Irving Bradley, 1; Col. W. T. Bridges, 8; Brooklyn Public Library, 1; J. E. Buckenham, 1; Lieutenant Büttgenbach, U. S. Army, 1 flag, 1 book; Burrows Brothers Co., 1; W. L. Calver, 2; Cambria Steel Company, 1; Cambridge Bridge Commission, 1; Canada Department of Militia and Defense, 1; Carnegie Institution of Washington, 14; J. J. Carroll, 1; Maj. J. M. Carson, jr., 11; Century Association, 1; J. Jay Chapman, 1; Chief of Engineers, U. S. Army, 1; Chief of Ordnance, U. S. Army, 3; Chief Signal Officer, U. S. Army, 2; W. C. Church, 9; Class of 1884, United States Military Academy, 1; Coast Artillery School, 2; Columbia University, 1; Commandant of Cadets, United States Military Academy, 1; Commissioner of Education (State of New York), 1; Commissioner of Navigation (United States), 1; Connecticut State Library, 2; Miss Craney, 1; Gherardi Davis, 2; Capt. R. C. Davis, 1; Charles De Kay, 1; R. W. P. De Vries, 2; Chas. H. Ditson Co., 3; Dodd, Mead & Co., 1; Edmond Du Bois, 7; Du Pont de Nemours Powder Company, 2; Gen. E. S. Dudley, 1; Gen. J. P. Farley, 1; J. M. Favill, 1; Hon. Stuyvesant Fish, 1; Harrison Fisher, 1; Follett Company, 1; Lieut. Col. S. M. Foote, 1; Freeman & Co., 1; Mr. Fridenberg, 2; Fulton Trust Company of New York City, 1; General Electric Company, 2; K. C. Gillett, 1; Governor of Moro Province, P. I., 2; Gen. F. V. Greene, 3; M. I. J. Griffin, 1; H. Haferkorn, 2; Capt. C. B. Hagadorn, 1; Harvard University, 2; Gen. J. P. Hawkins, 1; Headquarters Department of the East, 2; Capt. C. D. Herron, 11; Historical Society of Pennsylvania, 1; Col. C. H. Hitchcock, 1; Dr. E. S. Holden, 84; H. Howard, 1; Hudson-Fulton Celebration Committee, 1; Hon. J. A. T. Hull, 11; Intercollegiate Athletic Association of the United States, 1; Irish Historical Society, 1; Isthmian Canal Commission, 2; John Crerar Library, 2; Johns Hopkins University, 2; E. F. S. Joy, 1; Judge-Advocate-General, U. S. Army, 6; King & King, Washington, 7; W. H. Lambert, 2; Col. C. W. Larned, 28; Maj. J. F. R. Landis, 1; C. G. Leland, 1; Library of Congress, 8; Library, United States Artillery School, 1; J. T. Loomis, 1; London & N. W. R. R., 15; Mrs. J. H. Lord, 1; Duc de Loubat, 1; Mrs. J. W. Maclay, 1; R. H. Macy & Co., 1; Cadet Oliver McCleary, 1; T. McCann, 1; B. McManus, 1; Manning's Yacht Agency, 1; Lieut. Col. F. Marsh, 1; E. S. Meany, 1; Prof. S. Meunier, 1;

Capt. W. A. Mitchell, 2; J. H. Moon, 1; J. S. Mosby, 2; W. H. Murray, 1; National Bridge Company, 1; National Tribune, 8; Newton & Co., England, 1; New York Monuments Commission, 1; New York Public Library, 2; New York State Association Opposed to Woman Suffrage, 18; New York state commissioner of excise, 1; New York state engineer, 1; New York state historian, 2; New York State Historical Association, 7; New York State Library, 1; Col. J. P. Nicholson, 2; A. A. Ohl, 1; Dr. R. T. Oliver, 1; C. O. Paullin, 2; Peabody Museum, 1; Hon. G. C. Perkins, 1; Rev. C. C. Pierce, 1; Major Piorkowski, 3; Quartermaster-General, U. S. Army, 1; D. D. Quevedo, 4; Rapid River Rustler, 1; G. L. Raymond, 9; Reynolds Library, Rochester, 1; J. R. Riblett, 1; Mrs. K. T. Riggs, 18; Scandinavian American Line, 1; Corporal Schneider, 1; Col. H. L. Scott, 3; Maj. W. P. Shreve, 1; Simmons College, 1; Lieut. R. D. Smith, 1; L. M. Solis-Cohen, 1; E. E. Stevens, 1; Stevens Institute of Technology, 1; Superintendent United States Capitol Buildings and Grounds, 1; Superintendent of Public Instruction of the State of Washington, 2; Towle Manufacturing Company, 1; Mrs. Josephine Turner, 1; United States Engineer School, 2; United States Geological Survey, 1; United States National Museum, 1; United States Naval Observatory, 1; University of Illinois, 2; University of Indiana, 1; University of Missouri, 1; University of the State of New York, 1; Vassar Brothers Institute, 2; John Wanamaker, 1; Warner & Swasey Co., 1; G. Q. Whitney, 1; Williams College, 2; Gen. J. G. Wilson, 1; C. M. Woodward, 1; Yale University, 1; Young Men's Christian Association, United States Military Academy, 2.

Respectfully submitted.

EDWARD S. HOLDEN,
Librarian.

To the ADJUTANT, UNITED STATES MILITARY ACADEMY.

APPENDIX H.

REPORT OF OFFICER IN CHARGE OF WATER SUPPLY.

DEPARTMENT OF PRACTICAL MILITARY ENGINEERING,
UNITED STATES MILITARY ACADEMY,
West Point, N. Y., June 7, 1910.

SIR: In compliance with instructions contained in Memorandum No. 41, Headquarters United States Military Academy, West Point, N. Y., May 31, 1910, I have the honor to submit the following report of the work done under the officer in charge of water supply during the past year:

WATERWORKS.

The annual appropriation of \$2,000 for the care and maintenance of the waterworks was expended in cleaning the filter beds, washing and replacing filter sand, in the general police of the reservoir, and for other necessary work of maintenance and repair.

NECESSARY INCREASE OF THE WATER SUPPLY.

The work under this appropriation consisted in grading and sodding certain slopes around the filter beds and in macadamizing, regrading, and ditching certain of the roads on the watershed.

Very respectfully,

W. P. WOOTEN,
Captain, Corps of Engineers, in Charge of Water Supply.
The ADJUTANT, UNITED STATES MILITARY ACADEMY,
Present.

APPENDIX I.

REPORT OF THE PROFESSOR OF ORDNANCE AND SCIENCE
OF GUNNERY.

DEPT. OF ORDNANCE AND SCIENCE OF GUNNERY,
UNITED STATES MILITARY ACADEMY,
West Point, N. Y., June 9, 1910.

SIR: (1) I have the honor to submit the following report of the principal operations in the department of ordnance and science of gunnery and the office of post ordnance officer during the fiscal year ending June 30, 1910:

DEPARTMENT OF ORDNANCE AND SCIENCE OF GUNNERY.

(2) The contemplated changes in the course of instruction in this department referred to in my last annual report have been put into effect and the good results therefrom have exceeded my expectations in the matter.

(3) The course of practical instruction in the use of machines and tools during the year has occupied a total time of forty hours, during which the following work was performed by the cadets, viz:

Work on lathe.—(a) Turning and facing a reamer. (b) Turning, facing, and threading a tap. (c) Drilling with flat drill, reaming, facing, and turning a gear blank. (d) Turning, facing, and threading a bolt. (e) Facing, boring with boring tool, and interior threading of a cylindrical casting.

Work on planer and shaper.—(a) Making a dovetail* joint. (b) Making a T-slot joint. (c) Shaping a knuckle joint between centers (shaper only).

Work on drill press.—(a) Drilling with twist drill, and counter-boring a knuckle joint. (b) Boring and facing a cylindrical casting, using a boring bar.

Work on milling machine.—(a) Milling the head on a bolt. (b) Milling the flutes of a tap and the flats on the same for a wrench. (c) Milling the teeth of a spur gear. (d) Milling the spiral flutes of a reamer and the flats on the same for a wrench.

Instruction in the blacksmith shop in forging and tempering.

Instruction in the use of the file and scraper in polishing and fitting, in chipping, and in hand tapping.

All of the cadets evinced great interest and aptitude in the work, their progress being far in excess of that made in the same time by the ordinary apprentice in a mechanical trade.

The question of adequate shop room for this instruction, referred to in my last report, has been settled by the allotment from the general building fund of the sum of \$8,757.80 for the purpose of greatly enlarging the shop in the laboratory. The decision to provide adequate shop room by the enlargement of this building was reached after mature consideration of the matter and careful weighing of the relative advantages and disadvantages to be gained by locating the shop at the laboratory instead of in one of the academic buildings. It was finally decided that the time lost by the cadets in going to and from the laboratory was relatively unimportant when

compared with the many advantages to be gained by locating the shop there.

The question of shop room having been settled the greatest remaining need of the practical course is adequate shop equipment. To meet this need in course of time the annual appropriation of \$500 for this purpose has been increased by the Congress to \$2,000, but as it will be some time before an annual appropriation of this sum will provide the necessary equipment, it is hoped that a number of machines may in the mean time be borrowed from the Ordnance Department from establishments where such machines may be on hand and not needed in the near future.

(4) The pamphlet on exterior ballistics, prepared by Maj. E. P. O'Hern Ordnance Department, to bring the course in that subject into conformity with Hamilton's Ballistics, prescribed by the War Department for use in the examination of officers of the coast artillery for promotion, has been adopted by the War Department as a text-book of this department of instruction. This pamphlet has been used in the instruction of cadets of the present first class and has proved satisfactory for the purpose.

(5) The text-book for a special course of about 21 lessons for the most advanced students in ordnance has been completed, and was used this year in pamphlet form by the first, second, third, and fourth sections of the first class, whose work therein was most satisfactory and such, in my opinion, as to prove the wisdom of the adoption of the special course.

The matter covered in the advanced course is as follows: Elastic strength of wire-wrapped guns, Chapter I; determination of forces on the 3-inch field carriage, Chapter II; determination of forces on the 6-inch disappearing carriage, Chapter III; determination of stresses in gun-carriage parts, Chapter IV; toothed gearing, Chapter V; and counter-recoil springs, Chapter VI. The book, so far as printed, was adopted April 5, 1910, by the War Department as a text-book in this department of instruction, and authority was obtained for the use during the year of the remaining parts of the book, as fast as printed, in the instruction of the most advanced students of the class. The book in its completed form will be again submitted for final adoption as a text-book in this course.

ORDNANCE MATERIAL.

(6) The armament of the post has been kept in good repair during the year, and the alterations ordered by the War Department in the armament throughout the service have been incorporated in that at the post.

(7) In addition to the regular allowance for small-arms target practice for officers and enlisted men and of \$5,000 for such practice for cadets, the following allowance for artillery target practice of cadets during the year was made, viz:

3-inch field gun, model 1902.—290 shrapnel; 20 high explosive shell; 3,000 subcaliber cartridges; 300 blank cartridges.

2.95-inch Vickers-Maxim mountain gun.—290 shrapnel 20 shell, 12½ pounds; 3,000 subcaliber cartridges; 300 blank cartridges.

5-inch siege gun.—75 shrapnel, with full service charges and primers; 25 shell, with full service charges and primers.

7-inch siege howitzer.—75 shrapnel, with full service charges and primers; 25 shell, with full service charges and primers.

6-inch rapid fire gun.—13 rounds, with full service charges; 500 subcaliber cartridges; 400 drill primers.

10-inch gun.—7 rounds, with full service charges.

12-inch mortar.—11 rounds, with full service charges.

The allowance for small-arms target practice for the coming year is the same as for the year just ended.

The allowance for artillery target practice of cadets is as follows, viz:

3-inch field gun, model 1902.—290 shrapnel; 20 high explosive shell; 3,000 subcaliber cartridges; 30 blank cartridges.

2.95-inch Vickers-Maxim mountain gun.—145 shrapnel; 10 shell, cast iron, powder charged.

5-inch siege gun.—75 shrapnel, with full service charges and primers; 25 shell, with full service charges and primers.

7-inch siege howitzer.—75 shrapnel, with full service charges and primers; 25 shell, with full service charges and primers.

6-inch rapid fire gun.—13 rounds, with full service charges; 500 subcaliber cartridges; 400 drill primers.

10-inch gun.—7 rounds, with full service charges.

12-inch mortar.—11 rounds, with full service charges.

The generous allowance of ammunition for target practice of cadets is of inestimable value to them and to the service by permitting the graduation of young officers splendidly equipped for the continuance of target-practice work in the service.

(8) The following allowance of ammunition was made this year for artillery target practice of the detachment of field artillery at this post:

3-inch field gun, model 1902.—145 shrapnel; 10 high explosive shell; 1,500 subcaliber cartridges; 150 blank cartridges.

This detachment is kept always in a high state of efficiency by its commanding officer, and is ready at any time to take the field, if needed, so that it should be considered as a very efficient part of our mobile army. An allowance of ammunition for target practice for this battery is not only of substantial help to the battery itself in the encouragement to military efficiency of the members thereof, but to the Military Academy; also in that the training in target practice received by its members is put to most valuable use during the time when the cadets are being instructed in target practice with the battery. It is hoped that the condition of the ammunition supply for batteries of field artillery will continue to be such that an allowance of ammunition for this battery (even though it be smaller than the regular allowance) can be made in the future as it was this year.

(9) Reference was made in my report of last year to the fact that the siege artillery at the post has been rendered obsolete through the design of more advanced siege material by the Ordnance Department. The manufacture of the new material has not yet progressed sufficiently for issue, but it is expected that a battery of

4.7-inch siege guns of latest model will soon be shipped to this post. Owing to the fact that there are no siege artillery organizations in the service at present it would be of great advantage to the service if the cadets at the academy could receive thorough instruction in the use of the new material before graduation. On this account it is considered very desirable that in addition to the battery of 4.7-inch siege guns 2 siege howitzers of the latest model, with their carriages, limbers, and caissons, be issued to this post for cadet instruction as soon as their manufacture has progressed sufficiently to render this practicable.

The Ordnance Department has also designed 4.7-inch and 3.8-inch field howitzers and a 3-inch mountain howitzer. The issue to this post for cadet instruction of 2 field howitzers with their carriages, limbers, and caissons and 4 mountain howitzers with their carriages as soon as their manufacture has progressed to a point to render this practicable is also considered to be of prime importance.

(10) An item for the erection of a skeleton emplacement for 2 12-inch mortars has been included in the act making appropriations for the support of the Military Academy for the fiscal year ending June 30, 1911. The 12-inch mortar now at the post is mounted on the oldest type of carriage in service. It is recommended that this mortar and carriage be replaced by a mortar of model 1890, mounted on a carriage of model 1896 MI, and that a second mortar and carriage of these models be obtained for use with the first in the new emplacement, the mortars with their carriages to be borrowed from a mortar pit not in commission, with the understanding that in the event of threatened hostilities they will be at once returned to their proper fortification. A number of 12-inch mortars and carriages of model 1908 are now under manufacture. If a mortar and carriage of this model could be loaned to the Military Academy in place of one of the mortars with its carriage referred to above, it would be of great advantage in permitting the instruction of cadets in the service of the carriage, but it is feared that the number of these mortars and carriages under manufacture and the location of the fortifications for which they are intended may render this action impracticable.

ORDNANCE LABORATORY.

(11) The estimates referred to in my last report as having been submitted to the Quartermaster-General for the installation of electric lights and steam-heating apparatus in the barracks at the ordnance laboratory have not been approved and consequently this much-needed improvement can not at present be made.

This building is an old structure possessing none of the conveniences as regards electric lights, steam or hot-water heat, toilet, wash, and reading rooms now found in barracks of modern construction. It is considered that this building should be enlarged and modernized to permit of its accommodating about 25 men and to provide suitable toilet, wash, reading, and amusement rooms for them.

The north storehouse at the laboratory is now being repaired and rebuilt from appropriations made for this purpose by Congress. The repair of this building will remove the danger that formerly existed as to possible accident therefrom, besides preserving it for use as a storehouse and as an integral part of the old laboratory.

MUSEUM.

(12) The ordnance museum was transferred during the summer of 1909 to its quarters in the new administration building. The full advantage of the additional space gained by this change can not yet be realized, because the appropriation for the museum has not been sufficient to enable the necessary new cases, stands, etc., to be obtained. The estimate for the museum submitted this year has been considerably increased to enable the purchase or manufacture of new cases, stands, etc., and to continue the work of installation of the museum in its new quarters.

(13) The following exhibits have been loaned or presented to the museum during the year, viz:

1. Service sword and belt used by Col. James B. Duncan, U. S. Army, in every battle during the Mexican war except Buena Vista. Presented by his niece, Mrs. Josephine Turner, Cornwall-on-Hudson, N. Y.

2. Collection of Japanese rifles. This consists of 1 Murata rifle, model 1880, and accessories; 1 Murata rifle, model 1885, and accessories; 1 Murata carbine, model 1885, with accessories and 10 cartridges; 1 Murata magazine carbine, with accessories and 10 cartridges; 1 magazine rifle, model 1897, with accessories and 10 cartridges. Presented to the United States Military Academy by the Japanese Government.

3. Inkstand with inscription "Superintendent, U. S. M. A.," used about thirty-five years ago.

4. United States Springfield muzzle-loading percussion rifle musket, caliber .58, model 1855, with triangular bayonet. From Rock Island Arsenal.

5. One Maxim silencer, constructed for use with United States magazine rifle, caliber .30, model 1903, sectionalized to show construction. Issued by the Ordnance Department, United States Army, for purposes of instruction in the course of ordnance and science of gunnery.

6. Model of sugar-cane ox cart as used in Cuba. Presented by Col. H. L. Scott, superintendent, United States Military Academy.

7. Sword of honor of Maj. Gen. John M. Schofield, U. S. Army. Sword of honor of Maj. Gen. John Pope, U. S. Army. Sword of honor of Gen. Lewis Merrill, U. S. Army. Sword of honor of Brig. Gen. W. W. Burns, U. S. Army. Silk sash, belt and buckle, and one gilt spur worn by Gen. Lewis Merrill, U. S. Army. These were lent to the Military Academy by representatives of the families of the officers and were transferred to the museum from the library.

8. One set of intrenching tools used in the French army, consisting of portable hand spade, wire clippers, hand ax, small portable pick, billhook, and folding saw. One obsolete Austro-Hungarian cartridge box. One obsolete Austro-Hungarian knapsack. From the chief of second section, General Staff, War Department, Washington, D. C.

9. One ladle bowl, 2 spoon bowls, 2 cups, 1 dipper, and 1 musical instrument. These are from the island of Porto Rico, and were made from gourds. One sun-dried brick from the great wall of China. Presented by Dr. Robert T. Oliver, dental surgeon, U. S. Army.

10. Service sword worn by Gen. George H. Thomas and carried by him in the Mexican war while he was serving as a lieutenant of artillery. Presented by Judge C. M. Hough, New York City, and Lieut. C. L. Hall, Corps of Engineers, U. S. Army.

11. Portion of flag with inscription "République Française" on it; history unknown. Old flag presumed to be of the revolutionary period; history unknown. Remnants of old flag, presumed to be of the revolutionary period and captured from the German mercenaries; history unknown, but exactly like the 3 flags in the chapel. Guidon of Company I, First Regular Artillery, United States Army, borne during the civil war. Standard of Battery D, Second U. S. Artillery, borne during the civil war. Standard of Company D, Second U. S. Artillery; history unknown. Standard of Battery M, Second U. S. Artillery; history unknown. United States guidon; history unknown. "The Defenders of the Union;" a composite photograph of civil war celebrities. Spanish flag, captured at Juragarasita, Cuba, June 23, 1898, by a detail of Company B, Twenty-second U. S. Infantry. Spanish flag taken from the converted cruiser *Mexico* in the harbor of Santiago de Cuba, July 17, 1898. Portions of Spanish flag captured at the battle of San Juan, Santiago, Cuba, July 1, 1898, by the Thirteenth Infantry. Spanish flag from the governor-general's palace at Manila, P. I. Spanish flag hauled down from in front of the office of the captain of the port on the north side of the Pasig River, Manila, P. I., August 13, 1898. Spanish flag taken August 9,

1898, at Coamo, Porto Rico, by the Sixteenth Regiment Pennsylvania Volunteers, First Brigade, First Division, First Army Corps. Filipino flag; history unknown. United States flag made of colored handkerchiefs and used by United States troops in an expedition in the Philippine Islands. One shotgun, with accessories, pistol, powder flask, and bullet mold, 1 United States sword, 1 sword, sword belt, red sash, and yellow sash used by Gen. T. Swords. Muster roll of Second Company, Second Battalion, Mobilized Volunteers, Spanish Army in Cuba, captured June 23, 1898, by Capt. R. H. Wilson, Eighth U. S. Infantry. These articles were transferred to the museum from Memorial Hall.

12. One United States magazine rifle, model 1903, starguaged, fitted for telescopic musket sight, model 1908, with 1 front sight cover, 1 oiler and thong case, 1 brush and thong, 1 telescopic musket sight, model 1908, 1 screw-driver for telescopic musket sight, and 1 pouch for same. One United States officer's saber, 32-inch, with scabbard. One United States cavalry saber, with scabbard. One set of 6 display boards showing parts of United States magazine rifle, model 1903, in principal stages of manufacture. Issued by the Ordnance Department, United States Army, for purposes of instruction in the course of ordnance and science of gunnery.

13. Sword borne by Lieut. Richard Ellis Cochrane, Fourth Regiment U. S. Infantry, who fell at the head of his command at the battle of Resaca de la Palma, Tex., May 9, 1846. This sword was committed to the care of the United States Military Academy by his daughter, Mrs. Thomas B. Lee, of Austin, Tex.

14. One double-action safety fuse and 2 samples of brown powder. These were picked up at Iona Island immediately after the explosion and fire at that place several years ago. Presented by Maj. John M. Carson, jr., quartermaster, U. S. Army.

15. Piece of original chain stretched across the Mississippi River by the Confederates to prevent federal vessels from passing Forts Jackson and St. Philip. Iron lock taken from the cell on the right-hand side of entrance (Cella Ponte) of old Fort Jackson, La. One inside ventilator, 1 outside ventilator, and 1 pair of hinges taken from a dungeon in the northeast point of old Fort Jackson, La. Presented by Maj. J. A. Shipton, Coast Artillery Corps.

16. A number of curios from the Philippines, presented by Lieut. Walter J. Büttgenbach, Coast Artillery Corps, U. S. Army.

17. A wooden shield bearing the Spanish coat of arms, from Manila, P. I., lent by Mrs. H. L. Scott.

(14) In response to the request of the accredited representatives of this Government at the capitals of important foreign states, the following rifles and ammunition have been received at the museum during the year in exchange for the latest United States magazine rifles and ammunition, viz:

1. One Swedish rifle, with cleaning rod, cleaning-rod check, oiler, bayonet, bayonet scabbard, gun sling, and 50 rounds of ammunition.

2. One Netherlands rifle, with front sight and muzzle cover, screw-driver, thong and cord, chamber thong and brush, thong case, 2 cleaning rods, 1 wood gavel, 1 bayonet, 1 bayonet scabbard, 1 arm locker, and 10 rounds of ammunition.

3. One Austrian rifle, with 1 bayonet, 1 bayonet scabbard, and 10 rounds of ammunition.

4. One Peruvian rifle, with 1 front-sight cover, 1 bayonet, 1 bayonet scabbard, 1 gun sling, and 10 rounds of ammunition.

5. One Portuguese rifle, with 1 thong cord, 1 bayonet, 1 bayonet scabbard, 1 gun sling, and 100 rounds of ammunition.

6. One English rifle, with 1 bayonet, 1 bayonet scabbard, and 10 rounds of ammunition.

7. One Norwegian rifle, with 1 screw-driver, 1 oiler, 1 thong, 1 front sight and muzzle cover, 1 bayonet, 1 bayonet scabbard, 1 gun sling, and 100 rounds of ammunition.

8. One Turkish rifle, with bayonet, 1 bayonet scabbard, and 10 rounds of ammunition.

9. One Belgian carbine, with 1 cleaning rod, 1 combination tool, 1 front sight and muzzle cover, 1 shell extractor, 1 screw-driver, 1 oiler and cleaning brush, and 150 rounds of ammunition.

10. One French rifle, with 1 bayonet, 1 bayonet scabbard, and 16 rounds of ammunition.

11. One Brazilian rifle, with 1 front sight and muzzle cover, 1 bayonet, 1 bayonet scabbard, 1 gun sling, and 10 rounds of ammunition.

12. One Danish rifle, with 30 rounds of ammunition.

13. One German rifle, with 1 front sight and muzzle cover, 1 wiper, 1 gun sling, and 10 rounds of ammunition.

ORDNANCE DETACHMENT.

(15) The high efficiency of the ordnance detachment has been maintained during the year, and the work performed by it has continued to be of the most satisfactory character.

Very respectfully,

C. L'H. RUGGLES,
Lieutenant-Colonel, U. S. Army,
Professor of Ordnance and Science of Gunnery.

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

APPENDIX J.

REPORT OF THE FORESTER.

OFFICE OF THE FORESTER,
UNITED STATES MILITARY ACADEMY,
West Point, N. Y., August 3, 1910.

SIR: I have the honor to submit the following report of the forestry work upon the reservation of the United States Military Academy army post for the year ending July 31, 1910:

The reservation has been practically free of forest fires this past year. In the forest proper no fires of consequence have occurred, thanks to the moral effect of the fire notices, the patrol, and the close observation of the woods foreman. In previous reports I have called attention to negligence of the railroad authorities on their right of way through the post. There are three chief causes to be laid at their doors—workmen burning old ties or rubbish along the right of way, hot coals dropped from the ash pan of locomotives, and sparks from the locomotive stacks. The first two are the result of pure carelessness on the part of the section men, for which there can be no excuse.

The setting of fires by sparks from the smokestacks is a more complicated matter. The conditions under which a locomotive boiler must do its work make it impossible to prevent entirely the emission of sparks. The size of the fire box is limited to meet the conditions of locomotion. On the other hand, a great amount of coal must be consumed in order to make enough steam to draw the train. In order to burn the requisite amount of coal in a small fire box, the draft is forced by turning the exhaust from the cylinders into the front end or smoke box directly under the smokestack. The draft thus created is so strong that small pieces of coal are often lifted from the fire and carried through the boiler into the front end. Here they are caught up by the exhaust and shot through the stack many feet into the air. If a strong wind is blowing they may be carried a considerable distance from the track before they fall. Many of these burning fragments are extinguished by contact with the exhaust steam or are cooled in the air to a harmless cinder. But occasionally the larger and heavier ones which fall near the track are still capable of setting a fire if inflammable matter is near at hand. The insertion of a netting or spark arrester in the front end stops the largest sparks, and delays the passage of many others until they are harmless, but no spark arrester has ever been invented that will stop all sparks.

If the netting is kept in repair, a fire will rarely or never be set at a distance of more than 50 feet from the center of the track.

The problem of preventing fires from sparks resolves itself, therefore, into careful inspection and prompt repairs of spark arresters and the removal of inflammable material for a distance of 50 feet from the center of the track.

The West Shore Railroad maintains spark arresters on their locomotives, but it is my opinion that they are not kept in proper condition. Moreover, the section men do not keep the right of way cleaned up of all inflammable materials as they should.

Our forest department endeavors to keep the danger zone along the right of way clear of leaves and faggots, but it is of course impossible to do this in a thick forest growth as it can easily be done in the open right of way.

During last winter the woods foreman maintained a somewhat smaller chopping crew than usually, and in consequence only about 500 cords of wood and about 40,000 feet of saw logs were cut. This wood of course is not of the highest quality, owing to the fact that it is the result of clearing the woods of the undesirable trees, and that the trees cut which are sound and of good size are put into saw logs for the mill.

The woods foreman has continued to furnish such woods materials as the reservation affords to the several branches of the service at the post. The removal of the boiler at the sawmill last summer prevented the manufacture of special sized lumber, so that he has been unable to furnish as much as in years past. But the quartermaster has recently installed another boiler and assisted the woods foreman in repairing the mill, so that from now on the latter will be able to furnish almost anything in the way of lumber and dimension stuff for the post.

The past year has seen the largest planting operations at West Point since the forestry work began, upwards of 100,000 young trees have been transplanted from the forest nurseries to permanent sites on the reservation. The plants used were mostly three and four year old transplants of white and Scotch pine and spruce. The transplants varied in height from 8 to 14 inches. They were set out in the openings made by the heavy improvement thinnings. Particular attention has been given to the north side of the Washington Valley road, where the scenic benefits of the planting will be conspicuous.

A careful inspection of the forest underplanting made during the past three seasons showed that even under the severe soil and cover conditions at West Point 75 per cent have lived. For the first two years these infant trees made but little growth, as their vitality was sufficient only to recover from the shock of transplanting, and in establishing the new root growth necessary to further development. But the past season the pines put on leaders from 12 to 23 inches long, and if the present rate of growth continues these trees will attain ten years hence a height of 20 feet in the sites of open cover. The soil in which most of this planting has been done is so poor that the undertaking seemed at first a hazardous experiment. The land has been burned over repeatedly, destroying every vestige of humus, and leaving only a clear mineral soil that would hardly adhere when pressed in the hand.

All the planting has been done with stock grown in our own nurseries which have been replenished every year with fresh seed beds: It is the plan of the management to underplant everywhere so fast as improvement cuttings are made, to the end that eventually the West Point forest will be entirely rejuvenated and restored to a seedling instead of the present impoverished coppice growth.

I am glad to recommend for your notice the earnest and painstaking work of Mr. Knowles, the woods foreman, to whose zeal and skill most of the results of the forestry undertakings at the post are due.

Very respectfully,

ROY L. MARSTON,
Forester.

Col. HUGH L. SCOTT, U. S. Army,
*Superintendent, United States Military Academy,
West Point, N. Y.*

APPENDIX K.

REPORT OF THE QUARTERMASTER AND DISBURSING OFFICER.

OFFICE OF THE
QUARTERMASTER AND DISBURSING OFFICER,
UNITED STATES MILITARY ACADEMY,
West Point, N. Y., July 10, 1910.

SIR: In compliance with Memorandum No. 41, current series, Headquarters United States Military Academy, I have the honor to submit herewith the following report, in triplicate, of the operations of the quartermaster's department of the post of West Point and of the Military Academy and of the gas works for the fiscal year ending June 30, 1910:

QUARTERMASTER'S DEPARTMENT, POST OF WEST POINT.

The duties pertaining to this office are enumerated in paragraph 1010, Army Regulations, 1908.

Contracts entered into during the year and prior thereto, remaining in force in part or for the whole of the fiscal year, are indicated in statement hereto attached, marked "No. 1."^a

TRANSPORTATION.

In addition to the daily demands made upon this office for hauling and policing of the post, transportation has been furnished for hauling freight and material during the year, amounting approximately to 68,000 tons, an increase of 8,000 tons over last year.

POST CEMETERY.

The cemetery has been in use since 1816. The number of interments made between July 1, 1909, and June 30, current year, was 28, making the total number at the latter date 1,421. Its care and maintenance are provided for in the appropriations for the support

^a See page 77.

of the Military Academy. For this purpose there was appropriated for the last fiscal year \$1,500.

It has been found impossible to properly maintain the grounds of the cemetery for the amount heretofore appropriated. The money has been used to the best advantage, but the gradual increase in the number of interments, the necessity for filling in and resodding old interments, and the annual increase in the extent of the ground occupied by them necessitate a greater amount of work in order to keep up the appearance of the grounds as they should be in a place of this character. An increase of \$500 in the amount appropriated for the care of the cemetery is made in the estimates for the next fiscal year.

In my last annual report I stated that \$1,500 had been sufficient to keep the cemetery in a satisfactory condition. I now find that this can not be done for the reasons stated above.

Receipts and disbursements are shown in statement attached, marked "No. 2."^a

QUARTERMASTER'S DEPARTMENT, UNITED STATES MILITARY ACADEMY.

The duties under this head are defined in paragraph 14, Regulations of the United States Military Academy, 1902.

Contracts entered into during the year and prior thereto remaining in force in part or for the whole of the fiscal year are enumerated in statement attached, marked "No. 3."^b

Receipts and disbursements are shown in statement attached, marked "No. 4."^c

DETACHMENT ARMY SERVICE MEN.

The members of the detachment have performed the numerous demands required of it in a very satisfactory manner. An increase in its numbers, however, is necessitated in order to meet the greater demands now being made upon this office for necessary care and maintenance of buildings and grounds. The enlargement of the academy has annually added to these demands and the increase in the strength of the Corps of Cadets, which will go into effect next March, will add still further to the work required of this detachment. The Government has a plant at the Military Academy which requires a certain expenditure in labor and material each year for its upkeep. As the size of the plant is increased this expenditure also increases. If the work required can not be done by members of the army service detachments it will be necessary to employ civilian labor. This will make the cost of maintenance more expensive, particularly where labor of mechanics is required. It will be economy to enlarge the detachment in order to meet this growing demand. I have recommended an increase of 25 men in the estimates which have been prepared for the next fiscal year.

PUBLIC WORKS.

Since my last annual report the new headquarters building has been entirely completed and occupied. The total cost of this building, including extra cost for foundations, which had to be constructed

^a See page 77.

^b See page 78.

^c See page 79.

owing to the poor character of the subsoil, and cost of lighting fixtures, was \$510,143.87.

The bachelor officers' quarters were finished early in the fall of 1909 and occupied by unmarried officers. The entire cost of this building, which provides accommodations for 40 unmarried officers, and in which those for 32 have been entirely finished, including cost of lighting fixtures, was \$285,382.04.

In addition to the above buildings the following were completed and occupied during the year, with their total cost, including cost of lighting fixtures:

Four double sets of married officers' quarters.....	\$232, 503. 28
Chapel.....	432, 709. 30
Chaplain's quarters.....	37, 380. 60
Triple set of married officers' quarters.....	86, 278. 22
North wing of cadet barracks.....	203, 006. 36
Battalion guardhouse	29, 841. 79

The chapel, triple set of married officers' quarters, north wing of cadet barracks, and battalion guardhouse were not finished within the time stipulated by the contracts, and it is possible that there may be some liquidated damages for this delay, which will reduce the cost as stated above.

The exterior doors, interior wood trim of sacristy, altar, and chancel, and furniture for the chapel were not included in the general contract, but were contracted for separately, as the work was of a special character requiring special drawings which it was impracticable for the architects to prepare in time to be included in the general plan when they were advertised for bids. Furthermore, it was deemed advisable by the architects to not include this work in the general contract as it was of a special character and the designs could be worked out more satisfactorily after the walls were sufficiently advanced to admit of exact measurements being taken. All of this was contracted for early in the spring, and completed by June 1, at a cost of \$13,015. The altar has not yet been installed. It is to be of granite from the reservation. Owing to the requirement that it must be in one piece difficulty has been encountered in getting a stone from the quarry large enough to cut to the dimensions given, as the local stone is of an irregular character, short drifts, and more or less filled with what are called wind or blind seams, which frequently do not appear until the stone is being cut. It is impossible to get very large blocks of stone from the quarry that do not develop imperfections.

The main part of the gymnasium was finished in the spring sufficiently to be occupied, so that the steel trusses could be removed from the old gymnasium and utilized for the roof over the swimming tank wing in the new one. This building will be entirely completed by September 1. As the work is not yet completed, the total cost can not be stated at this time.

The work of rebuilding the south portal of the railroad tunnel was completed by the New York Central and Hudson River Railroad Company in June, and the space in rear of it adjacent to the power house has been filled in. The Government furnished the granite for facing the portal at a total cost of \$8,151.35.

During the winter and spring plans were made of the old cadet chapel as it has stood for so many years, and other plans made covering its rebuilding as a mortuary chapel in the cemetery. Removal

of the furniture and interior decorations was started in the latter part of June and actual demolition of the building will commence in a few days, as soon as the tablets and trophy flags are removed.

Work on the new riding hall has been prosecuted during the past year and the building is now about 37 per cent completed. It is believed that a portion of it may be finished in time for instruction in riding before the winter is over.

The various pieces of road work that were stated in my last annual report to be under way have been completed.

The quarrying of stone in rear of the superintendent's quarters has been continued throughout the year. From this quarry the local stone or granite has been supplied for the new chapel and chaplain's quarters, north wing of cadet barracks, battalion guard-house, basement and foundation walls of gymnasium, and officers' quarters, and for the construction of the new riding hall. Sufficient stone is in sight to complete the riding hall, and possibly the new east academic building.

During the winter a small garbage crematory, for which \$2,200 had been secured in the last annual appropriation act, was installed in the basement of the cadet mess. While the plant satisfactorily consumed all the garbage from the cadet mess, it has not yet been able to do so at the rate guaranteed in the contract. On this account the crematory has not yet been finally accepted. Its contract price was \$1,975.

In March complete working plans and specifications were received from the Boston office of the architects for the buildings known as the superintendent's and staff officers' quarters, which are to be erected on the ground immediately in front of the present hotel. The only building included in the approved general plan for which satisfactory working plans have not yet been supplied is the children's schoolhouse. This, however, will be completed at an early date.

Since my last report the extension of the steam pipe tunnel to the new cadet chapel, together with ducts for electric cables, water and gas supply pipes, sewer and surface water drains have all been completed.

Since July 1, 1909, the following items of work have been undertaken and completed by this office by hire of labor and purchase of material:

Construction of tar macadam roads and laying of brick gutters from in front of post headquarters building to north end of north cadet barracks. Also from northeast corner of west academic building to northeast corner of library.

Laying granolithic sidewalk in front of north cadet barracks with granolithic curb at gutter line, and top-soiling, seeding, and sodding portions of ground between the building and roadway.

Laying sidewalk in front of north bachelors' quarters and grading and top-soiling ground in vicinity.

Service road with retaining and breast-high walls and steps forming approach to Flirtation Walk built immediately north of north bachelors' quarters.

Completion of grading in vicinity of four new double sets of married officers' quarters near the cemetery, with top-soiling and seeding of lawns.

Construction of tar macadam road in front of the above-mentioned quarters, with granolithic sidewalks upon each side of the road, and building breast-high wall along east side of road.

Completion of ducts and installation of service wiring for electric light in the above-mentioned quarters, changing position of street lamps and wiring to conform with sidewalks laid.

Extension of water and gas pipe lines, sewer and drainage pipes to the above quarters from the street mains laid at time of formation of the roadbed.

Construction of foundation walls below the grade line in the cemetery upon which the old cadet chapel will be reconstructed for use as a mortuary chapel.

Extension of steam-pipe tunnel from a point opposite the east sally port of the north cadet barracks to point of northern termination at the new gymnasium.

Construction of retaining and breast-high walls, paths, granolithic sidewalks and steps, with the necessary grading in connection therewith, grading for slopes and approaches upon the east and west sides of the new chapel and chaplain's quarters, and roadbed along west side of these buildings.

Lowering 8-inch water main to below frost line, from the vicinity of soldiers' hospital to Delafield Reservoir, a distance of approximately 1,600 feet; laying branches to the soldiers' hospital for increasing the water supply.

Grading, top-soiling, and seeding a portion of the main parade ground (formerly used for cavalry and artillery drill) extending from the northern to the southern limits of the plain and from the east side of the central road to the boundary line of the west side of cadet camp.

Construction of retaining walls and steps and laying granolithic sidewalks in the vicinity of triple set of married officers' quarters on site of old Kinsley House. Also grading; top-soiling, seeding, and construction of service road for this building.

Forming roadbed of main road approaching these quarters from the south.

Extension of water and gas pipe lines, sewer and drain pipes, conduits and wiring for electric lights to the above quarters.

Extension of water and gas piping from street mains and laying conduits with service cables for electric lighting of the gymnasium and north wing of the north cadet barracks.

Purchase and installation of an electrically operated pump, with automatic control, for pumping water to the tank in the observatory, for supply to the new cadet chapel and chaplain's quarters. This pump was rendered necessary because the two buildings mentioned are located above the level of the clear-water house, from which the supply to the post mains is taken.

During the year contracts were made for the following items of work, all of which have been completed:

Supply and installation of a vacuum cleaning plant in the post headquarters building, at a cost of \$1,750.

Supply and installation of additional electric conductor, extending through the ducts of the subway, previously laid, from the power house to the new gymnasium. Also service cable to the north bachelor quarters.

The following work has been started since the building season in the spring, and it is now in progress, all of it being done by purchase of material and hire of labor:

Excavation for and laying foundation walls for extension to workshop at the ordnance laboratory.

Extension of the steam-distributing system to the new cadet chapel and gymnasium, through the extensions of the tunnel previously mentioned as completed. Proposals for this work were opened on July 6, and award will be made to Messrs. English & Flett, of Boston, Mass., at a cost of \$5,067.

Retaining wall to support earth embankment and road along north and west sides of the new riding hall, and to connect with the bridge and steps forming the central entrance to this building.

Grading and laying granolithic sidewalks and gutters, building catch-basins, and laying drains in area of north cadet barracks.

Tar macadam surfacing of main road approaching from the south triple set of married officers' quarters on old Kinsley House site.

Continuation of work of laying new gutters and tar macadamizing road from the north end of the north cadet barracks to the Catholic Chapel.

Installation of conduits in and wiring for electric lighting of the west academic building.

GAS PLANT.

As director of the gas plant, I am charged with providing illuminating gas for the needs of the post. The revenue derived from the sale of gas, coke, and tar is covered into the special contingent fund, and in accordance with law applied to payment of civilian employees at the gas works, purchase of gas coal if the appropriation therefor is not sufficient, and for miscellaneous expenses not otherwise provided for. Gas is charged for at the rate of 75 cents per 1,000 cubic feet.

During the year coke has been sold at \$1.25 per 18 bushels. Tar was sold under contract at the rate of 3¼ cents per gallon, this being the highest price that could be obtained after public notice inviting proposals.

During the year 18,197,600 cubic feet of gas were manufactured. This was an increase of a little more than 3,000,000 feet over the amount manufactured the preceding year, due to completion of officers' quarters, in which combination gas and coal ranges have been installed, and probably to increase in the amount of gas used in the cadet mess, hospitals, and cadet laundry. For the manufacture of this gas there were used 4,319,200 pounds of gas coal, at a total cost of \$6,980, and 832 gallons of oil, at a cost of \$56.24.

The amount of gas manufactured during the last two fiscal years is given by months in statement marked "No. 5."^a

SPECIAL CONTINGENT FUND.

This fund is derived from the rent of the hotel, stable, restaurant, and from the sale of gas, electricity, coke, tar, and miscellaneous receipts. Expenditures from this fund are made under the direction of the superintendent, by authority of chapter 212, Revised Statutes, act of Congress approved May 1, 1889. Expenditures for repairs of buildings which are rented are paid from their rentals.

Necessary expenditures during the year for the forestry improvements now under way have been paid from this fund, which is reimbursed therefor from the sale of timber in the shape of cord wood, sawed lumber, etc. The sale of cord wood during the past year has amounted to \$4,126.27. *Owing to its quality, there is no sale for

^a See page 79.

this wood except to brickyards in this locality. The prices obtained were \$4.50 per cord delivered at the brickyard, and \$3.50 per cord delivered on the north dock. The monthly expenditures for the forestry work range from \$317 to \$354.

The receipts and disbursements are included in statement attached, marked "No. 6."^a

In April my senior assistant, Capt. C. D. Herron, Eighteenth U. S. Infantry, was relieved from duty at the Military Academy in order to accept the appointment of adjutant of his regiment. His place was taken by Capt. J. W. Beacham, jr., Ninth U. S. Infantry, who reported for duty on April 16, 1910.

Captain Herron was a most valuable and able assistant, and by his zeal, industry, intelligence, and resourcefulness relieved me of a great many details of the work of the post in a highly satisfactory manner, thus enabling me to give more time and attention to the work of construction.

My second assistant, First Lieut. Guy Kent, First U. S. Cavalry, who reported for duty on June 16, 1909, has rendered valuable assistance and has performed the numerous and exacting duties assigned him in a very satisfactory manner.

Very respectfully,

J. M. CARSON, Jr.,
Lieutenant-Colonel,
Deputy Quartermaster-General, U. S. Army.

The ADJUTANT, UNITED STATES MILITARY ACADEMY,
Present.

No. 1.—List of contracts entered into by the quartermaster's department, United States Army, at West Point, N. Y., during the fiscal year 1910.

Contractor.	Date.	Expires—	Nature of contract.
North River Coal Co.....	May 1, 1909	June 30, 1910	Anthracite coal.
Clark & Wilkins.....	do.....	do.....	Soft pine wood.
The Texas Co.....	June 1, 1909	do.....	Gasoline.
The Early & Daniel Co.....	Aug. 15, 1909	do.....	Oats and hay.
William Gleichmann.....	do.....	do.....	Bran and middlings.
The American Hay Co.....	do.....	do.....	Straw.
Morse-Boulger Destructor Co.....	June 10, 1910	Oct. 10, 1910	Constructing crematory.

No. 2.—Statement of funds pertaining to the quartermaster's department at West Point, N. Y., received, disbursed, and deposited during the fiscal year ended June 30, 1910.

	On hand July 1, 1910.	Received since.	Total to be accounted for.	Disbursed and deposited.	On hand June 30, 1910.	Total disbursed, deposited, and on hand.
Regular supplies.....	\$18,535.07	\$105,476.13	\$124,011.80	\$124,011.80	.....	\$124,011.80
Incidental expenses.....	137.92	0,352.13	6,490.05	6,490.05	.....	6,490.05
Barracks and quarters.....	.....	4,988.81	4,988.81	4,988.81	.....	4,988.81
Military post exchanges.....	.....	46.24	46.24	46.24	.....	46.24
Army transportation.....	463.20	29,520.50	29,983.70	29,983.70	.....	29,983.70
Water and sewers, military post.....	.....	399.25	399.25	399.25	.....	399.25
Clothing and equipage.....	.....	1,282.81	1,282.81	1,282.81	.....	1,282.81
Shooting galleries and ranges.....	34.13	1,710.00	1,744.13	1,744.13	.....	1,744.13
Miscellaneous receipts.....	.....	2,463.45	2,463.45	2,463.45	.....	2,463.45
Total.....	19,170.92	152,239.32	171,410.24	171,410.24	.....	171,410.24

^a See page 80.

No. 3.—*Contracts in force during fiscal year 1910.*

Name.	Date.	Purpose.
Cram, Goodhue & Ferguson.....	Aug. 12, 1903	Developing competitive design for improvements, United States Military Academy.
Henry C. Meyer, jr.....	Oct. 2, 1903	For designing and supervising the construction and installing of heating and lighting plant.
Olmstead Bros.....	May 26, 1904	Plans and designs, landscape improvements, United States Military Academy.
General Electric Co.....	Dec. 6, 1904	Furnishing generators, motor, and switchboard for power house.
Robbins Conveying Belt Co.....	May 19, 1905	Coal-conveying apparatus.
C. H. Sanborn.....	Jan. 31, 1906	Steam-heating system for post headquarters building.
J. W. Bishop Co.....	do.....	Construction of post headquarters building.
J. B. & J. M. Cornell Co.....	Mar. 6, 1906	Structural steel for power house.
Empire State Surety Co.....	May 1, 1907	For completing contract of Church Construction Co. for construction of bachelor officers' quarters.
General Fireproofing Co.....	Aug. 5, 1908	Metal book stacks in library.
The Taft-Howell Co.....	Aug. 7, 1908	Building galleries in library.
Charles T. Wills (Incorporated).....	Aug. 25, 1908	Construction of gymnasium.
Do.....	do.....	Construction of chapel.
Do.....	do.....	Construction of chaplain's quarters.
Do.....	do.....	Construction of double officers' quarters.
Do.....	do.....	Construction of battalion guardhouse.
Geo. C. Hudson.....	Oct. 26, 1908	Excavating near cemetery.
E. McLean Long.....	Nov. 25, 1908	Inspecting steel for gymnasium.
Siegel Cooper Co.....	Jan. 16, 1909	100 washstands.
Charles T. Wills (Incorporated).....	Jan. 20, 1909	Construction of north wing to cadet barracks.
Do.....	do.....	Construction of triple officers' quarters.
The Okonite Co. (Limited).....	Mar. 30, 1909	Installing electrical distributing and street-lighting system in cadet camp.
Geo. C. Hudson.....	Apr. 1, 1909	Excavation between lieutenants' quarters, No. 5, and officers' quarters, No. 40.
Buffalo Pitts Co.....	Apr. 9, 1909	Traction engine, freight cars, and stone cars.
J. E. & A. L. Penneck.....	Apr. 13, 1909	Construction of riding hall.
Universal Destructor Co.....	Apr. 26, 1909	Morse destructor furnace.
Peter Keeler Building Co.....	May 10, 1909	Tiling in cadet hospital.
Waldo Bros.....	do.....	Floor benches, gas house.
The Miehle Printing Press and Manufacturing Co.....	May 20, 1909	Printing press.
North River Coal Co.....	June 8, 1909	Anthracite coal.
The Long Island Charcoal Co.....	June 10, 1909	Hardwood charcoal.
Berwind-White Coal Mining Co.....	do.....	Gas coal.
The Miehle Printing Press and Manufacturing Co.....	June 19, 1909	Motor.
Sprague Electric Co.....	do.....	3 electric motors.
The General Fireproofing Co.....	June 24, 1909	Steel wall lockers.
American Type Founders Co.....	June 26, 1909	Paper cutting machine and printing press.
The Okonite Co. (Limited).....	July 6, 1909	Electric wiring, etc., cadet camp.
Merritt & Co.....	do.....	Steel wall lockers.
The Okonite Co. (Limited).....	July 21, 1910	Electrical conductor from power house to new gymnasium, etc.
The Enos Co.....	July 27, 1909	Lighting fixtures, headquarters building.
E. G. Soltmann.....	Aug. 3, 1909	Prints and negatives of plans of new buildings.
The Newburgh News Printing and Publishing Co.....	do.....	Printing specifications.
Fort Wayne Electric Works.....	Aug. 24, 1909	Motor for tramway.
Hildreth & Co.....	do.....	Inspecting steel, new riding hall.
The Reading Chandelier Works.....	Sept. 3, 1909	Lighting fixtures in double officers' quarters, lieutenants' quarters, No. 5, and bachelor officers' quarters.
The Okonite Co. (Limited).....	Sept. 16, 1909	Service cable, lieutenants' quarters, No. 5.
The Connorsville Blower Co.....	Oct. 20, 1909	Vacuum cleaning plant in post headquarters building.
The Okonite Co. (Limited).....	Nov. 18, 1909	Service connections from manhole No. 109 to officers' quarters, Nos. 10, 11, 12, and 13, and changing position of street lamps.
The Mitchell-Vance Co.....	Nov. 19, 1909	Lighting fixtures in battalion guardhouse and chaplain's quarters.
Irving & Casson.....	Dec. 7, 1909	Doors and door frames, new chapel.
Do.....	Feb. 25, 1910	Table and chairs, academic board room.
Black & Boyd Manufacturing Co.....	Apr. 14, 1910	Lighting fixtures in chapel, gymnasium, and north wing of north barracks.
The Okonite Co. (Limited).....	May 5, 1910	Conductor from old gymnasium to new chapel, and service cable from new gymnasium to north wing, cadet barracks.
Narragansett Machine Company.....	do.....	Wardrobes and benches in new gymnasium.
Do.....	May 9, 1910	Lockers and racks in new gymnasium.
Do.....	May 13, 1910	Gymnastic apparatus.
Langston Monotype Machine Co.....	May 14, 1910	Composing machine.
Irving & Casson.....	May 18, 1910	Paneling and furniture in new chapel.
Revolute Machine Co.....	June 10, 1910	Electric blueprinting machine.

No. 4.—Statement of funds received and disbursed from appropriations for the United States Military Academy at West Point, N. Y., during the fiscal year ending June 30, 1910.

	Current and ordinary expenses.	Miscellaneous items and incidental expenses.	Buildings and grounds.	Total.
Dr.				
July 1, 1909:				
Balances on hand, fiscal year—				
1909.....	\$7,953.43	\$7,287.70	\$16,121.07	\$31,363.16
No year (enlarging the Military Academy).....			202,603.25	202,603.25
Received since, fiscal year—				
1909.....	1.00			1.00
1910.....	123,516.56	51,600.00	28,535.00	203,651.56
1910-11.....	15,700.00		10,850.00	26,550.00
No year (enlarging the Military Academy).....			1,408,500.00	1,408,500.00
Total.....	147,170.99	58,887.70	1,606,610.22	1,872,668.97
Cr.				
June 30, 1910:				
Deposited, fiscal year—				
1909.....	2,496.45	377.93	7,629.84	10,504.27
1910.....	7,688.46	3,031.32	858.73	11,578.51
1910-11.....	15,097.88		10,850.00	26,547.88
No year (enlarging the Military Academy).....			4,019.35	4,019.35
Disbursed, fiscal year—				
1909.....	5,457.98	6,906.78	8,492.13	20,856.89
1910.....	115,828.10	48,571.08	27,076.27	192,076.05
1910-11.....	2.12			2.12
No year (enlarging the Military Academy).....			1,607,083.90	1,607,083.90
Total.....	147,170.99	58,887.70	1,606,610.22	1,872,668.97

No. 5.—Amount of gas made and sent out, with amount of material used in its manufacture, for the fiscal years 1910 and 1909.

Month.	Gas made.	Gas sent out.	Coal used.	Oil used.
1910.				
	<i>Feet.</i>	<i>Feet.</i>	<i>Pounds.</i>	<i>Gallons.</i>
July.....	932,600	928,000	207,500	93
August.....	912,500	914,500	202,300	93
September.....	1,111,500	1,120,300	252,400	90
October.....	1,348,900	1,381,300	312,600	93
November.....	1,571,400	1,533,600	363,300	90
December.....	1,649,500	1,671,800	392,900	93
January.....	1,894,900	1,886,400	481,900	98
February.....	1,853,200	1,830,700	444,100	89
March.....	1,898,000	1,912,300	446,700	93
April.....	1,745,700	1,773,200	407,800	.....
May.....	1,824,400	1,818,200	436,000	.....
June.....	1,455,000	1,432,800	371,700	.....
Twelve months.....	18,197,600	18,203,100	4,319,200	832
1909.....	15,119,100	15,155,200	3,471,700	1,353
Increase.....	3,078,500	3,047,900	847,500	a 521
1909.				
July.....	1,182,100	1,176,500	277,000	124
August.....	1,122,700	1,135,600	261,200	124
September.....	1,057,700	1,058,700	241,400	120
October.....	1,211,000	1,193,900	276,400	124
November.....	1,483,700	1,480,300	335,000	120
December.....	1,515,500	1,539,300	350,000	124
January.....	1,521,300	1,534,100	356,700	124
February.....	1,415,900	1,391,200	333,300	112
March.....	1,417,500	1,432,300	325,500	108
April.....	1,189,800	1,207,700	269,800	90
May.....	1,031,700	1,036,600	228,700	93
June.....	970,200	969,000	217,500	90
Twelve months.....	15,119,100	15,155,200	3,471,700	1,353

a Decrease.

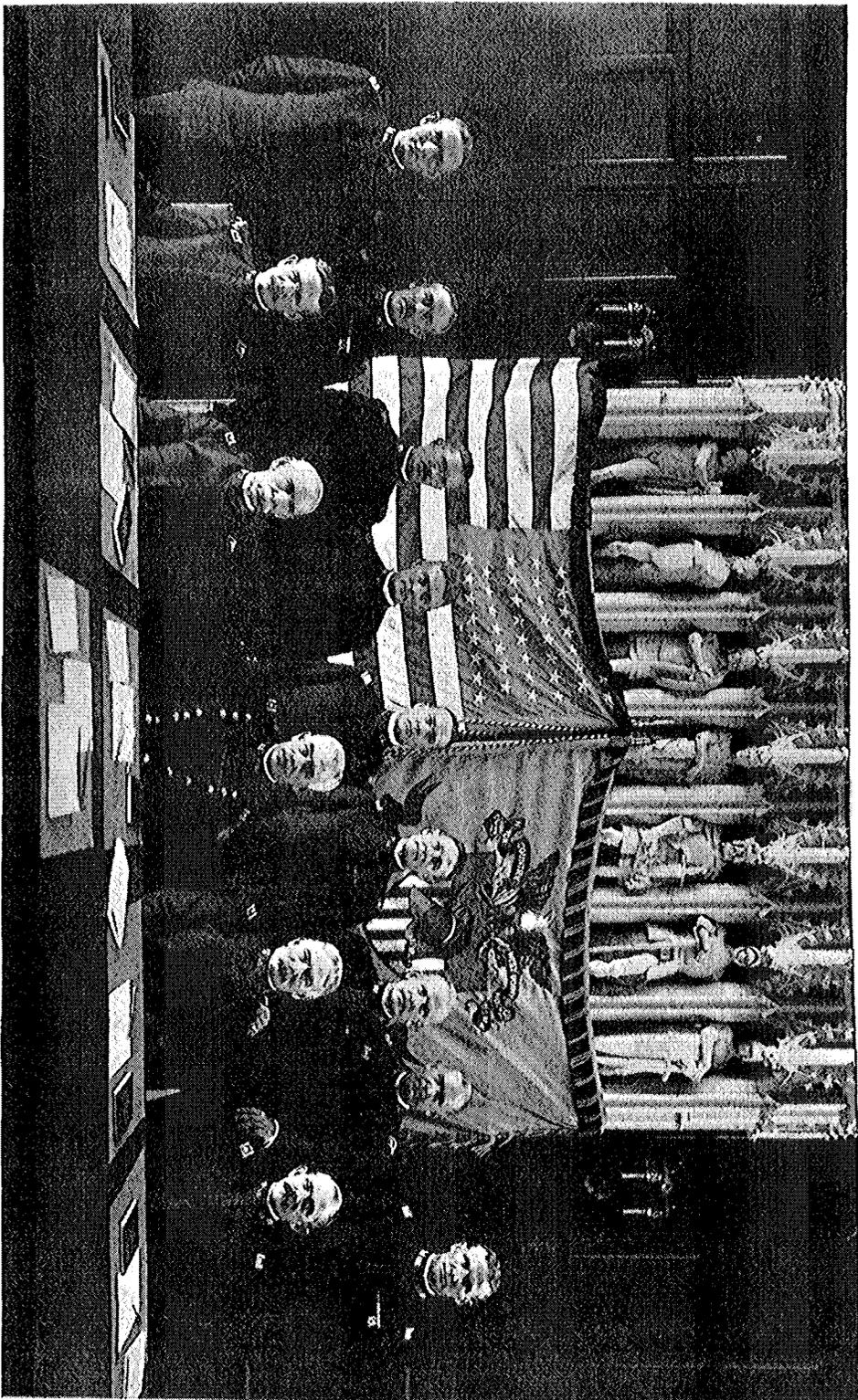
Cost of oil used, \$56.24; cost of coal used, \$6,980 (1910).

80 REPORT OF SUPERINTENDENT U. S. MILITARY ACADEMY.

No. 6.—*Statement of receipts and expenditures pertaining to the special contingent fund, United States Military Academy, from July 1, 1909, to June 30, 1910.*

July 1, 1909. Balance on hand	\$2,318. 53
June 30, 1910. By amounts received:	
Rents—	
Hotel.....	\$1,500. 00
Post-office.....	150. 00
Stable.....	300. 00
Electric plant.....	525. 00
Sales—	
Wood, forestry.....	1,011. 77
Miscellaneous.....	79. 60
Light.....	9,449. 50
Coke.....	695. 00
Tar.....	456. 53
	<hr/>
	14,167. 40
June 30, 1910. Total to be accounted for.....	16,485. 93
June 30, 1910. To amount disbursed.....	13,644. 38
	<hr/>
June 30, 1910. Balance on hand.....	2,841. 55

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THE ACADEMIC BOARD

