

ANNUAL REPORT

OF THE

SUPERINTENDENT

OF THE

UNITED STATES MILITARY ACADEMY.

1900.

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GOVERNMENT PRINTING OFFICE.
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HEADQUARTERS UNITED STATES MILITARY ACADEMY,
West Point, N. Y., September 15, 1900.

SIR: I have the honor to submit the following report for the Military Academy for the year ending September 1, 1900:

I have performed the duties of superintendent throughout the year, having been absent only for short periods of time in Washington in connection with affairs pertaining to the Academy.

PERSONNEL.

The number of officers and instructors for duty at West Point September 1, 1900, was 7 professors, 1 associate professor, 62 commissioned officers, 1 chaplain, 1 acting assistant surgeon, 1 sword master, 1 teacher of music; a total of 74. The total for duty September 1, 1899, was 62. At this time last year several of the officers detailed for duty had not joined, so that these figures do not give an accurate report as to the relative number of officers on duty now and the number a year ago. The net increase in the number of officers at the Academy is 9, the additional officers having been detailed as instructors in mathematics and in modern languages to meet the demands of the increased size of both the third and fourth classes.

THE CORPS OF CADETS.

The act of June 6, 1900, made a material increase in the number of cadets authorized for the Academy, the maximum number now being 481, while a year ago it was 381.

The academic year opens with 429 cadets on the rolls of the Academy, the largest number ever belonging to it at one time. They are divided between the four classes as follows: First class, 74; second class, 68; third class, 115; fourth class, 172. Of this number 3 are foreigners, one each from Costa Rica, Venezuela, and Ecuador, who are receiving instruction at their own expense under special authority of Congress. September 1, 1899, there were 357 cadets, which number also included 3 foreigners.

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

Discharged for deficiency in studies, 30; for deficiency in discipline, 1; for physical disability, 1; dismissed, 2; resigned, 7; graduated June 13, 1900, 54.

For the first time since the opening of the Spanish-American war the graduation of the first class this year took place at the regular time in June with the usual exercises before the Board of Visitors. The class of 1898 was graduated April 26, 1898, and that of 1899 on February 15, 1899.

Three examinations for the admission of candidates were held during the year. In March, at eleven army posts, including West Point; in June and on July 25 at West Point. The examination on July 25 was a special one, and was held mainly for the examination of candidates appointed under the law passed by Congress June 6, 1900.

Before the different boards 314 candidates appeared. Twenty-seven were for physical examination only, and 6 were found physically disqualified before entering upon the mental examination. This left 281 candidates to undergo the mental examinations, of whom 176 were found qualified. Of this 176, however, 7 were physically disqualified. One hundred and five failed to pass the mental examinations, of whom 9 were also physically disqualified. Of the 176 who passed, there were 36 alternates for whom no vacancies existed, their principals having also passed. This left 140 to be admitted, making, with the 27 who were examined physically only, a total number admitted of 167.

HEALTH.

The health of cadets has been good throughout the year. There have been no serious accidents, and no epidemics of any sort have occurred. Due to the inferior lighting plant of the Academy, a good many cadets have had trouble with their eyes. It is hoped, however, that this condition will be improved when the new gas burners, authorized in the last appropriation bill, are installed. The fact of the trouble accentuates the necessity for a new and modern lighting plant for the Military Academy.

During the year a complete operating room has been fitted up at the cadet hospital, under the supervision of the surgeon. This is an improvement which has been very much needed, and its great value has already been demonstrated by a number of serious operations successfully performed there. A brick addition has also been added to the wards of the cadet hospital, which now have ample toilet facilities, and quarters for the hospital steward have been erected in rear of the hospital. With the increased number of cadets now at the Academy, the construction of the south wing of the hospital, according to the original plan of the building, is now imperative, and will be included in the estimates for the coming year.

Attention is invited to the appended report of the surgeon, marked "A."

ACADEMIC INSTRUCTION.

The academic instruction of cadets has been maintained throughout the year at its usual high standard of thoroughness, and the results obtained show not only the excellence of the methods employed, but also the earnest thought and labor the heads of departments and their several assistants gave to their duties during the year. In the line of improvement several text-books have been replaced by later editions of the same work and by more authoritative treatises. In the department of mathematics D. A. Murray's Integral Calculus, C. Smith's

Treatise on Algebra, and J. B. Johnston's Theory and Practice of Surveying have replaced, respectively, Church's Integral Calculus, Davies' Bourdon, and Davies' Surveying; and Peck's Determinants has been discontinued. In the department of chemistry the second edition of Tillman's Descriptive General Chemistry has been substituted for the first edition, and similarly in the department of law the latest revised edition of Davis's Elements of International Law has taken the place of the older edition of the same work. In the department of tactics Dyer's Handbook of Light Artillery has been introduced as a book of reference, and a new manual of the Service of Security and Information has been added as a text-book for the fourth class. An important change in the order of instruction in mathematics goes into effect in the fourth class with the commencement of the present academic term. In the past the study of algebra was finished before geometry was taken up; now these two studies are pursued on alternate days—a change, it is believed, which permits a cadet finding greater difficulty with one than with the other subject to give more time to the most difficult. It is a change also which will enable a more nearly correct judgment to be made of the cadet at the examinations following the completion of these studies. A similar alternation will be pursued in the recitations of the third class in conic sections and descriptive geometry.

The wisdom of the change made last year in placing in the fourth-class course the study of the elementary parts of infantry and artillery drill regulations and the service of security and information was fully demonstrated by the greatly increased intelligence and aptitude shown by the members of the class in their practical duties in third-class camp.

Considering the importance to an officer of a thorough knowledge of the drill regulations of the three arms of the service, I do not think sufficient time is allowed at the Academy for their study by cadets. Under the present allotment of time but ten to eleven lessons are given to each. The light artillery and infantry drill regulations are assigned to the second-class course and the cavalry to the first class. As these regulations embrace not only the drill, but the tactics of each arm, they should be thoroughly learned by cadets, and completed during the third year at the Academy in order that the practical application may be made in the fourth and last year. It is desirable that more time be given in the last year to the subject of military administration than is now possible with the present restricted course of lectures on that subject. The young graduate should have more knowledge than has been the rule in the past of many of the duties and responsibilities which fall to him, almost immediately, on joining his regiment.

Of the cadets found deficient in studies during the year, 30 were discharged from the Academy, and 8 were recommended to be turned back, and have been allowed to again go over the course they failed to master. Of the cadets discharged, 7 have been named for reappointment by their Congressmen, and, on the recommendation of the academic board, have returned to the Academy—2 in the third and 5 in the fourth class.

ENTRANCE EXAMINATION.

The failure in the closing hours of the last session of Congress of the provision in the Military Academy bill repealing the present fixed mental requirements for admission to the Academy and placing these requirements in the control of the Secretary of War, was a keen dis-

appointment to all friends of the Academy who have given the subject close thought or recognized its importance. For many years the character of the educational qualifications required of candidates has been a handicap to the academic instruction the institution has done and has been capable of doing. The fact would seem a sufficient commentary on the present standard of admission that a student in good standing and no matter how far advanced in any of the universities of the country when appointed to the Military Academy and before he can enter has to go back and take up work he has already satisfactorily completed several years before appointment. If such a student receives an appointment suddenly, without sufficient time to prepare, the chances are he will fail to qualify, as no account of the college work done can, under the law, be given him. The matter is again called to the attention of the War Department with the earnest recommendation that Congress be further urged to place the requirements for admission under the control of the Secretary of War, so that they may be kept by him to accord with the standard of preparation given in the country's school systems. By statute, in 1812, Congress prescribed that candidates to be admitted to the Academy must be "well versed in reading, writing, and arithmetic." These requisites remained unchanged until 1866, when the additional requirement was added that candidates were "to have a knowledge of the elements of English grammar, of descriptive geography, particularly that of the United States, and of the history of the United States." These are the requirements to-day, the only change in eighty-seven years being the addition of an elementary knowledge of English grammar, United States history, and geography, and this, notwithstanding the fact that the school facilities of the entire country are vastly superior to what they then were, and that the system of instruction in schools has also greatly changed.

Comparing the Military Academy's admission requirements with the work of the public schools of the whole country, it is found on the statement of the United States Commissioner of Education that these subjects are covered and finished in the elementary public schools at an average age of not more than 14½ years. Furthermore, that the entrance examination to our public high schools demands substantially the same requirements as does the Military Academy, while the average age of admission to these schools is under 15 years. The minimum age of admission to the Military Academy is 17 and the maximum 22 years. Consequently, though the age of admission to the Academy is from two to seven years greater than the average at which boys enter the public high schools, the requirements for admission are the same in both cases. This fact is a heavy drag for the Academy in the work it does, and it shuts off work it should and could do if the subjects covered on admission were changed to accord with public-school standards. The present requirements amount to an invitation to many young men to make effort to enter the Academy who have failed to profit by the advantages given in the public schools open to them.

In consequence, and due to the little required before entering and the necessarily severer requirements after entering, many failures result. The record of years shows these on entering to amount to almost one-third of the number appointed, while about one-half of the number who enter fail to graduate. The failures in the course are not due to the severity of its demands. Young men of fair intelli-

gence who have application and industry and the mental development the public schools give to boys of their age have never had any trouble in graduating at the Military Academy. It is also a safe assertion that the large majority of failures to enter are among candidates who would not have sought appointments had the requirements been more nearly in accord with the work they should have done at their age in the public schools. The statistics of the Bureau of Education show that the course of studies available to the students of the secondary schools of the United States—the public and private high schools and academies—the average age of admission to which is, according to the Commissioner of Education, a little less than 15 years, are as follows: Latin, Greek, French, German, algebra, geometry, trigonometry, astronomy, physics, chemistry, physical geography, geology, physiology, psychology, rhetoric, English literature, history (other than United States), civics.

It will be observed that none of the subjects included in the examinations for admission to West Point are taught in the secondary schools; these subjects are finished in the elementary schools.

The above data show the urgent necessity existing for changing the Academy's admission requirements to include some of the more fundamental subjects taught in the public schools to pupils of our minimum admission age.

Place in contrast the Academy's requirements for admission and the very serious ones the cadet must satisfy before he is declared fit to be an officer and the necessity for the change is further apparent. The former is fixed, but the latter has necessarily grown and it must grow. It is like pulling one end of a string, the other end of which is fixed.

During the past twenty-five years the art and science of war has advanced in a remarkable degree, and the means and details for applying and carrying out the established principles of war have become greatly extended and complicated. In consequence, the course of instruction at the Academy has increased. For years the institution has been between two fires: Complaints from cadets and those personally interested in them that the studies are too long and too difficult; on the other hand, reasonable demands from proper authorities that certain important studies should be taught or more fully developed, and that practical instruction should be increased. It is not held a graduate must be thoroughly versed in all that pertains to his profession—a lifetime is too short for that—but an exact knowledge of the fundamental principles of the essential subjects constituting the foundation of military science, together with a certain amount of practical instruction, is absolutely essential for high efficiency, and this the Academy should seek to give.

The effort to get as good material as possible, under the law, has developed a rather severe examination in arithmetic, all the other requisites being very moderate. Owing to the adjustment of study in the public schools, the relation between the knowledge of arithmetic and other subjects is very different from what is required at the Academy; it is the tendency among the leaders of elementary education, school superintendents, and writers on common school methods to believe that more time is lost than gained by completing the full course of arithmetic before commencing algebra and geometry.

It would be in every way advantageous to have the relation between these particular subjects made the same as exists generally in the pub-

lic schools, and to associate in our examinations the subjects which are pursued simultaneously in the public schools. By taking advantage of the preparation set by the public schools, it would insure a higher general average of preparation and correspondingly increase the professional attainments of the graduates. There is no desire that the entrance examination should be made more difficult, but only that it should require what the public schools of the country supply. This being done it is firmly believed by those who have given the matter most serious thought that judicious changes in present requirements would make the entrance examinations easier, not harder, for the pupils of the public schools, who are of the proper age for admission, and yet give better prepared material than we receive now.

The public and private school opportunities of the country, as a whole, are now so favorable that it is thought that only good can result by keeping our requisites in accord with their work, the work accomplished by them at our minimum age of admission. Our candidates are drawn almost entirely from the public schools, and it is particularly important to bear in mind that it is upon this fact that the conviction is based that the modifications which would result in the Academy's requirements, under the change of law proposed, would not increase the difficulty of the entrance examinations to the pupils of the public schools, but would merely apply tests more nearly in accord with their preparation, and that more of those appointed would enter than is now the case.

By placing the requirements for admission under the control of the Secretary of War he could maintain these requisites in harmony with the standards of preparation which the public schools of the country establish for boys of the minimum age of admission. It would also bring these requisites in the same category as the subsequent system of studies and instruction, viz., under the direction of the War Department, thereby giving greater flexibility and more readily permitting the modifications which time makes necessary. It would also permit the best adjustment at all times between the requisites for admission and the studies pursued immediately after admission, and permit those charged with the examinations to substitute optional subjects for examination when thought advantageous, such optional studies to have a weight in counterbalancing deficiency in required subjects. This last would be a great gain and a matter of justice to many candidates. In addition it will enable the Academy, by doing away with some matter now studied, to gain additional time for important subjects for which there is not now sufficient time and which the conditions of our service make essential.

The Government does so much for a cadet after his admission it can reasonably, and in justice to itself, require him to come up to public-school standards before admitting him to the Academy.

PRACTICAL INSTRUCTION.

On account of the considerable increase in the numerical strength of the corps of cadets it has been necessary to change the battalion organization from one of four companies to one of six. The six-company organization will simplify administration and will save time in formations. It will also admit of greater attention being given to details in the individual training of cadets—an essential feature of the Academy's system of instruction—and by increasing the number of

cadet officers and noncommissioned officers will enable cadets more frequently to exercise command.

Commencing last spring, cadets have been instructed in mountain gun artillery and pack-train service. The latter valuable instruction, in the encampment just over, was greatly facilitated by the kindness of the Quartermaster-General of the Army in assigning an expert packer to temporary duty here. The results of his work and the value to the Army of this particular instruction certainly would justify the permanent assignment of a packer to the Academy. When not engaged with cadets, the time of such a man could well be employed in instructing the enlisted men of the artillery and cavalry detachments.

The initial instruction of the large class of new cadets who were admitted on June 19 and August 1 was successfully accomplished. Under the system of training put in operation by the commandant of cadets two summers ago the new cadets made exceptional progress, and the results thoroughly establish the wisdom of the system referred to. All the new cadets are at this date doing their full duty in the battalion.

The practical military instruction in other respects has also been considerably extended during the year and with the most gratifying results. No class, it is believed, has ever left the Military Academy better prepared than were the members of this year's graduating class to take up immediately on joining their regiments the practical duties falling to subaltern officers serving with troops, and their training in this respect can not but be of the greatest assistance to the War Department under the present conditions of our military service. Throughout the year the members of the first class were detailed in turn, by roster, for all duties, drills, and exercises, and every possible opportunity was given each member to exercise the command and to perform as many as possible of the duties which devolve upon subaltern officers of the Army. Each one received credit for the efficiency he showed in the performance of duty and in the exhibition of qualities believed to be essential in the make-up of an officer.

In the department of tactics the work accomplished has embraced infantry, cavalry, and artillery drill and exercises, tactical and minor tactical exercises, target practice, castrametation, field intrenching, mountain-gun and pack-train instruction, practice marches of the three arms and field exercises, stable management, company administration, and fire drills. For a detailed account of the very valuable practical and theoretical work done during the year in the department of tactics, attention is invited to the appended report of the commandant of cadets, marked "B."

In the department of practical military engineering some changes in the course of instruction have been made which it is believed will give better results. They are noted in the appended report of the instructor of practical military engineering, the most important being the placing in this department of the instruction of the third class in practical surveying, which was carried on during the summer encampment. The larger part of this class is now competent to handle the transit and level for ordinary surveys, including the use of the stadia.

PHYSICAL TRAINING—ATHLETIC SPORTS.

The benefits resulting from the course of physical training, embracing the set up of new cadets as well as military gymnastics, fencing,

and swimming, are set forth in the report of the commandant of cadets. This course is under the immediate charge of the Academy's excellent and expert master of the sword, whose painstaking and thorough work commands the admiration of all persons conversant with the system he has established at the Academy and the results it accomplishes. The advisability of giving the master of sword an assistant in his work, which was made apparent in the instruction of the unusual large fourth class of last year, has become an absolute necessity with the present fourth class of 173 members, and I have therefore made application for an officer for this duty.

I beg to again renew my recommendation of last year and the repeated recommendations of former superintendents and boards of visitors concerning the status and the recognition due the Academy's master of sword, and I earnestly ask the War Department to strongly recommend legislation to Congress which will make him a commissioned officer. Mr. Koehler has filled the office of master of sword since 1885, and has developed at the Academy a superb system of military gymnastics, which was early adopted by the War Department for general use in the Army. Mr. Koehler is morally, intellectually, and physically qualified for a commission. Aside from the recognition justly due the present incumbent, the sword master should be a commissioned officer, for in the instruction of cadets he is required to preserve discipline and exercise control, but, being a civilian, he is without legal authority to command, even to the extent of giving orders to the enlisted men detailed to assist him in the performance of his duties, making an anomalous position in the military service, which is injurious to proper discipline and should no longer be allowed to obtain.

Athletic sports have continued to receive reasonable encouragement during the year, with beneficial results to cadets in affording a needful relaxation in the mental work required and attracting them out of doors during recreation hours. That such sports and athletic contests can be engaged in at the Military Academy without detriment to the requirements of duty was signally shown by the foot-ball contest between the cadets of the Naval and Military academies on Franklin Field, at Philadelphia, December 2, 1899. The game was witnessed by both bodies of cadets. Although it was of absorbing interest to the cadets of the Military Academy, it was approached by them without relaxation in their attention to studies or instruction. When it was over the routine of duty, which had been dropped for the day, was taken up immediately without having suffered a perceptible strain. The manly conduct and bearing of the two bodies of cadets at the game also was an admirable illustration of the training given in the national academies.

DISCIPLINE.

The discipline of the Corps of Cadets is satisfactory. During the current year the policy, inaugurated last year, of combining strict discipline with largely increased privileges to deserving cadets has been carried out, and has given, I believe, excellent results. On March 10, 1900, there was put in force a regulation, the result of much careful thought, which divided monthly each class into three conduct grades according to their recorded demerit for the preceding calendar month. Privileges are assigned to each grade of each class, the great-

est believed compatible with the requirements of duty being allowed the first grade of the first class. A copy of the regulation referred to is hereto appended, marked "C," and attention is invited to it.

It is a pleasure to be able to report that I believe there has been an absolute ending this summer of the particularly cruel and extreme forms of hazing new cadets which were referred to in my last annual report.

This satisfactory condition has been brought about largely by the voluntary action of cadets themselves.

In no army in the world is there less of harshness in the training of the recruit than in our own, and it is evident that it must be taught cadets that neither brutality nor harshness are necessary to the strictest subordination and the best discipline.

EQUIPMENT FOR INSTRUCTION.

The equipment on hand for the instruction of cadets is excellent except that pertaining to sea-coast artillery and the mountain-gun battery. Steps have been initiated to secure a model sea-coast battery, and when the necessary appropriation for constructing it is obtained this particular instruction can be made more complete and useful than has been the case for some years in the past. Steps have also been taken to secure a new battery of improved modern mountain guns and their equipment to replace the inferior small-caliber battery now on hand. When this new battery is obtained this instruction also can be placed on the plane its great value merits.

PAY OF CADETS.

I beg to again renew my recommendation of last year that military cadets be placed on the same status as their brother cadets in the naval service. The army cadet is paid \$540 a year. The naval cadet receives \$500 a year and a daily ration, which is commuted at 35 cents per day, making a difference of \$69.50 a year in favor of the naval cadet.

The small increase recommended would relieve a situation which is frequently a difficult and embarrassing one.

The pay of the army cadet is expected to provide for his support at the Academy and his equipment as an officer when he graduates and enters the Army. It is not sufficient for these purposes without other assistance, and the small increase recommended would be a great relief to many cadets who find themselves often embarrassed during their cadetship and for some time after entering the Army. Out of his pay the army cadet pays for everything incidental to his maintenance at the Academy except the rent and actual heating of the buildings he occupies and his tuition. Four dollars per month of his pay is retained as an equipment fund to provide his equipment as an officer when he graduates. This sum is entirely insufficient for the purpose, and in consequence the young graduate, if without means of his own, usually enters his new career in debt, which is a handicap to him and undoubtedly the first cause of any difficulties in which he may subsequently become involved. A rigid economy is exacted of all cadets, but many can not avoid debt with their present pay, and the operation of getting out is a difficult and slow one. Especially does this apply

to those unable to make the required deposit of \$100 toward paying for their first equipment when entering the Academy.

It is proposed to apply the increase, if allowed, as follows: Four dollars per month, or \$48 per year, to be retained as an addition to the present equipment fund, thus doubling it; the balance, \$21.50, to be applied to necessary expenses attending the cadet's social amusements, athletic games, and literary societies.

SUPPLY AND SUBSISTENCE DEPARTMENT.

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

The amount of work done for cadets by this department during the year has been considerably increased on account of the larger number of cadets. Efforts are constantly made to supply the best class of goods to cadets at very low rates. Improvements have been made in the laundry by the addition of the new machinery authorized by Congress in the last appropriation bill. To accommodate the increased number of cadets, further laundry apparatus is necessary and will be asked for in the estimates. The quality of food furnished cadets has been good, the bill of fare being changed daily in the effort to furnish a variety. During the year the cost of subsistence in the cadet mess has been 50 cents per cadet per day.

THE MILITARY ACADEMY BAND.

The reorganization of the Military Academy band, long recommended by different boards of visitors and superintendents, took place the first of July, in accordance with the terms of the last appropriation bill. The band, as now constituted, consists of forty musicians and is much better fitted to do the important work required of it.

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

The men of this detachment have continued to perform in a very satisfactory manner their multifarious duties, embracing the general care and police of the post, the manufacture of gas and care of fuel, repairs of buildings, roads, fences, etc., attendance in academic departments as janitors, and clerks in adjutant's and quartermaster's offices. The detachment is a very efficient one for its purpose. The work it does is accomplished far more economically to the Government than the same work could possibly be done by hired labor.

COMPANY E, BATTALION OF ENGINEERS.

This excellent company performed duty at the post until July 24, 1900, when it was relieved for service in the Philippines. The company furnished a daily detail for guard, kept the batteries on the reservation in good order, assisted in the repair and construction of the rifle range, besides furnishing men to assist in the instruction of cadets in practical military engineering. These various duties were performed in a most satisfactory manner.

DETACHMENT OF CAVALRY.

The organization of the artillery detachment will permit the near release of the men and horses of this detachment from the dual work of cavalry and light artillery they have had to perform in the past. The detachment can now be speedily placed upon a more efficient footing than formerly. More attention can be paid to the special training of the men, who also will have sufficient time to properly care for the equipment; the horses being no longer required to do both draft and riding service will not be spoiled for purely cavalry work.

DETACHMENT OF LIGHT ARTILLERY.

The provision made for this detachment in the last Academy appropriation bill supplies a want that has been pressing at the Military Academy for many years. The detachment is now in process of organization. When this is completed, the practical instruction of cadets in light artillery will be placed upon a plane of excellence heretofore unattainable.

POST GROUNDS AND BUILDINGS.

The general health of the post has been excellent throughout the year. Much attention has been given to the care of the grounds, also to the sanitary police of the post and its vicinity; the latter work has been greatly facilitated by a crematory for solid wastes, placed here a year ago by the Quartermaster's Department. Attention is invited to the appended report, marked "E," of the quartermaster, giving in detail much of the work accomplished.

THE CEMETERY.

The cemetery grounds have been considerably improved and beautified during the year. The piece of rough land to the west of the cemetery, bounded by the garden road, has been incorporated into it and is being laid out under the supervision of Gen. Egbert L. Vielé, who is generously giving to the work the benefit of his special talents without other compensation than that flowing from love of his alma mater and a desire to enhance its natural attractions.

THE LIBRARY.

The work of renovating the library building, in order to make it a modern fireproof structure, is progressing satisfactorily. Bids for the work were opened September 4, 1899, but on account of the advance in prices of building materials since the estimates and plans were made all the bids were above the appropriation. The work is being done, therefore, by hired labor and by the purchase of materials by the Academy itself. The great advance in prices of all materials since the architects' plans and estimates were made will probably render it necessary to ask Congress for a small additional appropriation to complete the building.

Attention is invited to the report of Maj. George W. Goethals, Corps of Engineers, charged with the supervision of the construction work on the library, hereto attached and marked "F."

THE CULLUM MEMORIAL HALL.

This handsome building, the gift of Bvt. Maj. Gen. George W. Cullum to the alumni of the Military Academy, was dedicated June 12, 1900, in the presence of a distinguished company. The dedication ceremonies took the form of a banquet given by graduates of the Military Academy and to which a number of distinguished guests were asked. The hall was formally turned over by the trustees to the association of graduates and by the president of the association in turn to the General Government in the person of the Secretary of War.

CADET ACCOMMODATIONS.

The considerable increase in the number of cadets to be cared for in future at the Academy, consequent upon the act of Congress of June 6, 1900, renders imperative enlargement of the Academy's present plant. Additional barrack room for cadets is needed to meet the demands of study and the air space health requires; the entire mess building must be used as a mess hall and its present old, inadequate, and unsanitary kitchen should be replaced by a new one with modern machinery and conveniences; more bathing, toilet, and hospital accommodations for cadets will have to be provided and the gymnasium, chapel, and camp ground must be enlarged; a new and larger riding hall is also a necessity. These matters will be made the subject of a separate report, showing in detail the necessity existing in each case. As the speedy enlargement, however, of the cadet hospital, kitchen, and camp ground is imperative, these items are included in the annual estimates. In reference to the further enlargement of the Academy's plant, it is recommended that Congress be asked to provide a competent commission and necessary appropriation to draw up and carry out a plan of improvement which will not only provide for the present needs of the Military Academy, but will also admit of future extension. The method that has been pursued to the present time at the Academy in meeting increases by temporary makeshifts and inadequate construction is not only destructive to the convenience and to the dignity and beauty of the institution as an architectural whole, but is most wasteful and extravagant in the long run.

WATER SUPPLY.

The work done during the year in improving the water system is shown in the appended report marked "G" of the instructor of practical military engineering. The supply of water has been sufficient during the greater part of the year, but now, due to the drought of the past summer, it is dangerously low. Round Pond, the only supply at this time of year beyond the water stored in Lusk reservoir, which is also low, has now but 5 feet of water above its outlet pipe. The area of the pond is about 10 acres and its greatest depth last spring was 16 feet, 2 feet lower than in 1898. The maximum depth is variable and seems to be steadily diminishing. With the greatly increased amount of water that will be hereafter required, the present supply will not be sufficient. All sources of good supply in the vicinity have been acquired except Long Pond which has an area of about 40 acres and an average depth of 16 feet. I therefore renew my recommendation

of last year that immediate steps be taken to acquire the property. It can now be secured at a fair price, and will afford an abundant supply of good water for all eventualities. In addition it can be connected with the existing pipe line to Round Pond one quarter of a mile away, at small expense.

THE WEST POINT HOTEL.

I again ask attention to this building and recommend that Congress be urged to appropriate sufficient funds to renovate it. The hotel, on account of the situation of West Point, has always been a necessary adjunct to the Academy, and in the future will be more so than ever before, owing to the large neighboring hotel at Highland Falls having been recently transformed into a school. The hotel was erected from funds procured from the sale of timber on the reservation more than seventy years ago. Since then it has been enlarged from time to time and kept in repair by the rental, the Government receiving the balance. Congress has never appropriated funds for it. The interior of the building is now antiquated in its appointments and does not possess ordinary comforts for its guests. As the primary purposes of the hotel are for the accommodation of boards of visitors and other Government officials, and for the parents and guardians of cadets, it is obvious the house should be remodeled and refitted and given the conveniences a building owned by the United States should furnish. As a simple business proposition this action is certainly advisable, because the increased rental received would give good interest on the money expended for the purpose.

ESTIMATES.

The estimates for the next fiscal year have been carefully prepared and are submitted herewith. Two new items are included, one to meet in part the expenses attendant upon a fitting commemoration of the one hundredth anniversary of the opening of the Military Academy on July 4, 1802, and the other to establish a course of lectures on timely topics by capable speakers for the fuller education of cadets. It is hoped both items will meet approval and support. In other respects the estimates are essentially the same as in the past, the necessity for each new item being explained in the remark following it.

CONCLUSION.

In conclusion I wish to again express to the War Department the Military Academy's thanks for its continued firm and cordial support, without which the present satisfactory condition of discipline, instruction, and material growth would be impossible.

Very respectfully, your obedient servant,

A. L. MILLS,

Colonel, U. S. Army, Superintendent.

The ADJUTANT-GENERAL UNITED STATES ARMY,

Washington, D. C.

A.—REPORT OF THE SURGEON.

SURGEON'S OFFICE, CADET HOSPITAL,
West Point, N. Y., August 8, 1900.

SIR: In compliance with instructions contained in circular No. 22, dated headquarters United States Military Academy, July 16, 1900, I have the honor to submit the following report of the work done in the medical department at West Point, N. Y., from June 30, 1899, to June 30, 1900:

CADET HOSPITAL.

Prescriptions compounded	4,872
Hospital entries (officers and cadets)	588

Operations performed by Maj. J. M. Banister, Surgeon, U. S. A., at the cadet hospital during the fiscal year.

	Cases.
Circumcision (cadets)	6
Varicocele (cadets; radical operation, high open method)	10
Hernia (cadets; radical cure, Bassini method)	3
Appendicitis (cadets 3, professor 1, instructor 1)	5
Operation for strabismus (ocular deviation; cadets 3, officers' wives 2)	5
Operation to enlarge space between eyelids (cantholysis) in old trachoma (soldier)	1
Operation for removal of pterygium from eyeball (soldier)	1
Operation upon tear passages in case of stricture of nasal duct	1
Removal of ingrowing toe nails (cadets)	2
Total	34

SOLDIERS' HOSPITAL.

Prescriptions compounded during fiscal year	5,698
Enlisted men, cases of disease treated	314
Enlisted men, cases of injury treated	149

Operations performed at soldiers' hospital from June 30, 1899, to June 30, 1900.

	Case
Operation for suppurative appendicitis	1
Operation for the radical cure of femoral hernia	2
Operation for the radical cure of inguinal hernia	2
Amputation of leg	1
Amputation of arm	1
Amputation of fifth metacarpal bone and finger	1
Operation for necrosis of lower jaw	1
Operation for necrosis of scapula	1
Operation for radical cure of varicocele, high open method	3
Aspiration of hip joint for traumatic synovitis	1
Operation for acute cervical adenitis	1

Total operations at soldiers' hospital	15
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Total operations during fiscal year, 49. All of these cases subjected to operation recovered.

No mortality among officers, cadets, or enlisted men during the year. In addition to the professional work enumerated above, the surgeon, in his capacity of oculist,

has during the fiscal year examined the refraction, and corrected the same by proper lenses, in the following number of cases:

	Cases.
Cadets.....	70
Officers.....	23
Enlisted men.....	7
Members of families of officers and enlisted men.....	31
Total.....	131

By this special work many cadets have been enabled to continue their studies at the Academy who would otherwise have been compelled to give up work for a while on account of eye-strain.

IMPROVEMENTS.

During the past year a complete and handsome operating room has been fitted up at the cadet hospital, which has been universally admired by many visitors. This room has been of inestimable value in the surgical treatment of the cases enumerated as having been operated upon in this hospital.

An addition to the brick annex for each ward at the cadet hospital has been constructed for urinals and water-closets. These additions have been fitted with the most modern closets and urinals. An additional bathroom and tub have been secured for each ward by utilizing the space vacated by the removal of the water-closets to the addition mentioned.

A house for the senior hospital steward has been erected in the rear of the cadet hospital.

RECOMMENDATIONS.

A new south wing, corresponding to the present north wing, is urgently needed at the cadet hospital, as the present capacity of the hospital is insufficient for the corps of cadets, as recently increased by act of Congress.

A building for purposes of isolation is urgently needed. It is proposed to erect said building, if appropriated for, in the rear of the cadet hospital.

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

The ADJUTANT UNITED STATES MILITARY ACADEMY.

B.—REPORT OF THE COMMANDANT OF CADETS.

HEADQUARTERS UNITED STATES CORPS OF CADETS,
West Point, N. Y., August 10, 1900.

SIR: I have the honor to report as follows on the work performed by the department of tactics during the instruction year ending August 28, 1900, in compliance with circular No. 22, headquarters United States Military Academy, current series.

This, in general terms, embraced instruction in drill and tactics, in discipline, and in military administration.

INSTRUCTION IN DRILL AND TACTICS.

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

The course began on September 1, and with the exception of branches (g) and (h) embraced the months of September, October, last two weeks of March, the months of April and May, last ten days in June, and the months of July and August—a total of about seven months. During the August and spring terms the time allotted for practical instruction averaged about one hour daily, four days each week, and during the summer term up to August 12 about two and one-half hours on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays, and three hours on Saturdays. From August 12 to 26 inclusive, the instruction hours began at 7 a. m., and there was no recall.

All the drills and exercises during the summer term (except from August 12 to 26 inclusive) were held between 7 and 10 a. m., and on Saturdays from 9 a. m. to 12 m.

(a) INFANTRY, CAVALRY, AND ARTILLERY INSTRUCTION.

Infantry.—This consisted of drills and exercises in the school of the soldier, company and battalion, which were held during September (17 drill days), March 15 to April 15 (17 drill days), May 14 to 31 (12 drill days), July 5 to August 11 (27 drill days). Infantry instruction preparatory to field exercises, and practice marches, was held on the six Saturdays during the last-mentioned period.

The members of the first class were detailed in turn as captains and lieutenants at the company and battalion drills and preparatory exercises, and as adjutant and quartermaster at the battalion exercises.

Cavalry.—Cavalry instruction during the year consisted of equitation in the riding school, drills in the school of the trooper, squad, troop, and squadron (close and extend order), and dismounted cavalry, also the ceremonies.

Much attention was given to proper biting and saddling, and to packing the saddle, also to practice in the use of the ordinary civilian saddle as a necessary accomplishment, and for polo, which sport was given much encouragement.

Cavalry instruction was imparted progressively to the third, second, and first classes. The members of the first class were detailed in turn to command the platoons and troop at the troop and squadron drills.

Light and horse artillery.—This instruction comprised the school of the battery, light and horse artillery, with the first class detailed in turn as officers during the autumn, spring, and summer, and the third class as cannoners during the autumn, spring, and part of the summer.

It also embraced the school of the driver, fitting of harness, use of the coupling rein, whip, bridling reins of off horse, instruction by pairs and teams unhitched, to post teams with their carriages, to hitch and unhitch, and instruction by teams hitched.

Light artillery target practice and ranging under the service conditions approximately was held during the latter part of the summer. The number of rounds fired, etc., is given in subdivision 1.

Artillery—3.2" gun foot drill.—This instruction was imparted to the fourth class during the months of October, from April 15 to May 15, and the months of July and August. It consisted of the service of the piece, instruction in aiming, setting the sights for indicated ranges and for indicated deflection; practice in aiming, bringing into line of sight a disk moved over the face of a target set up a short distance from the gun; fuze setting, explanation of the nature and working of the fuze by model fuze exhibited; practice in fuze setting by use of dummy shrapnel with holes (to indicate time train) and pins; fire discipline, instruction in the duties of the personnel and in the service of the guns in action; finding the range, establishing the long and short brackets, finding the length of the fuze.

This instruction is preparatory to the field practice of the light battery where projectiles are used and the conditions made more realistic.

The chiefs of platoon of this instruction battery were detailed in turn from the first class and gunners from the third class.

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

The course in cavalry, light and horse artillery, will, during the coming year, be put upon a plane of excellence heretofore unattainable.

In the past it has always been necessary to use the same horses for cavalry and artillery instruction, and to employ the enlisted men of the cavalry detachment as drivers. This condition no longer obtains since an artillery detachment and the necessary artillery horses have been authorized for instruction at the Military Academy.

Mountain gun artillery.—This consisted of instruction in the material (1.65 Hotchkiss mountain rifle), the gun, its ammunition, sights, etc., and the pack saddle and its accessories, in fitting pack saddle to mules, in the transportation of the battery by pack mules and by draft, and in the service of the piece.

This instruction was given to the first class during the spring and summer periods of instruction.

Recommendation has been made that the inferior Hotchkiss mountain gun of small caliber be replaced with the Maxim-Nordenfeldt 75 mm. mountain gun, which is officially reported to have given perfect satisfaction in the field, and it is hoped that the modern gun may be furnished for use in the instruction of cadets as soon as practicable.

Machine gun.—Instruction in machine guns (10-barrel Gatling), consisted of the nomenclature and service of the piece, maneuver of the horsed gun detachment, and firing practice with blank ammunition, and ball ammunition on the target range. It was imparted during the autumn and spring periods to the second class as cannoniers, with officers detailed in turn from the first class.

Coast artillery.—Instruction in this branch was given to the first class in the autumn, to the second class in the spring, and the third class in the summer. The gun used was the 8-inch B. L. rifle on United States barbette carriage and 12-inch B. L. mortar on spring return carriage. It comprised the care, cleaning, etc., of the rifle and mortar, and manual of the same; use of horizontal position finder, setting up base end instruments and measuring horizontal angles, taking and transmitting azimuths of moving vessels; use of plotting board to determine position, speed, and direction of moving vessels; relocating for use at gun.

This instruction is now placed in the third-class course, and will be given to that class hereafter, the class having previously had a theoretical course in coast artillery drill regulations in the section room, besides theoretical and practical instruction in the same line in the siege-battery instruction given to the class when fourth classmen.

It is and has been recognized that a more complete, advanced, and useful course of coast artillery is needed at the Military Academy than is possible at present with the means at hand. Such a course will be taken up as soon as the requisite artillery equipment is forthcoming.

Two Warner and Swazey azimuth instruments tripod mounting and the improved relocating board of medium size, also two telephones and about one-half mile of line (poles and connections), are required for the coast battery. The Rafferty relocater is too large and delicate for use in cadet instruction.

It is again recommended that an equipment for subcaliber practice be furnished for use, both in the coast and siege batteries, and that a model coast battery, with all that is needed for the proper instruction of cadets in this branch of artillery, be constructed as soon as practicable.

(b) TACTICAL AND MINOR TACTICAL EXERCISES.

These exercises were held during the autumn, spring, and summer terms on the maneuver terrain, on the reservation, and contiguous country. They consisted of the attack and defense of a position (sometimes intrenched), of a defile, woods, etc., and battle exercise in the open; also exercises of advance guards, rear guards, outposts, and reconnaissance of the enemy and country. Some of the exercises were carried out by infantry and cavalry singly, and by these arms in combination with light and mountain artillery.

(c) TARGET PRACTICE.

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

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

As the course is now arranged the instruction in subdivision A is given to the fourth class during the period of recruit instruction, that in subdivision B to the fourth class in the spring and third class in the summer, and in subdivision C to the third class in the summer.

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

- A. Position and aiming drill, and snap shooting with blank ammunition.
- B. Dismounted practice at 10, 20, and 50 yards.
- C. Mounted practice at a walk and gallop at the prescribed ranges.

The course of revolver practice is given to the first class.

The interest manifested by cadets in their target practice was very gratifying, and the work accomplished most satisfactory.

(d) CASTRAMETATION.

This course consisted of instruction in pitching shelter tents, wall and conical wall tents, and in laying out camps, and was given to the companies of the battalion of cadets in turn during the spring and summer terms.

(e) FIELD INTRENCHING.

Instruction in the construction of shelter trenches was given to the companies of the battalion of cadets, in turn, during the spring and summer terms, and practice in this branch was also carried out at a number of tactical and field exercises.

The intrenching equipment of cadets, consisting of a portable spade and pick, worn suspended in leather cases from the field cartridge belt (adopted in the summer of 1898), has been thoroughly tested, and has proven to be a very satisfactory equipment.

(f) PACK-TRAIN SERVICE.

This instruction comprised the setting up of the aparejo (with willow strips and steel ribs), fitting the same to mules, and detailed instruction of each cadet in putting on the aparejo, in loading cargo on the mule, and securing the same with diamond and other hitches, and methods of adjusting loads of different kinds; it was imparted to the first class during the summer period of instruction.

To qualify, each cadet was required to start with aparejo and load on the ground, to put on the aparejo, and sling and lash the load within three minutes. The entire class qualified during the summer.

The pack train as organized for the use of cadets consists of the quartermaster-sergeant, eight packers, and twelve pack mules.

An ammunition pack train for the supply and distribution of ammunition to troops in the firing line, consisting of eight pack mules with packs of eight boxes of ammunition under charge of the cadet quartermaster with eight ammunition carriers (provided with ammunition pouches), has been organized, and cadets have received instruction and practice in this important branch at the tactical exercises.

It is recommended that eight improved ammunition boxes with envelopes containing ammunition wristlets, invented by Orndorff, be furnished for the use of instruction of cadets to replace the ammunition boxes devised by me, as the latter used for supplying ammunition to the firing line introduced for the tactical exercises of cadets is not so satisfactory.

(g) GYMNASICS, SWIMMING, AND FENCING.

Gymnastics.—The course of physical training of cadets was carried out in accordance with the prescribed programme, and the instruction imparted to the new cadets, which was similar to that of last year and the year before, was under the immediate

charge of the master of the sword, assisted by cadet instructors detailed on special duty over new cadets.

Notwithstanding the enforced absence of the instructor for nearly one month, the results obtained, as shown by the table of strength tests given below, were extremely gratifying. This proves conclusively that the present methods followed in the preliminary physical training of new cadets, and which were introduced in 1893, are far superior to those in vogue under the former system of instruction.

In several instances the tests do not show so great an increase as was the case with last year's class; this, however, is due to the fact that that class was very much larger than any previous class, and to the absence of the instructor for one month. By having the physical training and set-up imparted to the new cadets collectively in the same squad by one expert instructor a better and more uniform carriage, better sense of rhythm, greater exactness in movements, and a better and more rapid preparation for the military drills is insured.

The following table shows the improvement made by the class in the strength tests:

	Pull up.	Dip.	Right forearm.	Left forearm.	Lung capacity.	Back.	Legs.	Chest.
Class of 1903:								
October, 1899.....	8.94	5.14	127.66	117.92	242.00	348.66	480.70	112.90
May, 1900.....	13.72	11.56	142.00	129.16	262.01	420.43	594.75	131.09
Gain.....	4.78	6.42	14.34	11.24	20.01	71.77	114.05	18.19

The following table shows the difference (in favor of the class of 1903) between that class and the three last classes trained under the old method:

	Pull up.	Dip.	Right forearm.	Left forearm.	Lung capacity.	Back.	Legs.	Chest.
Class of 1903.....	13.72	11.56	142.00	129.16	262.01	420.43	594.75	131.09
Three classes.....	10.11	9.14	133.61	124.96	244.63	401.12	591.09	134.45
Gain or loss...	3.61	2.42	8.39	4.20	17.35	19.31	3.66	3.36

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

Measurements.—The anthropometric measurements of the cadets of all classes were taken as usual, 36 of whom were given deficiency cards and required to undergo additional training in the gymnasium to make good their deficiencies.

Swimming.—Instruction in swimming was given to the entire fourth class and to 38 members of the third class who had not qualified in swimming.

Fencing.—The entire fourth class received instruction in the use of the foil, broadsword, and bayonet in accordance with the prescribed programme.

The advisability of giving the instructor of gymnastics and fencing an assistant was very apparent during the past year, and with the largely increased class of 175 members which has just been admitted, an assistant will become almost an absolute necessity during the ensuing year and following years.

I therefore urgently recommend that an additional officer be assigned to duty in the department of tactics as assistant master of the sword.

(h) FIRE DRILLS.

Fire drills of the battalion, comprising the service of the steam fire engine, hook, ladder, and hose trucks, were held during the month of December and continued until a sufficient degree of efficiency with the fire apparatus in case of fire was insured.

(i) FIELD EXERCISES AND PRACTICE MARCHES.

Field exercises and practice marches.—The culmination of the practical instruction of the summer occupied the last two weeks of the encampment; that is from August 12 to 27. The field exercises embraced an extended application of the principles of attack and defense, of advance and rear guards, of outposts and reconnoissance, with an enemy imaginary, outlined or represented, or with opposing sides. The practice marches were generally combined with such exercises, and when made by mounted

organizations, stable duties (watering, grooming, feeding, and bedding down horses) were performed as required by the cavalry or light artillery drill regulations and customs of the service, upon the completion of the march.

The field exercises alternated with the practice marches, the former beginning at 7.10 a. m. and ending at or before 11 a. m., and the latter lasting from 7.10 a. m. till 2.30 or 3.30 p. m.

The uniform worn consisted of gray shirts, trousers, campaign hats, and leggings. Blanket rolls, canteens, and haversacks were carried on some of the practice marches, and in case of mounted organizations saddles were packed.

The rank and file of the cavalry, light and mountain artillery organizations, and pack train consisted entirely of members of the first class, and of the infantry organizations, of members of the third and fourth classes, with officers detailed from the first class according to roster.

The field exercises and practice marches were all carried out in accordance with general schemes, in which the conditions were made to resemble those in actual service, and were superintended by officers of the tactical department.

All of the exercises and marches, with the exception of the march to Peekskill, were carried out within 8 or 10 miles of the post, and were as follows:

August 4.—First class, organized as platoon of mountain artillery, and train loaded with reserve ammunition and camp equipage, marched to clearing on Eagle Valley road and went into camp; pack mules unloaded and cargo stored; picket line stretched; camp pitched, using shelter tents; drivers and packers sent to care for animals, cannoneers to care for their guns, etc.; details made for pitching wall tent, digging sinks, and kitchen fatigue; duration about four and one-half hours.

August 11.—First class organized as platoon of mountain artillery and pack train, field exercise and camp duties; duration three hours and twenty minutes. Third and fourth classes, organized as two companies of infantry, carried out exercise in attack and defense, of an advance guard and outpost, enemy represented; duration three hours and twenty minutes.

August 14.—First class, organized as troop of cavalry, acted as reconnoitering detachment and outpost; enemy outlined; duration three hours. Third and fourth classes organized as two companies of infantry, exercise of advance guard and outpost, enemy outlined; duration three and one-half hours.

August 15.—First class, organized as light battery, went on practice march; enemy imaginary.

In this march the officers, noncommissioned officers, and drivers comprised members of the first class. The teams were harnessed and hitched by the latter.

The battery went into park on the return march, when the teams were unharnessed and unhitched, the picket line stretched and camp made; picket and park guards and sentinels were posted, and fatigue details sent to procure wood, and in digging and screening sinks. After dinner the camp was struck and policed and sinks filled. Teams were harnessed and hitched, the carriages repacked, and the battery returned to the post, after which they performed evening stables; duration nine hours and thirty minutes.

The third and fourth classes, organized as two companies of infantry, went on practice march, and carried out exercise as advance guard, reconnoissance and outpost, with opposing sides; duration seven hours.

August 17.—First class, organized as platoon of mountain artillery, went on practice march, established camp, etc.; duration seven hours. Third and fourth classes, organized as battalion of infantry, executed a field maneuver.

August 18.—First, third, and fourth classes, organized as a battalion of infantry, executed a field maneuver, enemy outlined; duration three hours and fifteen minutes.

August 20.—First class, as a troop of cavalry, executed a field maneuver; duration three hours and thirty minutes.

Third and fourth classes, organized as battalion of infantry, executed a field maneuver; duration two hours and fifteen minutes.

August 21 and 22.—The corps of cadets, organized as a battalion of infantry, troop of cavalry, platoon of mountain artillery and pack-train, in heavy marching order, marched from Westpoint at 8 a. m. on August 21 to the State camp of the New York National Guard, with troop of cavalry acting as advance guard. The command reached Peekskill at 11.30 a. m. and went into bivouac, establishing an outpost. A field exercise was carried out at 4 p. m., one company intrenching and defending a position which was attacked by the remaining three companies. The mounted organizations performed evening stable duty, and furnished a stable guard. The command broke camp at 7 a. m. on August 22 and carried out a field maneuver on the return march. One company of infantry was sent in advance of the

remainder of the command to take up and defend a position in the defile about 4 miles north of Peekskill. This was reconnoitered by the cavalry and then attacked by three companies of infantry in front, the cavalry and mountain artillery cooperating on the flanks. At the conclusion of the exercise the march was resumed, and the command reached West Point at 12.45 p. m.

August 23.—First class, as troop of cavalry, carried out a field exercise with enemy outlined; duration two hours. The third and fourth classes, organized as a battalion of infantry, carried out a field exercise with enemy outlined; duration two hours.

August 25.—The first class, organized as a light battery, had target practice, the targets being placed at a distance of 2,150 yards and 2,250 yards from the battery. Eighty-six common shell with brass percussion fuses and 30 shrapnel with combination fuses were fired. All of the targets were repeatedly hit and a large percentage of the shots fell within the area that would have been occupied by a battery in action; duration eight hours. The third and fourth classes, organized as a battalion of infantry, executed a field maneuver; enemy outlined; duration three hours and forty-five minutes.

August 27.—The first class, organized as a troop of cavalry with packed saddles, went on practice march and performed reconnoitering and outpost duty; enemy outlined. Evening cavalry stable duty was performed on the return to the post; duration seven hours and forty minutes. The third and fourth classes, organized as a battalion of infantry, carried out an exercise of advance guard and outpost; enemy outlined.

Field sketches and reports were made by detailed members of the first class on all of the practice marches and several of the field exercises.

Photographs illustrating incidents, etc., during the practice march to Peekskill, etc., are appended. These are as follows:

- No. 1.—Cadets of the first class as troop of cavalry.
- No. 2.—Cadets of the third and fourth classes, with officers of the first class, forming battalion of infantry.
- No. 3.—Cadets of the first class organized as a platoon of mountain artillery.
- No. 4.—Cadets of the first class organized as small-arms ammunition pack train; ammunition boxes devised at West Point, and by Orndorff.
- No. 5.—Bivouac at Peekskill.
- No. 6.—Firing line; field exercise at Peekskill.
- No. 7.—Advance by rushes—field exercise at Peekskill.
- No. 8.—Intrenching with portable intrenching tools; field exercise at Peekskill.
- No. 9.—March to supper; bivouac at Peekskill.
- No. 10.—Dress parade in camp; battalion containing the new cadets who reported in June and July.
- No. 11.—Guard mounting in camp; guard containing the new cadets (4th class) who entered in June and July.
- No. 12.—The colors and color guard in camp.

(2) *Theoretical.*—The course of theoretical instruction during the past year consisted of recitations in the United States infantry, cavalry, and light artillery drill regulations, regulations for mountain, coast, and siege artillery, and service of security and information during the academic year, and of lectures and practical demonstrations during the summer encampment, according to the following scheme:

- (a) United States infantry drill regulations:
 - Fourth class.—As far as and including the school of the company (8 lessons).
 - Second class.—Remainder of drill regulations (11 lessons).
- (b) United States light artillery drill regulations:
 - Fourth class.—School of the cannoneer (4 lessons).
 - Second class.—School of the battery and employment of artillery (11 lessons).
- (c) Siege and coast artillery:
 - Fourth class.—School of the cannoneer (4 lessons).
- (d) United States cavalry drill regulations:
 - First class.—School of the troop, squadron, regiment, employment of cavalry (12 lessons).
- (e) Service of security and information:
 - Fourth class.—Advance and rear guards, outposts, reconnoissance, etc., (11 lessons).

The course of lectures was delivered to the first, third, and fourth classes on days unfit for practical work outdoors, as follows:

Day of lecture.	Class.	Branch.	Subject.
First.....	1	Cavalry	Conformation, physiology, and anatomy of the horse.
	3	Coast artillery.....	Defense of coast of United States, general plan and subdivision; classification of harbors and general method of their defense.
	4	Artillery.....	Cannon, classes; guns, howitzers, mortars, machine and rapid-fire guns, nomenclature. General principles of gun construction.
Second	1	Light artillery.....	Open sights; kinds and use of fuses and projectiles.
	3	Infantry.....	Preparation of orders and reports.
	4	Infantry.....	Field intrenching.
Third.....	1	Mountain artillery	Organization of a mountain battery. The latest models of mountain guns. Organization of a pack train. Capacity of pack mules.
	3	Coast artillery.....	Seacoast fortifications; carriages for heavy and rapid-fire guns.
	4	Artillery.....	Projectiles; shell, shrapnel, canister, cored shot, and construction and use of each. Material of which they are made and why.
Fourth	1	Cavalry	Simple diseases and injuries of horses and remedies.
	3	Infantry.....	Scales and map reading.
	4	Artillery.....	Modern guns; their development; materials and methods of manufacture. Different kinds of projectiles and their uses.
Fifth	1	Cavalry	Stable management.
	3	Artillery.....	Coast artillery-range and position finding.
	4	Castrametation.....	Methods of laying out regular camp and bivouac; points in selecting camp.
Sixth.....	1	Light artillery.....	Artillery in field, ranging, marching, use of telescope sight.
	3	Coast artillery.....	Seacoast guns, construction, etc.
	4	Infantry.....	Firing regulations.
Seventh.....	1	Cavalry	Forage; care of horses in "the field;" the foot and shoeing.
	3	Infantry.....	Outposts.
	4	Artillery.....	Sighting and aiming; indirect pointing, etc.
Eighth	1	Cavalry	Seats and saddles.
	3	Light artillery.....	Use of sights; method of ranging.
	4	Infantry.....	Attack and defense.
Ninth	1	Cavalry	Age of horse; bits and biting.
	3	Light artillery.....	Cannoneers on march and in camp; projectiles, fuses.
	4	Artillery.....	Carriages; definitions, descriptions, kinds, etc.

A course of lectures and practical demonstrations, followed by outdoor work on the following subjects, was held for the members of the first and third classes whose presence was not required at artillery drills daily except Saturdays from 7 to 8.30 a. m. during the second period of instruction, from July 5 to August 11:

Map reading and practical uses of maps; scales; sketches, reports, reconnoissance; practical work in reconnoissance and sketching; solution of minor tactical problems.

Manuals of instruction prepared in the department of tactics.—Drill regulations for mountain artillery, First Lieut. W. Lassiter, First Artillery.

Drill regulations for siege and coast artillery, First Lieut. W. Lassiter, First Artillery.

Service of security and information, First Lieut. E. Anderson, Seventh Cavalry.

Manual for making blanket rolls and for pitching shelter tents, First Lieut. W. Lassiter, First Artillery.

Manual for constructing shelter trenches, First Lieut. G. Blakely, Second Artillery.

Notes on horses and rules for polo, First Lieut. R. L. Howze, Sixth Cavalry.

The transfer of the elementary part of the infantry and artillery drill regulations from the second-class course to that of the fourth class and the introduction of the study of security and information in the fourth-class course went into effect during the past year, and now comprises a very satisfactory course for that class. This arrangement, while it gives a little more time for the second-class course of infantry and light artillery drill regulations, still leaves that course very unsatisfactory. The allotment of time authorized by the academic regulations, which admits of only ten or eleven lessons in infantry and light artillery drill regulations and the same number in cavalry drill regulations, is inadequate and not in accord with the relative importance of these branches in the curriculum, including, as they do, both the drills and tactics of the principal arms of the service. These branches are studied, but they are neither thoroughly learned nor properly digested, simply for the reason that

the time allotted for them is insufficient. A small appropriation has been inserted in the annual estimates for the purchase of blackboards, wall and relief maps, containing topographical features in oil colors, which it is hoped will be available next year for use by cadets in the solution of tactical and minor tactical problems, work which should properly precede the problems, and exercises in applied tactics on the terrain.

MILITARY ADMINISTRATION.

The course of lectures on company, post, and staff administration as required by Regulations, United States Army, was delivered by assistant instructors of tactics to the half of the second class which did not attend drawing on Fridays from 2 to 3 p. m., between October 13 and March 2.

Nine lectures were delivered to each half of the class, which alternated in attendance, as follows:

First lecture.—Instruction of recruiting officers, and reports and returns pertaining to recruitment.

Second lecture.—Company organization. How to obtain and dispose of enlisted men.

Third lecture.—The ration.

Fourth lecture.—Company records, reports, and returns.

Fifth lecture.—Duties pertaining to the Quartermaster Department.

Sixth lecture.—Subsistence and Ordnance Departments.

Seventh lecture.—Property accountability.

Eighth lecture.—Money accountability.

Ninth lecture.—Duties of the post adjutant and post treasurer, and reports and returns pertaining thereto. The post exchange.

To facilitate this instruction, printed lectures in pamphlet form were issued to the class before the beginning of the course, and the particular lecture of the day was announced in advance for discussion, and cadets were required to prepare themselves to be questioned.

This course was supplemented during the months of January and February by practical instruction given to the first class in the manner of making out the morning report and other papers and records pertaining to the company.

Military administration in its more restricted sense—the system by which the Army is recruited, supplied with men and horses, with subsistence, fuel, and forage, with arms and ammunition, equipments and harness, with clothing and pay, with barracks, quarters, and stables, with medical supplies, etc., and the organization of the administrative personnel, whose business it is to attend to the wants of the Army—considering its relative importance, is a subject which should receive more time and attention at the Military Academy. All officers are charged with some administration duties in the service, and many must be utilized to a very considerable extent for the more important administrative purposes.

If our graduated officers join their regiments with an insufficient knowledge of this subject, it is not only a source of great embarrassment to them, but may be attended with pecuniary loss, which could be obviated if the instruction imparted here were more complete.

In my opinion a way should be found by which more time and attention could be devoted to the instruction of cadets in military administration than is possible by the present short course of merely lectures.

LECTURES ON CUSTOMS OF SERVICE AND MILITARY ETIQUETTE.

Four lectures—on the customs of the service, uniforms and equipments, horse equipments and field outfit, and military etiquette—were delivered to the first class during the month of February.

The members of the class were allowed to submit to the lecturers written questions on any point included in the subject-matter of these lectures one or two days before their delivery.

INSTRUCTION OF NEW CADETS.

The recruit instruction of new cadets (80 in number) arriving in June began on June 23 and ended on July 3 (13 drill days), and consisted of the following subjects:

Physical exercises and setting-up drill; school of the soldier and squad, extended-order drill, and ceremonies; preliminary target practice (sighting, position, and aiming drills, gallery practice); shelter-tent exercise; shelter-trench exercise.

Lectures were given to the new cadets on the academic regulations, blue book, care of arms and equipment, firing regulations, and service of security and information.

The instruction of the new cadets (83 in number) arriving on the 25th of July began on July 31 and ended on August 14 (13 drill days), and comprised the same programme as that mentioned above.

The hours for daily instruction (except Sundays) were as follows:

Physical exercises, 7.15 to 8.15 a. m.; infantry drill, 8.45 to 9.45 a. m. and 4.30 to 5.30 p. m.; gallery practice, 10.30 to 11.15 a. m.; shelter-trench and shelter-tent exercise during some of the morning and afternoon drill hours; lectures 12 to 12.45 p. m.

The very remarkable and exceptional progress made in the instruction of new cadets during the summer of 1900 even exceeded that effected during the summer of 1899. The first-mentioned course lasted 13 drill days and the last-mentioned course occupying 18 drill days.

The instruction of new cadets entering in June was completed in time to allow these young gentlemen to begin their artillery and company infantry drills and other exercises with the upper classmen on the 5th of July.

The instructors employed over new cadets were specially selected members of the first and third classes and comprised careful, painstaking, patient, exemplary, and intelligent instructors, all of whom worked conscientiously and efficiently under the immediate supervision of the assistant instructor of tactics in charge and the master of the sword.

The progress made in this branch of instruction was most satisfactory and gratifying and can be principally attributed to the systematic and rational arrangement of the course, the excellent instructors employed, and the strict compliance of the latter with the correct methods laid down in the drill regulations for the conduct of instructors. The work was also greatly facilitated in the marchings by indicating the proper and uniform cadence for instructors and squads by the tap of the drum, regulated accurately by the metronome; by object lessons in the manual of arms and position of the soldier rather than by long and tiresome oral explanations; by carefully sifting out and advancing the men from one squad to another according to proficiency; and by placing the most backward men under the very best instructors.

MILITARY EFFICIENCY.

During the past year the members of the first class have been detailed in turn, according to roster, as officer of the day and guard, commandants of table, and inspectors of subdivision (weekly tours), and were marked for their performance of these duties.

At all drills, tactical and minor tactical exercises and practice marches and field exercises they have in turn performed the duties of officers, and a record of marks was kept upon the efficiency shown, i. e., as based upon their knowledge and application of the drill regulations, manner of giving commands, proficiency in making corrections and explanations, and control of men exhibited.

During the year the first-class men of each company have in turn exercised command of the company, making its inspections before and commanding it on parade, marching it to and from the mess hall, and being held responsible for its good order during his tour, the latter beginning at guard mounting and ending at guard mounting on the following day. They have also acted in turn as adjutant at guard mounting and as adjutant and quartermaster at parades. They were marked on the performance of these duties, and also on equitation, and for their work on the target range.

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

The marks on military efficiency and soldierly deportment and discipline were submitted periodically to the superintendent.

From this it will be seen that each member of the first class has been given every possible opportunity during his last year at the Academy to exercise the command and many of the responsibilities and duties which devolve upon a commissioned officer of the junior grade in the Army, preparatory to graduation, and has been given credit for the efficiency shown in the performance of duty and for his exhibition of those qualities which are essential in the make-up of an officer.

Again, I have pleasure in reporting that there has been a very decided improvement in the ability, zeal, and intelligence displayed by the members of the first class when acting as officers and instructors and in all positions of responsibility in which they have been placed since the introduction of this system, by means of which credit is given for all purely practical military work performed.

DISCIPLINE.

The discipline of the Corps of Cadets has been strictly enforced in accordance with the Regulations of the United States Military Academy. It has, generally speaking, been very good and, as far as my knowledge goes, was never in such a satisfactory condition as at present. This, in my opinion, can be attributed to the more adequate disciplinary methods now in practice; to the more discriminate award of privileges according to conduct grades; to intrusting greater responsibilities to cadets when acting in the capacity of officers and holding them up to the same; to the introduction of the scheme of military efficiency, by which soldierly value can be properly credited; and by the more vigorous measures taken to suppress hazing, the root of all evil at the Military Academy.

This pernicious practice, with its tendencies to develop all that is unsoldierly, and nothing that is manly, has, in its more injurious forms, been voluntarily abandoned by cadets generally; and be it said to their credit, is now a custom more honored in the breach than in the observance.

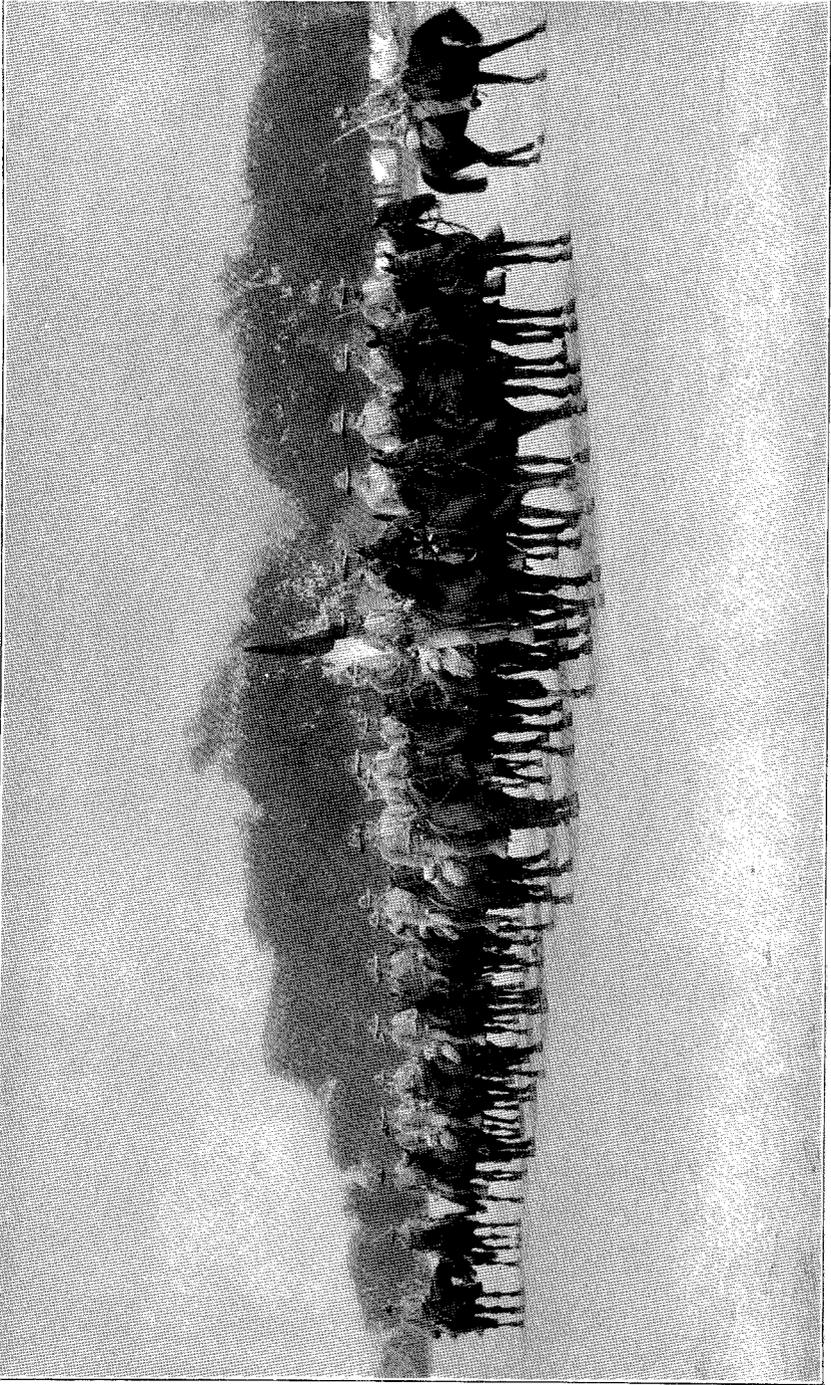
CONCLUSION.

In conclusion it again affords me much pleasure to express my highest appreciation of the very able, arduous, and valuable work rendered by the officers of my department, the success of which is largely due to their assistance and loyal cooperation: Capt. Granger Adams, Seventh Artillery; Capt. G. H. Sands, Sixth Cavalry; Capt. J. K. Thompson, Fifteenth Infantry; First Lieut. E. M. Blake, Fourth Artillery; First Lieut. E. Anderson, Seventh Cavalry; First Lieut. W. Lassiter, First Artillery; First Lieut. J. R. Lindsey, Tenth Cavalry; First Lieut. W. R. Smith, First Artillery, and Mr. H. J. Koehler, master of the sword.

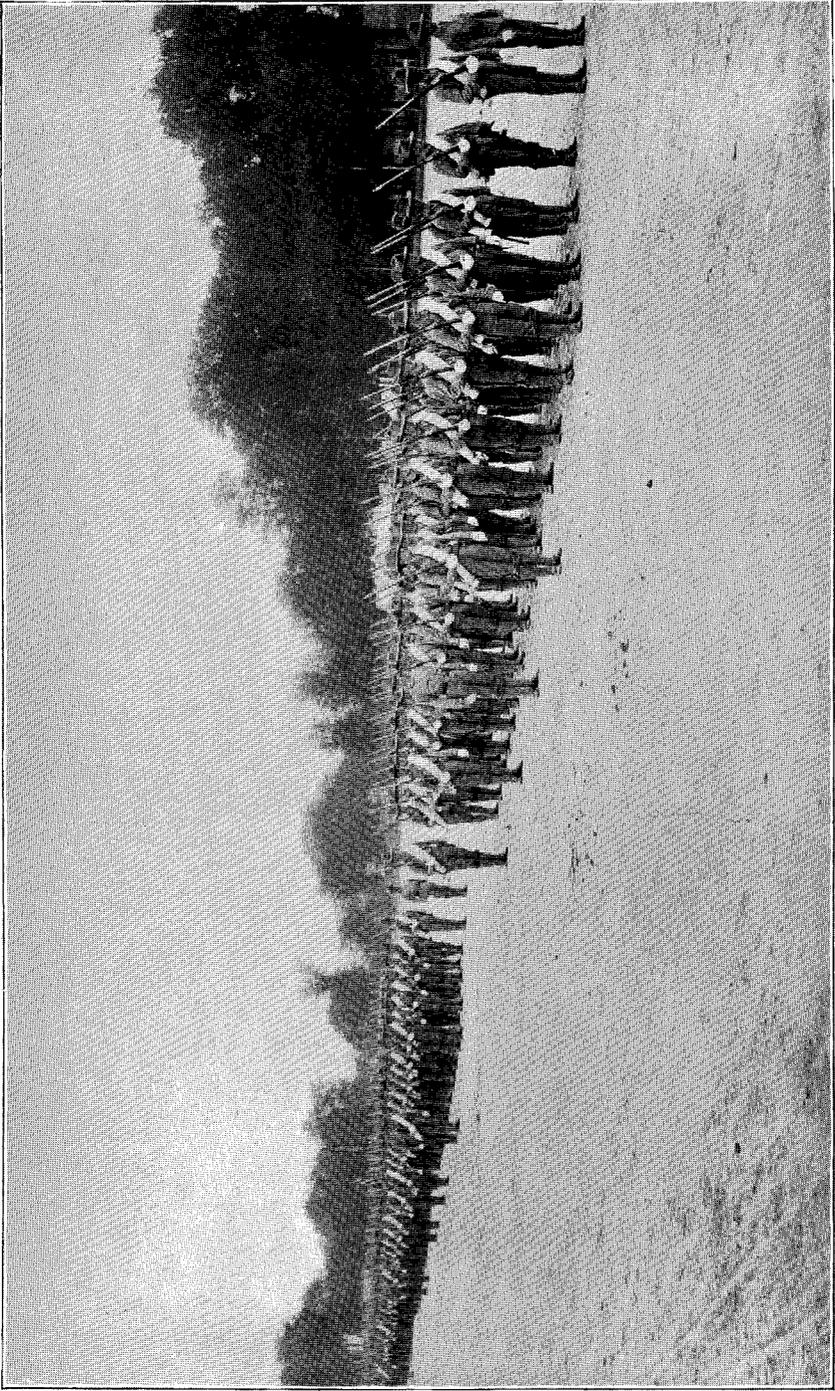
Very respectfully,

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

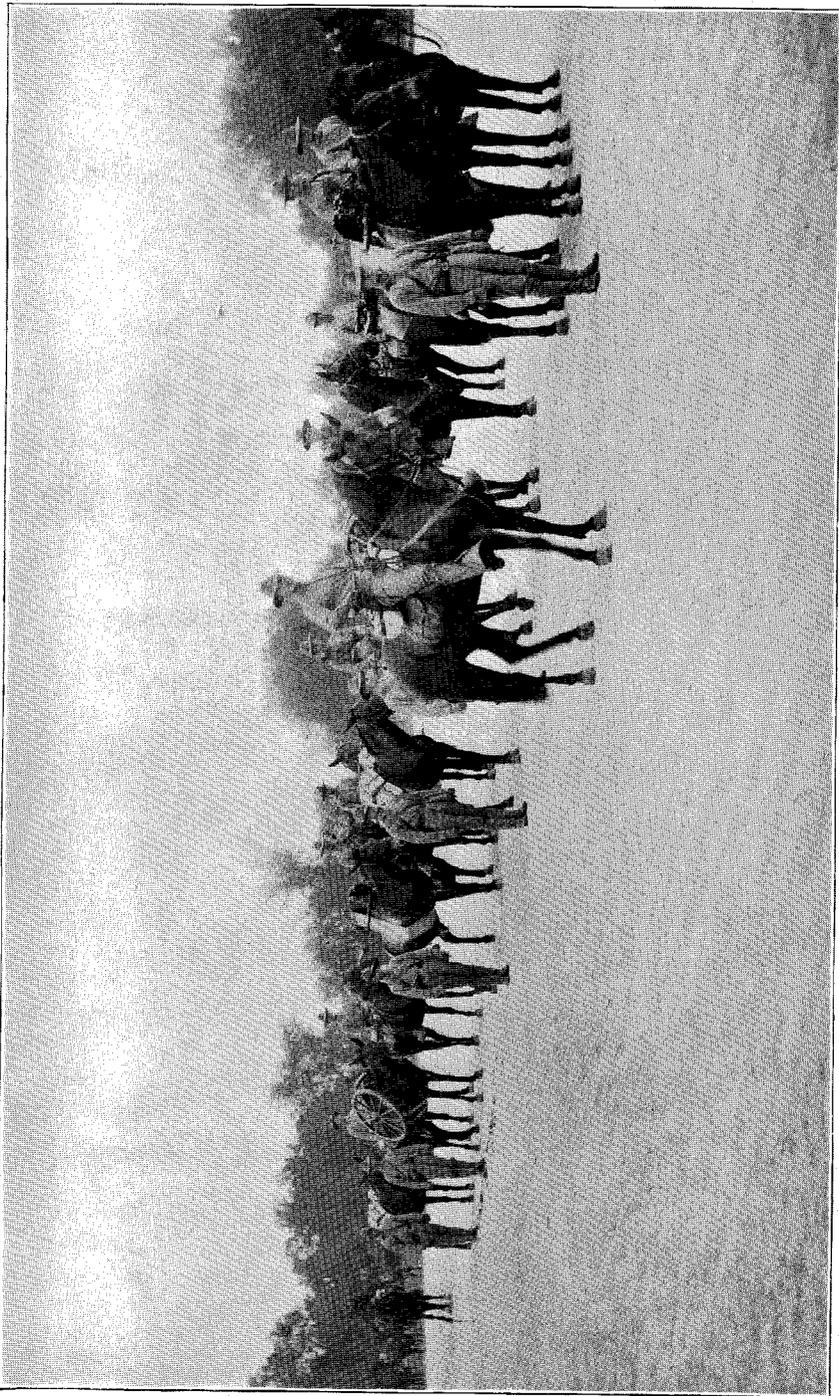
THE ADJUTANT UNITED STATES MILITARY ACADEMY.



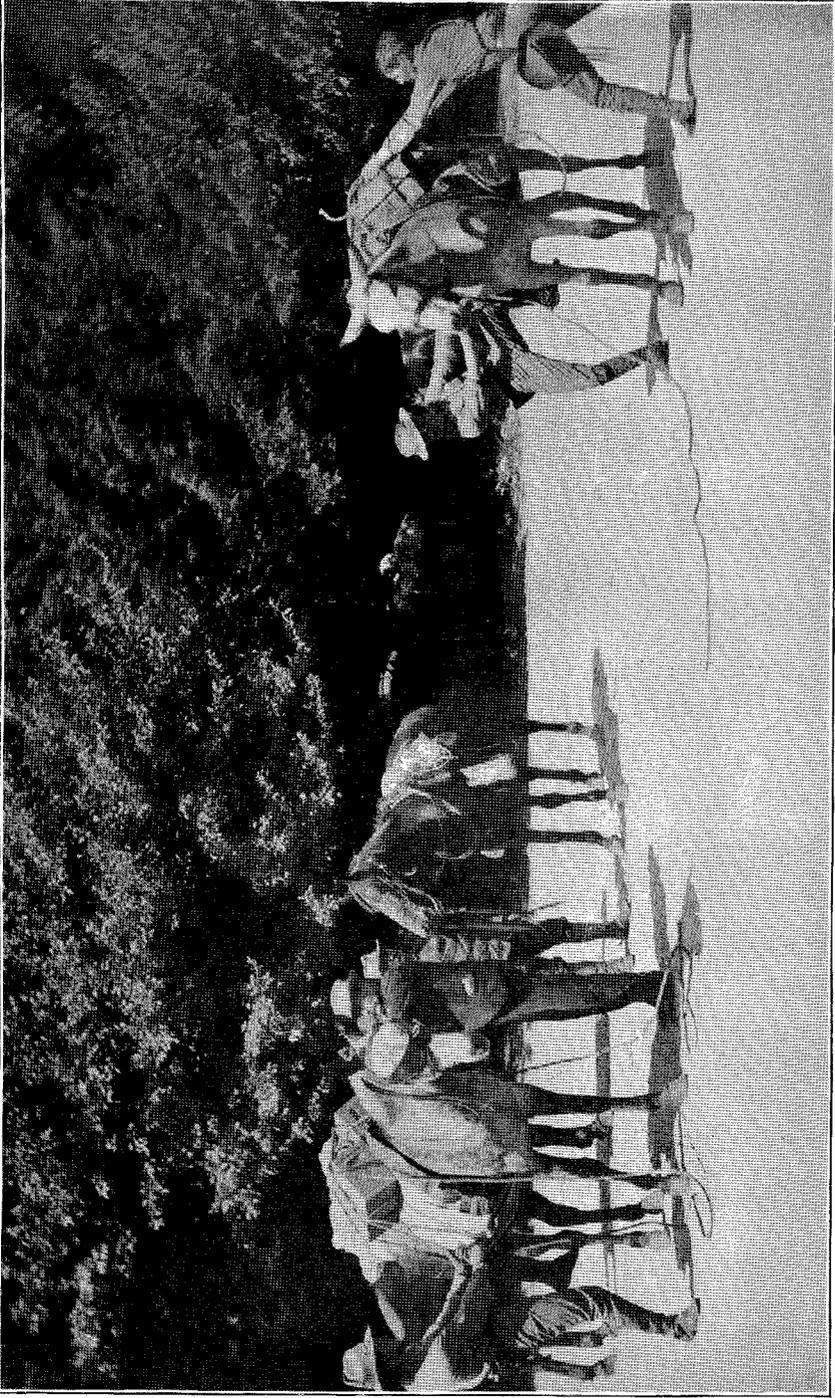
CADETS EQUIPPED AS CAVALRY ON PRACTICE MARCH.



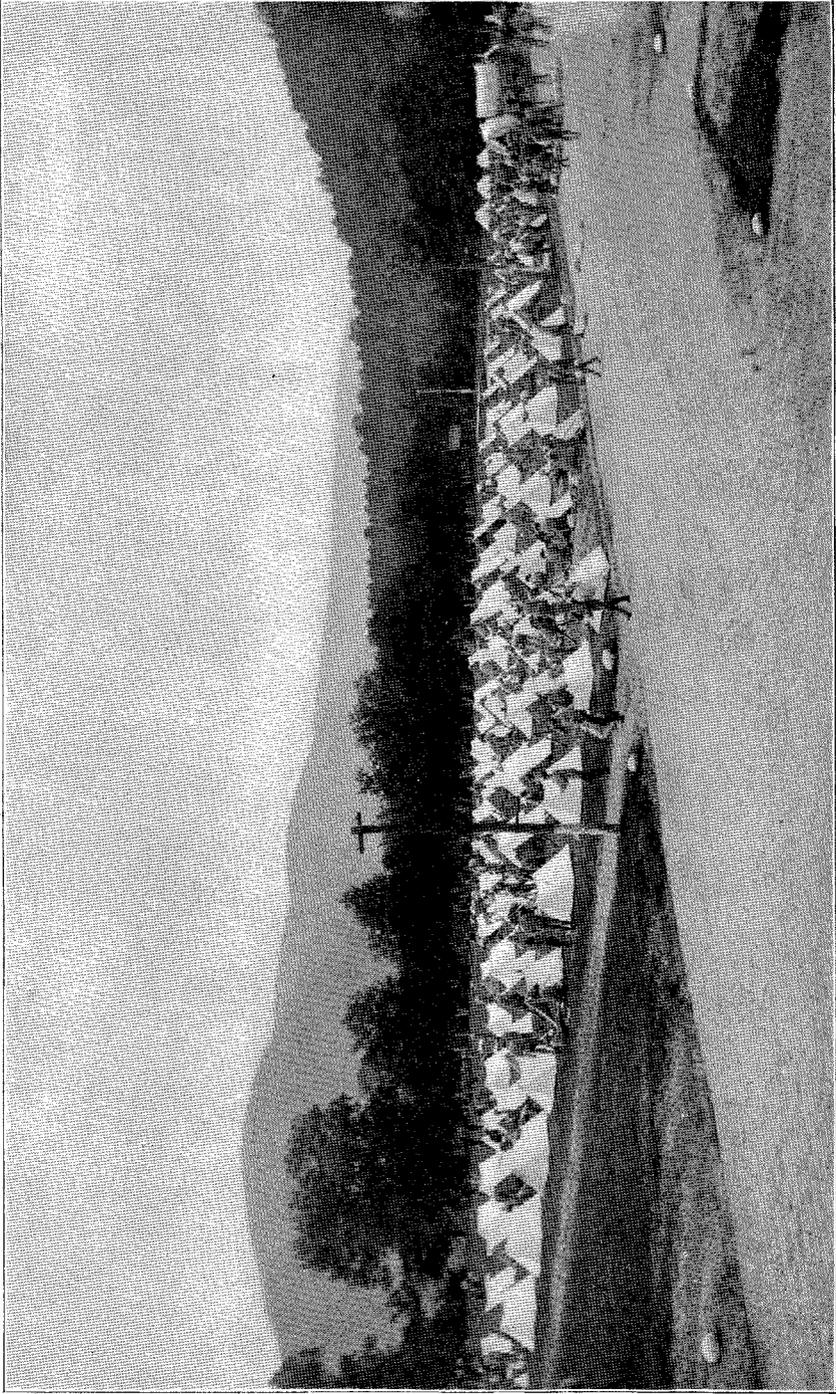
CADETS AS INFANTRY ON PRACTICE MARCH.



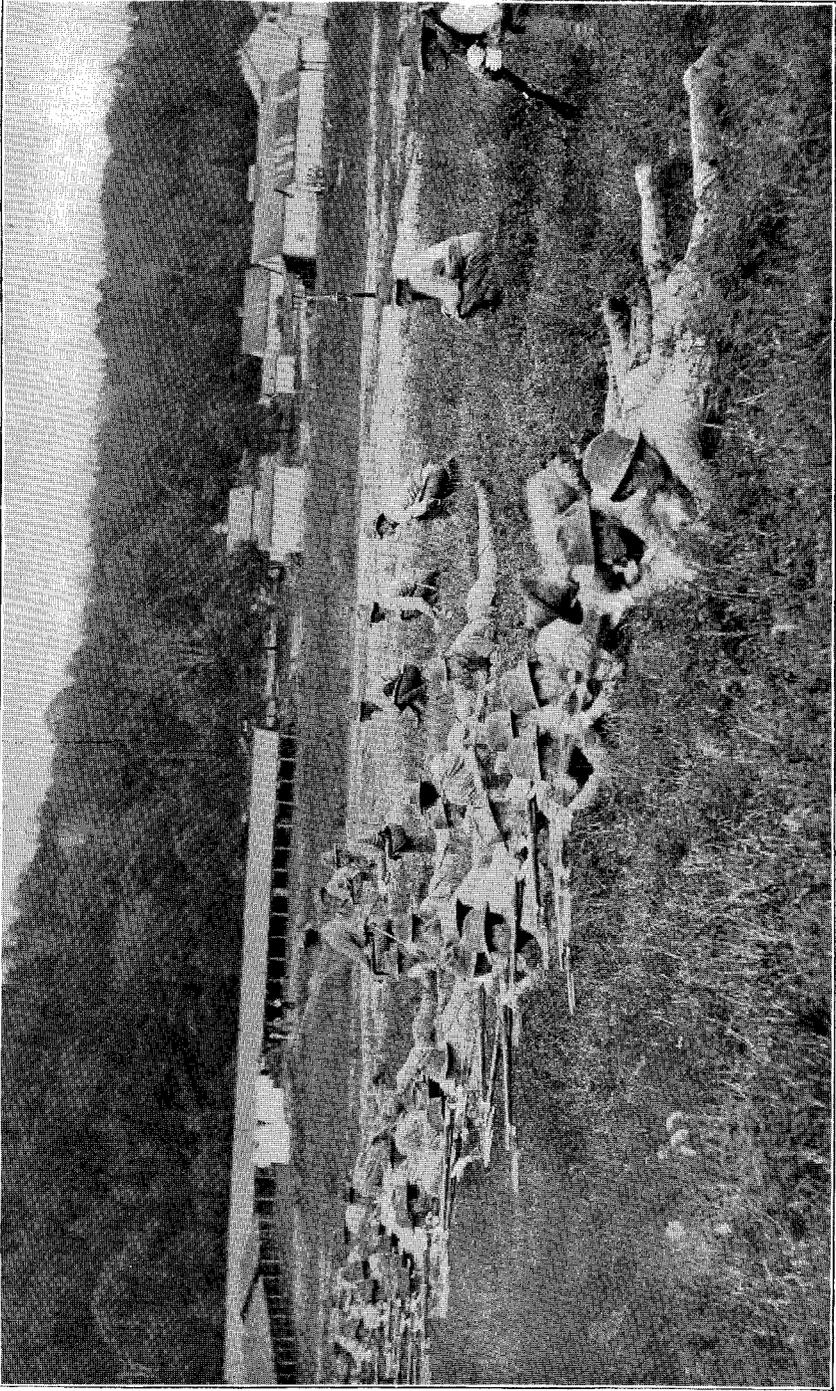
MOUNTAIN GUN BATTERY.



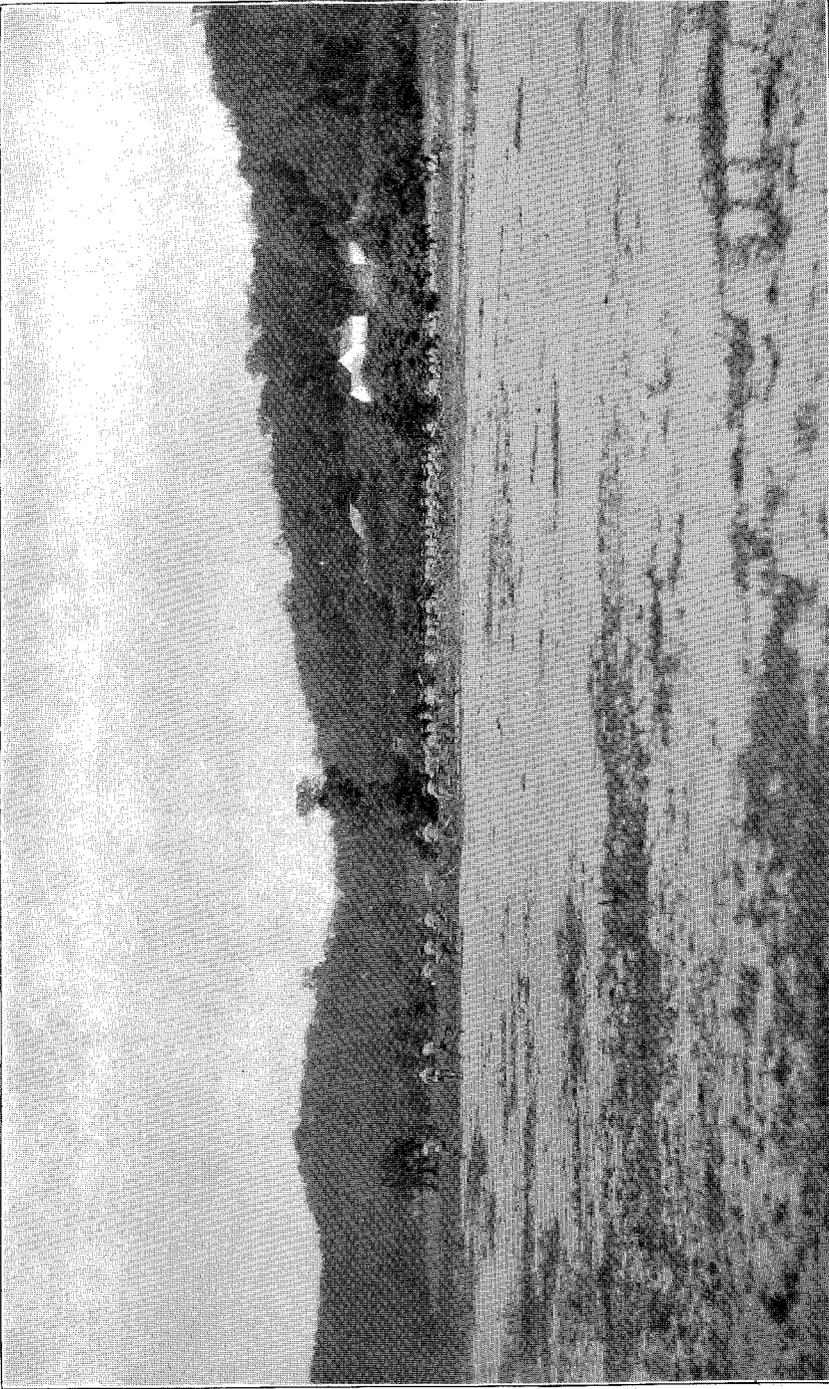
INSTRUCTION IN PACKING.



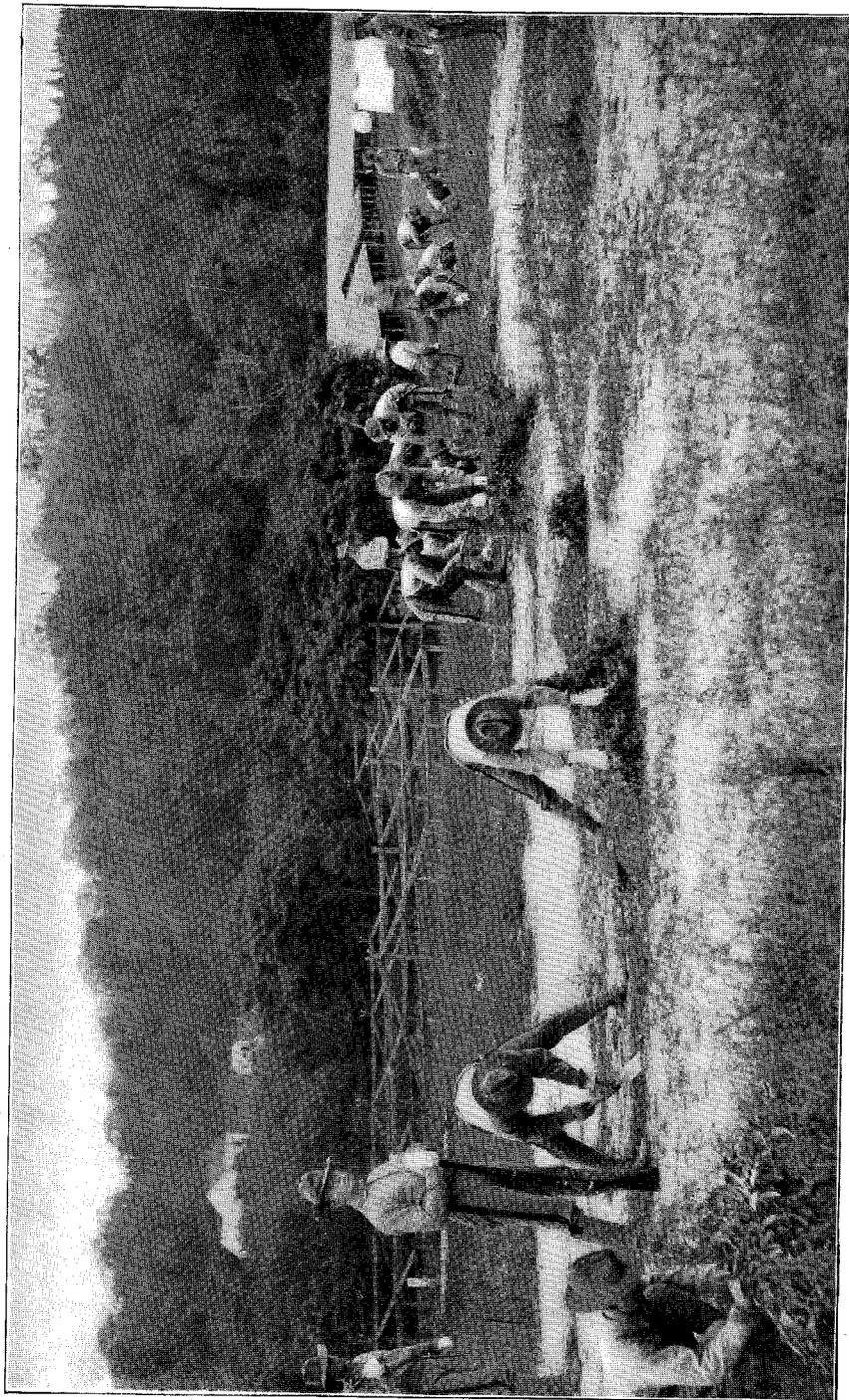
BIVOUAC OF CADETS, ON PRACTICE MARCH.



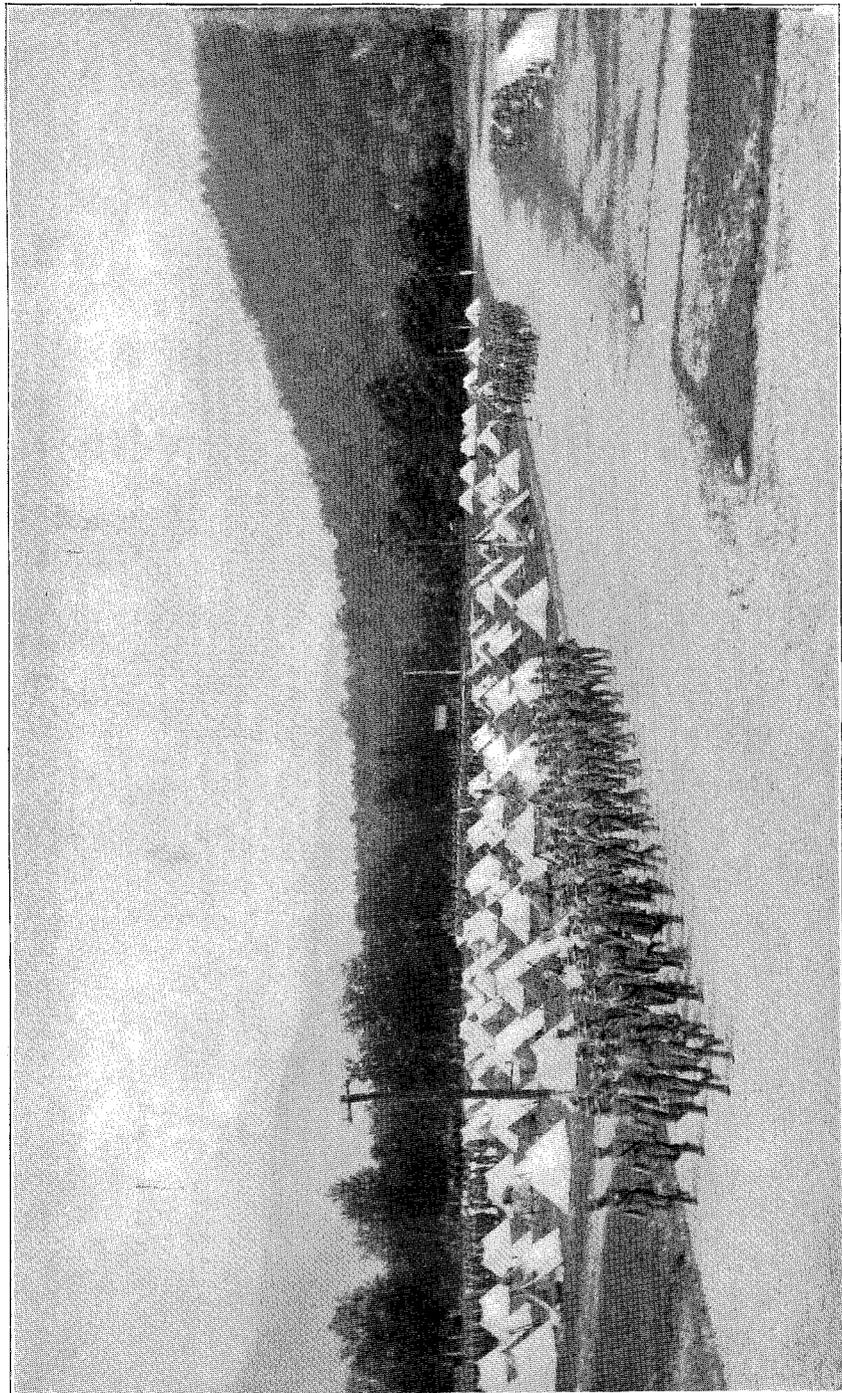
FIELD EXERCISE.



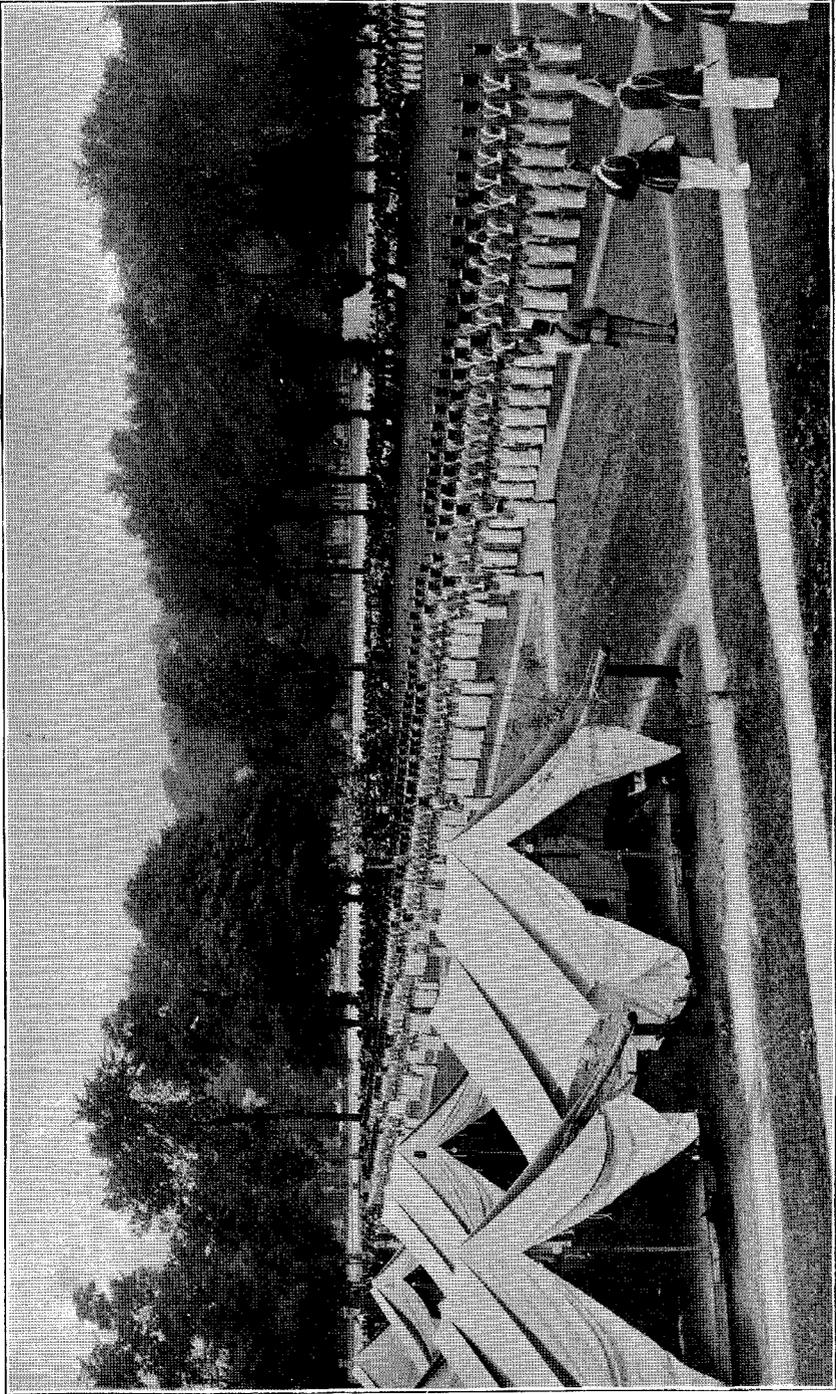
FIELD EXERCISE.



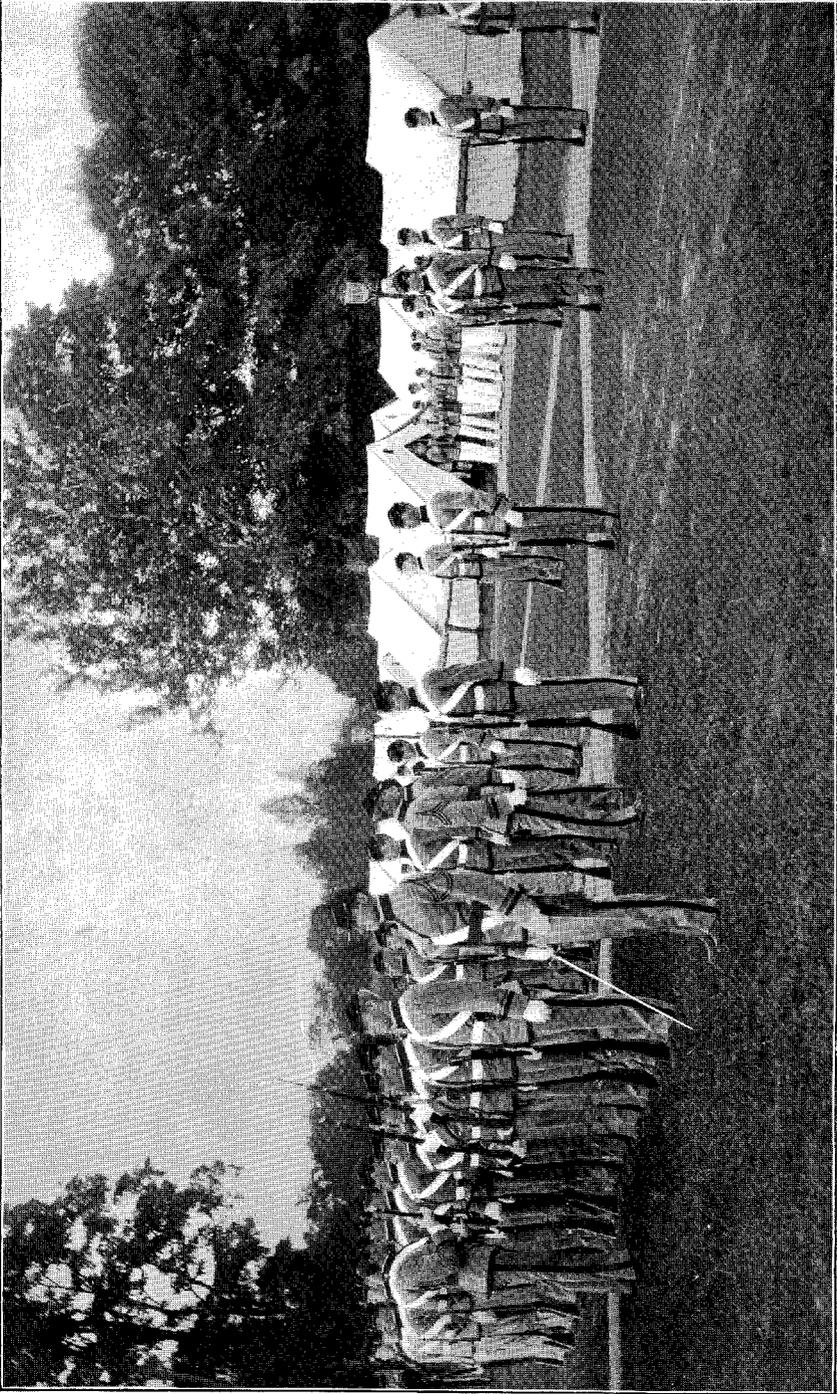
CONSTRUCTING HASTY INTRENCHMENTS.



CADETS ON PRACTICE MARCH TO PEESKILL.



DRESS PARADE—VISIT OF CUBAN TEACHERS.



GUARD MOUNTING.



COLOR GUARD.

C.—AMENDED REGULATIONS.

GENERAL ORDERS, }
No. 4. }

HEADQUARTERS U. S. MILITARY ACADEMY,
West Point, N. Y., February 17, 1900.

Paragraphs 327 and 328, Regulations U. S. Military Academy, are hereby amended, to take effect April 10 next, to read as follows:

“327. On the 10th of each month the cadets shall be divided into three conduct grades, according to their conduct record for the last calendar month during which each shall have been present.

“For the first and second grades the following numbers of demerit must not be exceeded:

Class.	Number of demerit per month.	
	First grade.	Second grade.
First.....	3	7
Second.....	3	7
Third.....	4	9
Fourth.....	5	10

“Those cadets whose demerit exceeds the number allowed the second grade will constitute the third grade.

“328. The privileges attached to the several grades shall be as shown in the table herewith.”

By order of Colonel Mills:

W. C. RIVERS,
First Lieutenant, First Cavalry, Adjutant.

First grade.	Second grade.	Third grade.
<p style="text-align: center;">FIRST CLASS.</p> <ol style="list-style-type: none"> Immunity from ordinary punishments. May visit hotel, under usual restrictions, during release from quarters or camp. May visit the quarters of officers or of families on the post during release from quarters or camp; also Saturday evening. Leave (by permit) to accept invitation to dine on the post any day in camp; in barracks, on Saturday or Sunday, or on holidays, or the evening preceding holiday. Riding privileges, under usual restrictions. May visit library to read at any time when open, reporting departure and return during call to quarters. In camp: <ol style="list-style-type: none"> Rowing privileges, under usual restrictions, by reporting departure and return. Cadet limits from reveille to tattoo. Leave (by permit) to accept invitation to visit or dine in the vicinity once each week (Saturday or Sunday or holiday); time not over 6 hours, and to end not later than 11.30 p. m. on Saturday, and tattoo on Sunday or on holiday. If in the first grade for 4 of the 6 months beginning December 1, and not below the second grade either of the other 2 months, may apply for leave of 3 days, including a Sunday, if money accounts warrant it. In barracks: <ol style="list-style-type: none"> Leave (by permit) to accept invitation to visit or dine in the vicinity once each month (Saturday or Sunday or holiday); time not over 6 hours and to end not later than tattoo on Saturday, and evening call to quarters on Sunday or on holiday. May apply for leave of not over 27 hours at Thanksgiving, if money accounts warrant it. If in the first grade for 4 of the 6 months beginning June 1, and not below the second grade either of the other 2 months, may apply for leave of not over 75 hours at Christmas, if money accounts warrant it. <p style="text-align: center;">SECOND CLASS.</p> <ol style="list-style-type: none"> Riding privileges, under usual restrictions. Leave (by permit) to accept invitation to visit or dine in the vicinity once for each 3 months in this grade (Saturday or 	<p style="text-align: center;">FIRST CLASS.</p> <ol style="list-style-type: none"> Immunity from ordinary punishments. May visit hotel, under usual restrictions, during release from quarters or camp. May visit the quarters of officers or of families on the post during release from quarters or camp on Wednesday afternoon and Saturday afternoon; also Saturday evening. Accept (by permit) invitation to dine on the post on Saturday or Sunday, or on holidays, or on the evening preceding holidays. Riding privileges, under usual restrictions. In camp: <ol style="list-style-type: none"> Rowing privileges, under usual restrictions, by reporting departure and return. Cadet limits from 9 a. m. to tattoo. Leave (by permit) to accept invitation to visit or dine in the vicinity once each month (Saturday or Sunday or holiday); time not over 6 hours and to end not later than 11.30 p. m. on Saturday, and tattoo on Sunday or on holiday. If average monthly demerit for the 6 months beginning December 1 is not greater than the number allowed for second grade and if not below second grade more than 1 month, may apply for leave of 24 hours, to begin Saturday afternoon, if money accounts warrant it. In barracks: <ol style="list-style-type: none"> Leave (by permit) to accept invitation to visit or dine in the vicinity once for each 3 months not below this grade (Saturday or Sunday or holiday); time not over 6 hours and to end not later than tattoo on Saturday, and evening call to quarters on Sunday or on holiday. If average monthly demerit for the 6 months beginning June 1 is not greater than the number allowed for second grade and if not below second grade more than 1 month, may apply for leave of 48 hours at Christmas, if money accounts warrant it. <p style="text-align: center;">SECOND CLASS.</p> <ol style="list-style-type: none"> Riding privileges, under usual restrictions. Leave (by permit) to accept invitation to visit or dine in the vicinity on holidays, or to visit or dine in the vicinity with 	<p style="text-align: center;">FIRST CLASS.</p> <ol style="list-style-type: none"> May visit the quarters of officers or of families on the post during release from quarters or camp on Wednesday afternoon and Saturday afternoon; also Saturday evening. May (by permit) visit the hotel or accept invitation to dine on the post only under special circumstances. In camp: Cadet limits from 9 a. m. to retreat. <p style="text-align: center;">SECOND CLASS.</p> <ol style="list-style-type: none"> May visit the quarters of officers or of families on the post during release from quarters or camp on

<p>Sunday or holiday); time not over 6 hours and to end not later than tattoo on Saturday and evening call to quarters on Sunday or on holiday.</p> <p>3. May visit the quarters of officers or of families on the post during release from quarters or camp on Wednesday afternoon and Saturday afternoon; also Saturday evening; or accept (by permit) invitation to dine on the post on Saturday or Sunday, or on holidays, or on the evening preceding holidays.</p> <p>4. If in first grade for 2 of the 3 months beginning September 1 and not below the second grade the other month, may apply for leave of not over 75 hours at Christmas, if money accounts warrant it.</p>	<p style="text-align: center;">THIRD CLASS.</p> <p>1. May visit the quarters of officers or of families on the post during release from quarters or camp on Wednesday afternoon and Saturday afternoon; also Saturday evening; or accept (by permit) invitation to dine on the post on Saturday or Sunday, or on holidays, or on the evening preceding holidays.</p> <p>2. In camp: (a) Cadet limits from 9 a. m. to tattoo. (b) Leave (by permit) to accept invitation to visit or dine in the vicinity once each month (Saturday or Sunday or holiday), time not over 6 hours and to end not later than 11.30 p. m. on Saturday and tattoo on Sunday or on holiday.</p> <p>3. In barracks: (a) Leave (by permit) to accept invitation to visit or dine in the vicinity on holidays or to visit or dine with parents in the vicinity once for each 3 months in this grade (Saturday or Sunday); time not over 6 hours and to end not later than tattoo on Saturday and evening call to quarters on Sunday or on holiday. (b) If in the first grade for 4 of the 6 months beginning June 1 and not below the second grade either of the other 2 months may apply for leave of not over 75 hours at Christmas, if money accounts warrant it.</p>	<p style="text-align: center;">THIRD CLASS.</p> <p>1. Leave (by permit) to visit or dine with parents in vicinity on holidays; time not over 6 hours and to end not later than evening call to quarters.</p> <p>2. May visit the quarters of officers or of families on the post during release from quarters or camp on Wednesday afternoon and Saturday afternoon; also Saturday evening; or accept (by permit) invitation to dine on the post on Saturday or Sunday, or on holidays, or on the evening preceding holidays.</p> <p>3. In camp: Cadet limits from 9 a. m. to retreat.</p>	<p style="text-align: center;">FOURTH CLASS.</p> <p>1. May visit the quarters of officers or of families on the post during release from quarters or camp on Wednesday afternoon and Saturday afternoon; also Saturday evening; or accept (by permit) invitation to dine on the post on Saturday or Sunday, or on holidays, or on the evening preceding holidays.</p>
<p>parents once for each 3 months not below this grade (Saturday or Sunday or holiday); time not over 6 hours and to end not later than tattoo on Saturday and evening call to quarters on Sunday or on holiday.</p> <p>3. May visit the quarters of officers or of families on the post during release from quarters or camp on Wednesday afternoon and Saturday afternoon; also Saturday evening; or accept (by permit) invitation to dine on the post on Saturday or Sunday, or on holidays, or on the evening preceding holidays.</p>	<p style="text-align: center;">THIRD CLASS.</p> <p>1. May (by permit) visit the quarters of officers or of families on the post or hotel or accept invitation to dine on the post only under special circumstances.</p> <p>2. In camp: Cadet limits from 1 p. m. to retreat.</p>	<p style="text-align: center;">THIRD CLASS.</p> <p>1. May (by permit) visit the quarters of officers or of families on the post or hotel or accept invitation to dine on the post only under special circumstances.</p>	<p style="text-align: center;">FOURTH CLASS.</p> <p>1. May (by permit) visit the quarters of officers or of families on the post or hotel or accept invitation to dine on the post only under special circumstances.</p>
<p>Saturday afternoon; also Saturday evening.</p> <p>2. May (by permit) visit the hotel or accept invitation to dine on the post only under special circumstances.</p>	<p style="text-align: center;">THIRD CLASS.</p> <p>1. May (by permit) visit the quarters of officers or of families on the post or hotel or accept invitation to dine on the post only under special circumstances.</p> <p>2. In camp: Cadet limits from 1 p. m. to retreat.</p>	<p style="text-align: center;">FOURTH CLASS.</p> <p>1. May (by permit) visit the quarters of officers or of families on the post or hotel or accept invitation to dine on the post only under special circumstances.</p>	<p style="text-align: center;">FOURTH CLASS.</p> <p>1. May (by permit) visit the quarters of officers or of families on the post or hotel or accept invitation to dine on the post only under special circumstances.</p>

1 To be divided into grades for the first time Sept. 10. In camp: Cadet limits from 1 p. m. to retreat.

D.—REPORT OF THE QUARTERMASTER AND COMMISSARY OF CADETS.

OFFICE OF THE TREASURER, UNITED STATES MILITARY ACADEMY,
West Point, N. Y., August 1, 1900.

SIR: In compliance with instructions contained in Circular No. 22, current series, headquarters United States Military Academy, I have the honor to report as follows on the work done in the departments under my charge, viz: (1) treasurer United States Military Academy, (2) quartermaster of cadets, (3) commissary of cadets—during the fiscal year ending June 30, 1900.

TREASURER UNITED STATES MILITARY ACADEMY.

The treasurer of the Academy is "charged with all matters relating to the pay and accounts of the cadets." In order to properly and satisfactorily perform this duty, it is not only necessary to open an individual debit and credit account with the cadets, but also to keep twenty-eight different accounts under the headings shown in statement No. 1, which statement also shows the disbursements and receipts under each heading during the fiscal year:

Statement No. 1.

	Dr.	Cr.
Assistant treasurer.....	\$184,671.90	\$185,136.63
Athletic association.....	1,569.25	1,569.25
Balances paid.....	14,450.78	14,565.79
Barber.....	611.25	611.25
Cadet cash.....	11,429.64	11,197.14
Hospital.....	4,707.06	4,867.76
Laundry.....	12,025.43	11,470.76
Store.....	91,622.15	86,216.99
Mess.....	66,635.38	67,057.71
Confectioner.....	18.00	18.00
Corps of cadets.....	210,957.80	212,525.70
Damages, ordnance.....	23.24	23.31
Dancing.....	515.00	515.00
Dentist.....	768.00	768.00
Deposits.....	15,939.71	16,960.30
Dialectic Society.....	262.58	387.62
Equipment fund.....	11,630.00	15,364.00
Expressage.....	25.35	25.35
Gas.....	1,132.55	1,929.52
Hops.....	1,929.52	1,929.52
Miscellaneous fund.....	21.22	35.71
Miscellaneous items.....	259.65	259.65
Oath.....	31.75	31.50
Paymaster.....	184,672.46	184,672.46
Periodicals.....	16.10	16.10
Photographer.....	59.50	80.00
Policing barracks.....	5,536.16	5,536.16
Young Men's Christian Association.....	307.95	144.37
Washstand, etc., fund.....	1,406.77	254.09

The treasurer's accounts are inspected every two months by an officer of the Academy detailed by the Superintendent, to whom the result of the inspection, including the condition of the accounts, is reported. The inspection for June 30, 1900, shows the following:

<i>Assets.</i>		<i>Liabilities.</i>	
Assistant treasurer.....	\$6,870.29	Balances paid.....	\$115.01
Cadet cash.....	384.50	Cadet hospital.....	160.70
Cadet store.....	998.78	Cadet laundry.....	1,250.96
Dialectic Society.....	263.84	Cadet mess.....	1,687.27
Oath.....	.25	Corps of cadets.....	3,060.03
Reserve fund.....	20,000.00	Damages, ordnance.....	.07
Young Men's Christian Association.....	88.14	Deposits.....	1,020.59
Washstands, etc., fund.....	1,152.68	Equipment fund.....	24,456.00
Cash on hand.....	2,238.79	Gas fund.....	211.45
		Miscellaneous fund.....	14.69
		Photographer.....	20.50
	31,997.27		31,997.27

In July and August, 1899, thirty-three new cadets were admitted to the Academy, and deposited with the treasurer \$3,118.98, an average of \$96 each; the smallest individual deposit being nil, and the largest \$189.

For the first time since June, 1897, it was possible to graduate the first class in June (1900), and the members (54) were paid on final settlement of accounts \$12,669.87; the highest amount paid to any one cadet being \$524.71, and the lowest \$96.45.

Eighty-one cadets were admitted in June, 1900, and deposited with the treasurer \$7,560.78, an average of \$93.35 each, the largest individual deposit being \$150.61 and the smallest nil.

In June, 1900, the members of the furlough class were paid prior to departure the sum of \$5,640, an average of \$81.74 each.

I again beg to renew my recommendation of last year that a deposit of \$100 by cadets on admission be made compulsory. The cadet who makes no deposit, or who deposits only a small amount, suffers in consequence by being deprived of many things he would otherwise be allowed, as it is the object to keep cadets out of debt, and frequently the cadet is obliged to remain behind when the members of his class go on their regular furlough because he is not out of debt at the time, and only those can go who are. Any young man who has the influence to obtain an appointment to the Academy, or who is able to win one on a competitive examination, surely should have no difficulty in borrowing \$100 on his note, for satisfactory arrangements could be made with the treasurer to secure payment of the same.

Believing as I do that many of the charges now made against the pay of cadets should be removed, such as those for text books and instruments, policing barracks, gas, hospital, oath, room furniture, baths, and shoeblicking, and that these expenses should be paid from an appropriation, I renew my recommendation to this effect made to the Board of Visitors of 1899 and also of 1900, and urge that steps be taken to secure the desired result. If this is accomplished, it will be possible to increase the amount now retained for "equipment fund" from \$4 to \$8 per month, which will be very much to the interest of the cadet.

QUARTERMASTER OF CADETS.

Cadet store.—During the past year several improvements have been made in the arrangement of goods, manner of issue to cadets, and class of goods kept on hand. On account of the increased demand for articles of uniform clothing, it has been necessary to employ an extra force of tailors. A department for the repair of stockings has also been established. More store room is required, and a larger and more convenient as well as modern tailor shop will have to be provided.

Stock to the value of \$25,000 (approximately) is kept on hand, and consists of all the articles required by cadets. The amount of labor required to properly care for such a stock is considerable. All the uniform coats and trousers required by cadets are made at the cadet store.

The following list shows the number of articles made and repaired at the cadet store during the fiscal year:

	Manu- factured.	Re- paired.
Dress coats	324	249
Overcoats	197	284
Fatigue coats	416	701
Gray trousers	525	1,076
White trousers	1,371	966
Flannel trousers	244	18
Riding trousers	76	64
Officers' trousers	77	154
Officers' dress coats	1	.....
Citizens' overcoats	2	.....
Officers' blouses	68	34
Citizen coats	3	.....
Citizen vests	4	.....
Citizen trousers	3	.....
White serge blouses	1	.....
White serge trousers	8	.....
White duck blouses	2	.....
Citizen suits .....	.....	78
Chevrons put on .....	.....	456
Service stripes on coats .....	.....	1,470
Tags on socks .....	.....	4,606
Shoes repaired .....	.....	2,088
Socks repaired (since Mar. 1, 1900) .....	..... pairs	1,693

CADET LAUNDRY.

The constantly increasing demands made on the laundry necessitates a larger and more modern building and extra machinery; estimates have been made to meet these requirements.

Great difficulty is experienced in obtaining competent labor, and the work turned out from the laundry is not yet to my satisfaction.

It will be seen from the following tables that 43,861 more pieces have been laundered for cadets during this fiscal year than in the year 1898-99; and 1,490 more pieces for the cadet hospital.

Articles laundered during the year.

Bathing suits.....	13	Shirts, white.....	25,396
Belts, shoulder.....	25,744	Shirts, night.....	14,636
Belt, sword.....	2,560	Shirts, under.....	38,210
Belts, waist.....	17,435	Socks, pairs.....	38,475
Blankets, single.....	171	Towels.....	63,452
Coats, fatigue.....	8	Trousers, gray.....	63
Clothes bags.....	2,857	Trousers, white.....	28,355
Collars.....	107,874	Handkerchiefs.....	75,646
Cuffs, pairs.....	83,656		
Comfortables.....	77	Total.....	653,578
Drawers.....	35,751	Total pieces 1898-99.....	609,717
Gloves, pairs.....	52,242		
Pillow cases.....	15,031	Increase over last year...	43,861
Sheets.....	25,895		

Articles laundered for the cadet hospital during year.

Bandages.....	9	Table cloths.....	414
Bedspreads.....	577	Towels.....	4,049
Blankets, single.....	104		
Mattress covers.....	3	Total.....	14,593
Napkins.....	3,212	Total last year.....	13,103
Pillow cases.....	2,676		
Sheets.....	2,965	Increase over last year....	1,490
Shirts, hospital.....	584		

A large size "Duplex" mangle will soon be installed, also a two-compartment metal drying room on second floor.

COMMISSARY OF CADETS.

Cadet mess.—During the year past efforts have been made to constantly improve the quality of the food, and the bills of fare have been as varied as possible. Since my last report a cold-storage and ice-making plant has been installed which is working satisfactorily, and it is now possible to preserve meats, etc., in a perfect condition; in consequence, advantage can be taken of depressions in the market to lay in a stock of any desired article.

The cost of subsistence at the mess during the year has been 50.13 cents per cadet per day, as against 53 cents for last year; the cost for the subsistence of cadets in hospital, 4 cents per cadet per day, as against 2.575 cents for last year. The total cost of subsistence in both mess and hospital for this year has been 54.13 cents per cadet per day, as against 55.575 for last year.

The following table shows the quantity of the principal articles of food consumed at the mess during the year:

Meat.....	pounds..	172,676	Poultry.....	pounds..	20,307
Fish.....	do.....	6,499	Butter.....	do.....	22,343
Flour.....	barrels..	432	Eggs.....	dozens..	11,307
Milk.....	gallons..	33,345	Coffee.....	pounds..	5,106
Potatoes.....	bushels..	2,194	Sugar.....	do.....	50,327

The authorized increase in the strength of the Corps of Cadets will necessitate the immediate extension of the mess hall and an enlargement of the kitchen, pantries, etc.; estimates for this purpose have been made, but it is doubtful if we are able to get along until the money is appropriated and available.

Immediate action should be taken to obtain money for building a large and modern kitchen and for a temporary kitchen while the new kitchen is building.

The present kitchen is small, ancient in all its parts, dangerous on account of fire, unsightly, and not a credit to the Academy.

Very respectfully,

CHAS. B. HALL,
Major, Second Infantry,

Treasurer Military Academy, Quartermaster and Commissary of Cadets.

The ADJUTANT.

E.—REPORT OF THE QUARTERMASTER.

OFFICE OF THE QUARTERMASTER AND DISBURSING OFFICER,
WESTPOINT, N. Y., *August 9, 1900.*

SIR: In compliance with instructions from your office, per Circular No. 22, dated the 22d ultimo, I have the honor to submit herewith the following report, in triplicate, of the operations in the Quartermaster's Department of the United States Military Academy, Quartermaster's Department, United States Army, and as Director of the Gas works, United States Military Academy, for the year ending June 30, 1900.

QUARTERMASTER'S DEPARTMENT, UNITED STATES MILITARY ACADEMY.

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

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

No.	Contractor.	Date.	Purpose.
1	David S. Wells.....	May 15, 1899	2,000 tons gas and 300 tons pea coal.
2	Dickson & Eddy.....	May 18, 1899	4,600 tons anthracite coal.
3	Steele & Condict.....	July 7, 1899	Ice-making apparatus.
4	Otis & Campbell.....	Aug. 21, 1899	New kitchen to quarters No. 13.
5	.....do.....	.....do.....	New addition to quarters No. 27.
6	.....do.....	.....do.....	Additions to quarters Nos. 11, 15, 17, 33, 35, and 41.
7	.....do.....	.....do.....	New kitchen to quarters No. 39.
8	.....do.....	.....do.....	Hospital stewards' quarters.
9	The Schilling Co.....	Aug. 24, 1899	Operating room, cadet hospital.
10	Hewitt & Warden.....	Oct. 4, 1899	Electric-light plant.
11	William J. Duffy.....	Nov. 2, 1899	Sand for filter bed.
12	Otis & Campbell.....	Nov. 7, 1899	Addition to cadet hospital.
13	Brown Electrical Construction Co.	Nov. 21, 1899	Wiring Memorial Hall.
14	Geo. A. Williams & Co.....	Dec. 4, 1899	Light fixtures, Memorial Hall.
15	Otis & Campbell.....	Dec. 5, 1899	Extension, cavalry stables.
16	The Keystone Fireproofing & Paper Stock Co.	Dec. 27, 1899	Furring, arching, and tiling for ceiling roof partitions, library.
17	New Jersey Steel and Iron Co.	Dec. 29, 1899	Girders, beams, etc., library.
18	John Wanamaker.....	Jan. 15, 1900	Furniture, etc., Memorial Hall.
19	.....do.....	Feb. 7, 1900	Stage, etc., Memorial Hall.
20	Henry W. Otis.....	Feb. 26, 1900	Officers' quarters, 1 set.
21	.....do.....	Mar. 21, 1900	Addition to quarters No. 37.
22	Canfield Stove Co.....	Apr. 28, 1900	Heating, plumbing, etc., library.
23	M. F. Westergren.....	June 4, 1900	Roof covering, library.
24	New Jersey Steel and Iron Co.	June 18, 1900	Roof beams on towers, library.

All of the above contracts, with the exception of a few items of furniture for Memorial Hall and completion of officers' quarters, have been fulfilled.

The following improvements have been made by special appropriations or from appropriations proper for such purpose:

Five hundred and nineteen feet of stone wall to inclose cemetery.

One hundred and seventy fruit trees planted about the post.

Ninety-five shade trees planted about the post.

Additional storage room provided over wagon shed.

Changed position of shop engine and overhauled machinery, enabling one boiler to do the work that formerly required two.

Completely overhauled, repaired, and painted power house.

Put in new gas-tar tank and built house over it.

Renewed one bench of six retorts in gas works.

Put new roof on gas works.
 Built new coal chute and partition in coal shed.
 Macadamized road from Plain to Mr. Denton's store and repaired sidewalk along same.
 Macadamized road from riding hall to south dock and relaid gutters along same.
 Kalsomined walls of drawing academy.
 Blasted out tunnel on Target Hill to confine shots to prevent ricochet.
 Put in electric lighting plant for Memorial Hall.
 Furnished Memorial Hall.
 Attended to 6,001 jobbing orders about public buildings and grounds, officers' quarters, and enlisted men's barracks and quarters.
 Put lights along road from south gate guardhouse to southern boundary of reservation.
 Built up to grade 594 feet of breast wall along main road.
 Built retaining wall 346 feet long in rear of Memorial Hall.
 Filled in and graded ground up to same; sodded surface.
 Renewed much of the fence in rear of officers' quarters.
 Built 378 feet of breast wall on hill by quartermaster's stable.
 Commenced construction of road to pass in front of new quarters.
 Built addition to post-office.
 Renovated hotel.
 Renovated Mr. Denton's store.
 Renovated livery stable.
 Completely renovated cadet barracks and guardhouse.
 Laid cement drain on north and west sides of cavalry barracks; graded ground and built breast wall on river front.
 Relaid brick area in engineer barracks.
 Laid 400 feet 15-inch drainage pipe.
 Repainted interior of riding hall; repaired roof.
 Built subterranean pump room and 183 feet of pipe tunnel in connection with steam heating plant.
 Completed stone wall around soldiers' hospital and built picket fence in rear; painted same and wire fence around garden.
 Renewed cornice on east side of cadet chapel.
 Renewed much of the flooring in cavalry barracks.
 Put in 4 additional bath tubs and rubber tile floor in bathroom in cavalry barracks.
 Macadamized 290 feet of main road in south end of post.
 Built steps leading from administration building to riding hall.
 Completed steps and walk from riding hall to West Shore station.
 Cleaned off and graded river front outside West Shore Railroad tracks at south end of tunnel.
 Laid 906 feet granolithic sidewalk in southern part of post.
 Cleared trees and stone walls from portion of tract known as Kinsley Farm.
 Reconstructed entire telephone system of post; put in new poles, new switch board at central office; put in much new wire and restrung all the old wires.
 Statement of the receipts and disbursements for the year ending June 30, 1900, accompany this report, marked "A."

QUARTERMASTER'S DEPARTMENT, UNITED STATES ARMY.

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

The following contracts were entered into during the year:

No.	Contractor.	Date.	Purpose.
1	C. Daly	July 14, 1899	50 cords soft pine wood.
2	Dickson & Eddy .....	.....do	1,500 tons anthracite coal.
3	The Dixon Garbage Crematory Co.	Aug. 17, 1899	Garbage crematory.
4	Chas. L. Rickerson	Sept. 14, 1899	20 tons each bran and middlings and 115 tons straw.
5	C. A. Bloomingdale	Sept. 25, 1899	770,000 pounds oats and 1,000,000 pounds hay.

All of the above contracts, with the exception of C. A. Bloomingdale's, were fulfilled.

The garbage crematory has been in practical operation since December 1, 1899. It disposes of about 3 tons refuse matter per day and fills the requirements for which it was intended.

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

GAS WORKS, UNITED STATES MILITARY ACADEMY.

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

Officers and civilians residing on the post, connected with the Academy, pay 75 cents per 1,000 feet for the gas they use, which charge is taken as the cost of the manufactured gas.

Each cadet pays 35 cents per month for the use of gas.

The Quartermaster's Department of the Army pays 75 cents per 1,000 cubic feet for gas used in lighting buildings devoted strictly to the use of that Department.

Coke is sold at \$1.17 per 18 bushels, and tar at 4½ cents per gallon.

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

During the year 17,190,800 cubic feet gas were manufactured; 4,075,900 pounds gas coal, and 8,859 gallons oil were used for this purpose.

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

SPECIAL CONTINGENT FUND, UNITED STATES MILITARY ACADEMY.

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

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

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

Hotel: Material, \$132.84; hired labor, \$166.12; labor furnished by the department during the year, estimated, \$175; total, \$469.96.

Post-office cottage: Material, \$67.80; to replace material loaned in previous fiscal year.

Store and restaurant: Material, \$20.42; labor, \$179.51; total, \$199.93.

Stables: Material, \$94.43; labor, \$117.56; total, \$211.99.

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

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

Very respectfully,

MALVERN-HILL BARNUM,
First Lieutenant, Tenth Cavalry, Quartermaster
Military Academy, Post Quartermaster, and Director of Gas Works.

The ADJUTANT UNITED STATES MILITARY ACADEMY

(through military channels).

A.—Statement showing receipts and disbursements, etc., of funds pertaining to the appropriations for the support of the United States Military Academy, for the year ending June 30, 1900.

	Date.	Current and ordinary expenses.	Miscellaneous and incidental expenses.	Buildings and grounds.	Memorial Hall.	Miscellaneous receipts.	Total.
CR.							
Balance on hand fiscal year—	1899.						
1897.....	July 1			\$7,713.20			\$7,713.20
1898.....	do	\$3,886.96	\$1,018.48	365.11			5,270.55
1898-99.....	do			5,736.16			5,736.16
1899.....	do	2,728.53	3,353.21	986.44			7,068.18
1899-1900.....	do	128.30	10,010.00	15,189.01			25,327.31
Balance on hand, Memorial Hall.....	do				\$17,062.97		17,062.97
Received since fiscal year—							
1898-99.....	June 30			.37			.37
1899.....	do	8,720.50	1,250.00				9,970.50
1900.....	do	67,379.28	16,325.00	112,000.00			195,704.28
Miscellaneous receipts.....	do					\$5.00	5.00
Total.....		82,843.57	31,956.69	141,990.29	17,062.97	5.00	273,858.52
DR.							
1900.							
Deposited, fiscal year—	June 30						
1898.....	do	3,886.96	1,006.98	365.11			5,259.05
1898-99.....	do			21.38			21.38
1899.....	do	968.13					968.13
Miscellaneous receipts.....	do					5.00	5.00
Disbursed, fiscal year—							
1898.....	do		11.50				11.50
1898-99.....	do			5,715.15			5,715.15
1899.....	do	8,069.59	4,481.24	841.44			13,392.27
1899-1900.....	do	119.25	10,009.98	15,187.96			25,317.19
1900.....	do	61,187.00	14,416.02	72,519.53			148,122.55
Disbursed, Memorial Hall.....	do				13,010.55		13,010.55
Balance on hand, fiscal year—							
1897.....	do			7,713.20			7,713.20
1899.....	do	2,411.31	121.97	145.00			2,678.28
1899-1900.....	do	9.05	.02	1.05			10.12
1900.....	do	6,192.28	1,908.98	39,480.47			47,581.73
Balance on hand, Memorial Hall.....	do				4,052.42		4,052.42
Total.....		82,843.57	31,956.69	141,990.29	17,062.97	5.00	273,858.52

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

WESTPOINT, N. Y., August 9, 1900.

B.—Statement of funds pertaining to the Quartermaster's Department, United States Army, for the year ending June 30, 1900.

Balance on hand July 1, 1899.	\$1,053.51	Disbursed:	
Received since:		Regular supplies.....	\$24,161.20
Regular supplies.....	24,277.90	Incidental expenses....	3,581.54
Incidental expenses....	3,602.67	Army transportation....	171.02
Army transportation....	172.15	Barracks and quarters..	1,390.00
Barracks and quarters..	1,390.00	Clothing and equipage..	10.00
Shooting ranges, etc....	121.42	Shooting ranges, etc....	436.86
Clothing and equipage....	12.00	Deposited.....	4,978.82
Sales to officers.....	4,351.72	Balance on hand June 30, 1900	681.93
Sales at auction.....	430.00		
Total to be accounted for	35,411.37	Total.....	35,411.37

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

WESTPOINT, N. Y., August 9, 1900.

C.—Statement of receipts and expenditures pertaining to the special contingent fund, United States Military Academy, from July 1, 1899, to June 30, 1900.

	Gas works.	Rents, etc.	Total.
Balance on hand July 1, 1899.....	\$2,755.57	\$165.85	\$2,921.42
Received since:			
By rent of—			
West Point Hotel.....		1,000.00	1,000.00
Post-office.....		150.00	150.00
Stable.....		300.00	300.00
Restaurant and store.....		375.00	375.00
By sale of—			
Gas.....	5,172.88		5,172.88
Coke.....	560.49		560.49
Coal tar.....	491.41		491.41
Miscellaneous.....		259.67	259.67
Total to be accounted for.....	8,980.35	2,250.52	11,230.87
Disbursed.....	7,491.29	2,208.88	9,700.17
On hand June 30, 1900.....	1,489.06	41.64	1,530.70

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

WESTPOINT, N. Y., August 9, 1900.

F AND G.—REPORT OF ENGINEER OFFICER.

WEST POINT, N. Y., *August 14, 1900.*

SIR: I have the honor to submit the following report on the different branches of work assigned to me for the period July 31, 1899, date of last report, to August 11, 1900, the close of the present drill season.

PRACTICAL MILITARY ENGINEERING.

During August, 1899, the classes of 1900 and 1902 received instruction in ponton drill with both advance guard and reserve equipage; the class of 1900 in construction of trestle bridges on land and water, and the class of 1902 in military signaling. The fall and spring drills for the class of 1900 were made to conform as nearly as practicable to the instruction received in the department of civil and military engineering, and with this in view a trestle bridge was constructed over the ravine near the north guardhouse, using such timber as was available and in accord with strains computed by the various members of the class. During April the principles of field fortifications were applied to trenches, gun platforms, tracing, profiling, and demolitions. Instruction was also given in military signaling with flag and heliograph. The class of 1901 was instructed in signaling. Lieut. Harry Burgess, Corps of Engineers, assisted in drills in the fall and spring.

During the summer drills just ended the class of 1901 received instruction in the construction of siege material, fascines, hurdles, and gabions (brush and iron); in the construction of palisades, high and low wire entanglements, ponton bridges with the advance and reserve equipages, and spar bridges; in military signaling with flag and heliograph. The drill season this year has been shorter than heretofore by one day each week and by the season closing August 11 instead of August 28, as formerly.

A new departure was made in the instruction of the class of 1903. Instead of combining them with the first class, as was customary in the past, they were instructed in practical surveying, and the results have been very satisfactory. The larger part of the class is now competent to handle the transit and level for ordinary surveys, including the use of the stadia. In arranging the drills for another year it is recommended that the third class be sent for instruction in surveying until August 28, if practicable, as the additional time can be most usefully employed in making a regular survey. Those men who are deficient, or who by absence received no instruction, should be taught the use of the instruments when as second classmen they attend drills in engineering. Lieuts. J. P. Jervey, Corps of Engineers, and G. F. Hamilton, Tenth Cavalry, instructed the third class during the summer.

COMPANY E, BATTALION OF ENGINEERS.

I was in command of the company until relieved in March by reason of promotion, when Lieut. Harry Burgess, Corps of Engineers, was assigned to command, retaining it until relieved June 28, 1900, by Lieut. J. P. Jervey, Corps of Engineers, until relieved July 24, 1900.

The company furnished a daily guard detail of 2 noncommissioned officers and 11 privates, kept its barracks and grounds in repair and police, cultivated its garden, kept the batteries on the reservation in good order, assisted in repair and construction of new rifle ranges, furnished the old guard for general police, and during the last of May furnished all available men for the same purpose.

It assisted in the instruction of cadets in practical military engineering, preparing bridge and siege material, and furnishing markers for cadet rifle practice.

On September 30 and May 30 the company joined the battalion in New York City and participated in the Dewey and Memorial Day parades, in each case returning to West Point the same day.

The company left the post on July 24 for service in the Orient, and it has been replaced for guard and instruction of cadets by a detachment of 40 men composed of details from Companies C and D, battalion of engineers.

WATER SUPPLY.

Work was continued last fall until exhaustion of funds, and resumed on July 6, when the new appropriations were available.

The arches for covering the filter beds were completed in September, 1899; sand for filtering was purchased, washed, and put in place. The arch construction was under the immediate charge of Lieut. J. P. Jervcy, Corps of Engineers, who was temporarily assigned to duty with the company during the summer of 1899, and the excellence of the work is the result of his interest as well as his careful supervision. The arches are now being covered with earth obtained from the excavations for the water house. Automatic float valves for regulating the flow to the filter beds are to be furnished in place under an open-market agreement by the 20th instant, when the water will be turned through the new beds.

Funds are now available for the construction of a water house for filtered water and for a watchman's house. The excavation for the latter is completed, and for the former about one-third done. About one-sixth of the concrete wall for the water house is in place. Work is very materially retarded, due to the great scarcity of labor of all kinds.

Because of the scarcity of labor, it has not yet been possible to finish laying of the 8-inch pipe line from the old water house to Lusk reservoir, thus completing the connection of the latter with the Crow Nest catch-basin, but it is hoped to complete this before the fall rains begin.

A gang of stonecutters is at work cutting stone for completion of parapet walls for the dam, and the work is progressing satisfactorily with the force of men employed, all that can be secured.

With the increase in the Corps of Cadets and the necessary increase in instructors and families, the present water supply will not be sufficient if the gallons per capita now used be taken as a basis, and an additional supply must be secured and connected with the existing system.

LIBRARY BUILDING.

Bids for completely renovating the old building, making of it a modern, fireproof structure, were opened on September 4, 1899. The estimates of the architect, used for securing the necessary appropriation, were based on current prices at the time the estimates were prepared in 1895. The great advance in prices of all materials was such that the lowest bid in 1899 exceeded the amount available, and the renovation by contract had to be abandoned. Authority was granted by the Secretary of War to have the alterations made by day labor and by purchase of materials in open market. Work was commenced in October as soon as the books were removed, and it is now well under way, with contracts made for nearly all the work remaining to be done.

Experience gained on this building shows the advantage and advisability of constructing other large buildings here in the same way; that is, under the charge and supervision of an officer, by small contracts covering various parts of the building, instead of under the supervision of an architect and by contract covering the entire work. The work is done better and cheaper, changes can be easily made to the advantage of the completed structure, and without disputes with contractors and possible claims for extra compensation. This method, so successfully employed in the completion of the State, War, and Navy building, Congressional Library, and enlargement of Government Printing Office, Washington, D. C., should be pursued here in the future.

Very respectfully,

GEO. W. GOETHALS,
Major, Corps of Engineers.

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

