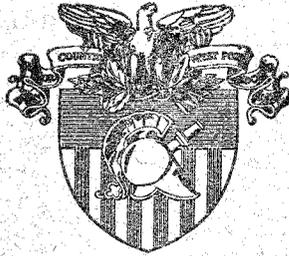


ANNUAL REPORT  
OF THE  
SUPERINTENDENT



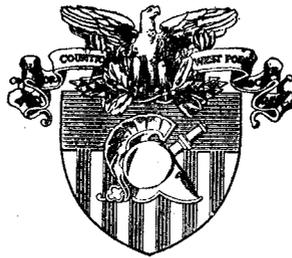
UNITED STATES  
MILITARY ACADEMY

1917

WEST POINT, N. Y.  
United States Military Academy Press



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## ANNUAL REPORT OF THE SUPERINTENDENT OF THE UNITED STATES MILITARY ACADEMY.

Headquarters United States Military Academy,  
West Point, New York, June 30, 1917.

From: The Superintendent, U. S. M. A.  
To: The Adjutant General of the Army.  
Subject: Annual Report.

By order from the War Department dated June 2, 1917, paragraph 59, Special Orders, No. 127, the undersigned assumed the duties of Superintendent of the United States Military Academy on June 13, 1917, relieving Major General (then Colonel) John Biddle. Owing to his relief and prompt departure, before the end of the academic year, Colonel Biddle was unable to render a report. The last previous report from the Superintendent of the Academy was made by Major General (then Colonel) C. P. Townsley, dated June 30, 1916.

The operations of the Academy since that date to June 30, 1917, are shown pretty fully by the accompanying reports or extracts from the reports of the Heads of Departments, submitted by order of Colonel Biddle, dated May 21. These reports also contain suggested modifications, improvements, &c., deemed desirable by the officers in charge of the respective departments.

The official personnel of the Academy on June 30, 1916, and at the same date this year is shown on the list below:

(Officers and others in prominent positions on duty at the Academy.)

	1916	1917
Superintendent and staff . . . . .	5	5
Professors, permanent . . . . .	7	†6
Professors, by detail from the Army . . . . .	4	*4
Professors, associate, detailed . . . . .	2	2
Professors, assistant, detailed . . . . .	12	11
Commandant of Cadets and Tactical officers . . . . .	15	13
Master of the Sword, Instructor of Military Gymnastics and Physical Culture . . . . .	1	*1

†One vacancy.

\*On detached service.

Instructors and other officers .....	68	20
Medical Corps .....	4	
Medical Corps (Reserve and Contract) .....		4
Dental Surgeons .....	2	2
Medical Corps, Instructors in Military Hygiene (August 28 to October 10) .....	4	4
Chaplain .....	1	1
Librarian .....	1	1
Civilian Instructors of Languages .....	3	2
Civilian Instructors of Fencing and Military Gymnastics .....	3	3
Teacher of Music .....	1	1
Organist and Choirmaster .....	1	1
Pay Clerk .....	1	1
<b>Total</b> .....	<b>135</b>	<b>82</b>

Number of officers relieved May and June for duty at training camps .....	42
Retired, one professor, no successor appointed .....	1
Relieved and no successors detailed .....	10
On duty with troops .....	1
Civilian Instructor of Spanish, resigned .....	1

55

### The Corps of Cadets.

The number of cadets under instruction at the Military Academy at the date of the last Annual Report was 762. Of this number 139 passed out by graduation on April 20. During the past academic year there have been about the usual number of cadets discharged for deficiency in studies, resignations, &c., as shown below:

Discharged for deficiency in studies .....	67
Resigned .....	24
Died .....	4
Dismissed .....	1
Dropped .....	1

The number of cadets admitted in June, 1917, was \*357, which is the largest class in the history of the Academy.

\*By reason of late admissions this number will be considerably increased.

The status of the Corps of Cadets on June 30, 1917, was as shown in the following table:

1st Class.....	153
2d Class.....	141
3d Class.....	247
4th Class.....	357

representing a total strength of 898.

The following shows the number of cadets admitted to the 4th Class by certificate and by mental examination as a result of the March examination. A number of cadets were admitted at various dates up to June 30, and because of the large number of qualified candidates as a result of the March examination no second examination was held:

Qualified mentally and physically and admitted.....	357
Ill, to report as soon as physically able to do so.....	1
Under age, to be admitted July 3, 1917.....	2
Disqualified mentally, qualified physically.....	394
Failed to report.....	310
Qualified mentally, did not report for physical examination.....	16
Qualified physically, withdrew from mental examination.....	4
Withdrew.....	16
Qualified alternates for whom no vacancies existed.....	81
Disqualified mentally and physically.....	59
Qualified mentally, disqualified physically.....	29
Qualified mentally and physically for admission, declined appointment.....	7
Qualified physically, declined to take mental examination.....	1
Not permitted to take examination; late reporting.....	1
Failed to complete examination.....	23
Appointment cancelled.....	1
Disqualified mentally, failed to report for physical examination.....	8
Disqualified physically, withdrew from mental examination.....	1
Declined appointment.....	1
Declined to take examination, qualified physically.....	2
Exempted from mental examination through inadvertence.....	1
Total nominations.....	1315

Of the total number of qualified candidates up to June 30, 184 qualified at the mental examination and 173 were admitted on satisfactory certificates from accredited educational institutions under the provisions of General Orders, No. 19, War Department, 1915.

After the admission of the 4th Class 102 vacancies still remained.

In May last Colonel William B. Gordon, head of the Department of Natural and Experimental Philosophy, having reached the age limit was under the operation of law retired from active service. Colonel Gordon had filled the position for sixteen years, besides having served eight years as Assistant Professor in the same department before he became its head. During his twenty-four years' service Colonel Gordon did most excellent work. His latest work in the preparation of mechanical text-books for use at the Academy was of a very high order and will stand favorable comparison with that of the former able heads of that department. Many doubt the suitability of Colonel Gordon's later work to the necessities of cadets, thinking it too theoretical, difficult and non-practical. In justice to Colonel Gordon it should be remembered that the same complaint has been held against the mechanical text-book of that department since 1856, and that Colonel Gordon's teaching of the subject has been far more practical than that by either of his two predecessors since the above date; also, that in his treatment of the subject he has eliminated certain errors in the fundamental equations of mechanics which had escaped these predecessors and which greatly tend to simplification of the subject.

Colonel Gordon's services as a member of the Academic Board were most valuable in many respects; uniquely so in providing a working mechanism for successfully operating academic exercises, with fairness to all departments as the classes increased in size and their duties in number and variety. After Colonel Gordon's retirement Captain Halsey Dunwoody, the senior assistant in the department, was in charge of the department for the remainder of the academic year; his report is included herewith.

### **Buildings.**

For several years past projects and estimates have been submitted to meet possible expansions of the Academy. By Act of Congress approved May 4, 1916, an increase in the number of cadets was authorized and directed. Since that Act a Board of Officers was appointed for the purpose of considering and has reported as to the necessary buildings to meet compliance with the above Act. This report was approved by the War Department and estimates to carry out the recommendations of the board were submitted to Congress. It is assumed that the approved

program will be eventually carried out. At present the existing situation is—that the present number of cadets (898) is slightly above the limit that the present facilities of the Academy can accommodate in the manner heretofore accomplished and deemed necessary: this deficiency applies to both academic and military facilities; equipment and material of all kinds used in cadet instruction, as well as to suitable spaces for camping and rooms for messing and lodging.

The graduation of the 1st Class, already ordered to take place on August 30 next will reduce the number of cadets to about 750 at the beginning of the next academic term on September 1. This number can be taken care of satisfactorily with the present facilities of the Academy without any material detriment to academic work until the admission of the next class, June, 1918. The vacancies now open to this next class is approximately 425. Assuming that 350 candidates will be admitted next June and that the number of cadets discharged during the present year will be about as usual, the strength of the Corps after June 1 of 1918 will be approximately 1020. This number cannot be accommodated with the present barrack facilities without diminishing the space per man: with *three* cadets in a room instead of *two* the barracks will accommodate the Corps up to June, 1919. The messing and camping space will be crowded, but can also be made to meet the conditions until June, 1919. If the long established custom of two cadets to a room is to be maintained, temporary structures will have to be erected, for it is now evident that the permanent structures which have been approved and for which appropriations have been asked cannot be erected in time to accommodate the Corps strength which will exist in June next. Temporary barracks of the cantonment order can be erected by the time needed, but in my opinion the situation that will exist next June may be better met by diminishing the space of barrack per man, that is, three instead of two cadets to a room. In the Report of the Board, above referred to, estimates have been made and submitted to Congress for the development of the Academy to accommodate 1200 cadets, upon the basis of space heretofore allowed each cadet. In this proposed development all the necessary buildings are described, located, and their importance dwelt upon; no reference is accordingly made to specific buildings except in the case of the cadet laundry and the cadet store and tailor shop.

The inadequacy of both these buildings to meet even present requirements with reasonable consideration for the workers has been frequently reported. The conditions in the former buildings (laundry) are such that the Government should have long ago taken remedial action; it is a positive wrong, verging on cruelty to subject employees to the conditions existing in that laundry in the summer. Estimates have been made and appropriations asked for several years for a laundry. An appropriation of \$100,000 was asked for the building as originally planned, and the last session of Congress appropriated \$75,000. Owing to the great increase in the cost of all building which has now come about, the building planned cannot be built for double the appropriation made. In my opinion prompt action should be taken at the earliest possible moment to improve temporarily the conditions in the laundry until the new permanent building is constructed. The cadet tailors' shop is likewise entirely inadequate and inflicts unnecessary hardship upon the employees. As the new building for this purpose, in the general approved plan is combined with other buildings it will not be secured until said plan is in large part carried out; the necessary improvements in this shop should not be longer deferred. The situation can probably be best met by a frame building in the immediate vicinity. Another feature of improvement which cannot await the general plan is increased toilet facilities at the cadet encampment, which are absolutely essential by the beginning of the next encampment.

### **Physical Training.**

The instruction in this Department was carried on during the year by Major Koehler and his assistants in the effective and satisfactory manner which has characterized this work for so many years. Major Koehler was placed on detached service on May 13, after which time Captain W. H. Wilbur was in charge of this work. This officer is admirably qualified for the work and did most excellent and laborious service in the physical training of the large 4th Class which fell into his hands on June 14. Captain Wilbur as a physical trainer is second only to Major Koehler himself, very zealous in his work and of great energy. In the absence of Major Koehler, Captain Wilbur's presence here is most valuable.

## Department of Tactics.

(From Colonel Henry's Report as Commandant of Cadets.)

One hundred and fifty cadets reported on June 15, 1916; one hundred and forty-six on July 10, and twenty-five on various dates between then and September 30. It is again recommended that every effort be made to have all new cadets report on the same date. This will permit the systematic military instruction of all at the same time. When this cannot be done the instruction of the new cadets as well as that of the upper classes is greatly interfered with.

The detailing for duty to assist in the instruction of new cadets of five officers who had just graduated was again carried out. This policy gives excellent results and should be continued.

Due to the increased number of cadets, the camp, the barracks, the mess hall, and the gymnasium were overcrowded. All of these should be enlarged.

Additional horses for cavalry and field artillery instruction are needed, also additional matériel for the latter. Additional men are needed in both the cavalry and field artillery detachments.

Some of the increases referred to have already been made, but more are needed because of the increased number of cadets.

A new primary station for the seacoast batteries is needed.

The general discipline of the corps has been satisfactory. Conditions regarding the handling and treatment of 4th Classmen by upper classmen are steadily improving.

The subject of Field Service Regulations was transferred from the Department of Civil and Military Engineering to the Department of Tactics and placed in the 2d Class course.

The 1st Class visited Fort Wright from August 20 to 27 for coast artillery practice with service charges. The results were not satisfactory due to foggy weather. This trip will be discontinued. Better results can be obtained by sub-calibre practice at West Point with the 6" guns and 12" mortars, supplemented by demonstration firing by regular batteries during the spring visit with the Department of Ordnance and Gunnery of the class to a seacoast fortification.

The regular annual practice march could not be held due to the Military Academy being quarantined against infantile paralysis. In place of this march short marches of two and three days' duration were substituted, camps being made on Government ground.

The general military instruction has been satisfactory—many changes have been made. These with a view to concentrating the instruction, spending more time in the field with the various arms, developing in the cadet better ability to command, the art of instructing others, and more individual initiative. Cadets have responded to these changes and many apply for voluntary instruction during the recreation hours. The general scheme is as follows:

## FOURTH CLASS.

*Infantry.*—Theoretical,—Infantry Drill Regulations.

Practical,—The duties of the Infantry soldier in the Schools of the Squad, and Company; Camping; Marches; Advance and Rear Guards; Outposts; Patrolling; Signaling; Bayonet Fighting; Preliminary Target Instruction, and Interior Guard Duty.

*Field Artillery.*—Theoretical,—Field Artillery Drill Regulations.

Practical,—Drill of the gun squad and gunners' instruction.

## THIRD CLASS.

*Infantry.*—A continuation of the 4th Class instruction to which is added: Duties of the Squad Leader. Rifle Practice; Instruction and Record Course; Small Arms Firing Manual.

*Field Artillery.*—Practice in Duties of the Cannoneer during field work and service practice. Gunner's examination. Driving Instruction.

*Coast Artillery.*—Theoretical,—Coast Artillery Drill Regulations.

Practical,—Duties of the Cannoneer at 6" gun and 12" mortar drill and sub-calibre practice with same.

*Cavalry.*—Theoretical,—Cavalry Drill Regulations.

Practical,—School of the Trooper. Packing, including for the more proficient work with the pack train in the field.

## SECOND CLASS.

*Infantry.*—The duties of the Squad and Platoon leader with practice in terrain, field and combat exercises.

*Field Artillery.*—Theoretical,—Field Artillery Drill Regulations.

Practical,—Duties of the Field Artillery Driver and practice in driving over varied ground; harness and draft; the use of battery instruments; and the duties of the battery detail.

*Coast Artillery.*—Theoretical,—Coast Artillery Drill Regulations.

Practical,—Duties in all positions in the Fire Control System and in all positions in the gun section ordinarily held by non-commissioned officers and rated enlisted men, both for 6" gun and 12" mortars.

*Cavalry.*—Equitation,—School of the Trooper, Squad, and Troop.

*General.*—Theoretical,—Parts 1 and 2 Field Service Regulations.

## FIRST CLASS.

*Infantry.*—Practical,—Practice in commanding platoons and companies in various ceremonies, close and extended order drill, marches, and problems in minor tactics. Tactical walks and map problems covering the above class of exercises; bombing, trench, and bayonet work.

*Field Artillery.*—Instruction in the use of the battery detail, selection and occupation of positions, the elements of fire, map problems, field work, and service practice. Cadets acting as observers, battery detail, and drivers.

*Coast Artillery.*—Practical,—Duties as Battery Commander, Range and Emplacement Officer both at drill and sub-calibre practice at 6" guns and 12" mortars. Assistant instructors for 2d and 3d Classmen in Range and Gun Sections.

*Cavalry.*—Theoretical and Practical Hippology.

Practical,—Equitation, School of the Trooper, Squad, and Troop. Practice in field service and exercises in minor tactics. Field Firing; Pistol Firing—covering the preliminary and record course; Small Arms Firing Manual.

*General.*—For all classes, 1st, 2d, 3d, and 4th: Military Calisthenics, gymnastics, fencing, boxing, wrestling, and swimming.

### Department of Civil and Military Engineering.

(From Captain Goethals' Report as Acting Professor of Civil and Military Engineering.)

The course in Civil Engineering began September 1, 1916, with a class membership of 139. The methods of instruction were precisely the same as in the preceding academic year.

The course was conducted by oral and written recitations and a written general review, and was completed on December 23, 1916.

The course in military engineering and the art of war was begun on January 2, 1917, with a class membership of 139, and was completed on April 14, 1917, in accordance with War Department decision to graduate the class April 20, 1917.

During the course, lectures, illustrated by lantern slides, were delivered on recent wars and sieges.

As soon as the War Department determined to graduate the succeeding class in August, 1917 (which would normally have graduated in June, 1918), it was decided to give this class a short course in the first class schedule. This class comprised at the time 153 men. The short course adopted was as follows:

The first 24 men according to standing in natural and experimental philosophy were given a short course in the mechanics of engineering, and military engineering, without review, beginning May 7, 1917. The remainder of the class were given a short course in military engineering, beginning May 21, 1917, with a written general review of each subject. These courses were in progress at the close of the fiscal year. Lectures were given as noted in Par. 6.

In carrying out the modified courses of instruction due to the early graduation of the 2d Class it was found desirable and practicable to detail many of the regular instructors of the department to other duty, and the instruction in the modified course was mainly given by officers detailed from other departments of instruction, all of whom rendered very satisfactory service.

## Department of Natural and Experimental Philosophy.

(From Captain Dunwoody's Report as Officer in Charge of the Department of Philosophy.)

The class of 1918 began the course in Philosophy Septmeber 1, 1916, with 153 members, all of whom successfully completed the entire course.

Seventeen men reached the necessary mark for distinction. This was a percentage of 11.1 per cent of the entire class.

The first and second sections of the 2d Class were turned over to the Department of Engineering on May 12, 1917, after it had been announced that the present 2d Class would graduate August 30, 1917. The remainder of the class took up Engineering on April 21, 1917.

The retirement of Colonel William B. Gordon was announced. Colonel Gordon served as Professor of Natural and Experimental Philosophy from March 27, 1901, to May 7, 1917.

## Department of Mathematics.

(From Colonel Echols' Report as Professor of Mathematics.)

*Instruction.*—The 4th Class course was in all respects the same as that of the previous year, alternating with surveying during the last 66 days of the academic year. The 4th Class was the largest in the history of the Academy having begun its studies in September with 325 members.

Examinations were held in December and June with the following results:

	Number in Class.	Deficient.	Turned back.	Discharged.
December . . . . .	308	48	0	48
June . . . . .	254	8	3	5

The 3d Class course was in all respects the same as that of the previous year, the prescribed course requiring recitations daily from September, 1916, to June, 1917.

Examinations were held in December, March, and June with the following results:

	Number in Class.	Deficient.	Turned back.	Discharged.
December . . . . .	147	3	1	2
March . . . . .	141	0	0	0
June . . . . .	140	0	0	0

The new academic year will begin in September with a 4th Class in Mathematics of about 370 cadets and a 3d Class of about 250. This will make about 620 students under the supervision of the department.

## Department of Chemistry, Mineralogy and Geology.

(From Colonel Robinson's Report as Professor of Chemistry, Mineralogy and Geology.)

Owing to existing conditions, instruction in the department was concluded on May 18, 1917, the entire class of 153 cadets having successfully completed the course.

The progress of the routine work of the department has been satisfactory with one exception. The adoption of the three-recitation period per instructor schedule has resulted in very material reduction in the length of the laboratory period—from about one hour and fifty minutes to one hour and twenty minutes—a time too short for the thorough performance of much of the valuable laboratory work given out in past years. I see no present remedy for this.

Modification of existing regulations so that an officer detailed as instructor in any academic department of the Academy should be allowed to complete the academic year upon which he had entered and should not be relieved during the course of such year would be greatly to the advantage of the Academy and of the individual instructor concerned.

### **Department of Drawing.**

(From Colonel Stuart's Report as Professor of Drawing.)

The only change of importance during the year in the 3d Class course has been the division of the class into two sections and the adoption of an advanced course for those most proficient in the subject. Instead of employing the extra time of the more rapid and competent draughtsmen of the class in extra work of the same nature as that being done by the remainder of the class, it was determined to allow them to proceed more rapidly with the regular course and thus allow the concentration of their extra time at the end of their course in mechanical drawing on more advanced work than had hitherto been undertaken. Under this decision, approximately one-half of the class took what amounted to about one full month's work of what has heretofore been done in the second class year. Further saving of approximately one month in 2d Class work will enable this portion of the class to undertake approximately two months of advanced work at the end of the course.

There is no doubt in my mind as to the advisability of continuing and extending this scheme of allowing the men to go as far as their ability will permit. Heretofore, those most proficient in the subject have been held back and denied instruction that they could assimilate without increased time. Whatever sacrifice there is of the competitive feature of the course is more than counterbalanced by the higher degree of instruction given to a large portion of the class.

Sufficient record has been kept in this department to show that previous instruction in drawing is closely identified with aptitude in the subject; in other words, the cadet who has had previous instruction in drawing has as a very general rule sought that instruction because of aptitude for the work. Likewise, absence of previous instruction is in general indicative, not of lack of opportunity for instruction, but of lack of desire for such instruction based on lack of aptitude. Under any circumstances the records of the department are sufficient to show that previous instruction almost invariably results in comparatively high standing in drawing, whereas, the lower third of the class in final standing in drawing has been made up almost entirely of cadets with no previous instruction. No method of competition will alter this condition. Therefore, those having had previous instruction and possessing aptitude should be given an advanced course, proper provision being made, of course, to take care of the

few cases of aptitude and no previous instruction by allowing an opportunity from time to time for transfers between advanced and regular courses when justified by the progress made.

I have arrived at the conclusion by observation of the department work that too much time has been spent in the past on technique and too little on representation. A cadet has gotten most of the value of a problem in representation when he has made up his mind what the full representation of the object requires in the way of views and details. From the time he thereafter spends in the formal execution of the drawing, he benefits in no respect except in technique, and even this benefit is small. This is true principally of work in second class year. The 3d Class work develops technique to something near a maximum point determined by the aptitude of the cadet. The formal execution of drawings in second class year is therefore of little benefit beyond the initial stage when the cadet is studying the problem of representation.

Tests were made this year and as a result I am convinced that a considerable advance can be made in the instruction by doing more work in representation, i. e., requiring the cadet to submit a formal statement accompanied by sketches showing exactly the views required to represent an object fully, and then to carry to completion only an occasional one of these drawings sufficient merely to prevent deterioration in technique. Tests of this character developed great interest on the part of the cadets.

Since the main object of the course is to develop men who can understand drawings rather than to train draftsmen, it is believed that the extension of the work along the lines indicated will make the work of the department of much greater value to the graduated cadet.

The instruction in topographic sketching has proceeded along lines similar to the previous work, but the work has shown better results due to improvements in methods and to the systematization of the work possible as experience is gained. The final stage of the work was completed in a few attendances of longer duration due to arrangements for early graduation of the 2d Class. The total time was not, however, shortened and the work was the best yet done.

Acknowledgment is due to the instructors of the department for their loyal support and faithful work. I am particularly indebted in this respect to Captain Westover and Lieut. Floyd.

### **Department of Modern Languages.**

(From Colonel Willcox's Report as Professor of Modern Languages.)

The department had under instruction during the year—

- 1st Class Spanish 139
- 2d Class Spanish 159 reduced to 154
- 3d Class French 147 reduced to 142
- 2d Class French 154 from May 19 to July 7, 1917.
- Total at end of year, 435.

On account of the entry of the United States into war, the instruction of the 2d Class in Spanish was dropped on May 19, 1917, and a course of instruction in French substituted therefor. The French instruction for this class consisted

of a special course designed to give the cadets concerned as much of a military vocabulary as possible in the time available. The course consisted of dictations in French and conversation.

Mr. Ramón Jaén, civilian instructor of Spanish, has accepted a chair in the language department of the University of California, and will therefore sever his connections with the Military Academy. Mr. Jaén, in addition to his regular duties, during the academic year conducted a class for officers on duty at this Post. It is a pleasure to testify to the satisfaction given by Mr. Jaén in his service to the department.

It is believed that a very fair proportion of the cadets under instruction have acquired, to a certain degree, the ability to converse in French and Spanish. No cadet would be helpless, if required to make his wants known, professional or personal, in either of the languages studied, and to understand average conversation. All have a working knowledge of the printed language, and most can express themselves, after a fashion, in writing.

The officers of the department have given faithful and efficient service during the year.

### **Department of Law.**

(From Captain Torrey's Report as Officer in Temporary Charge of the  
Department of Law.)

The report for the academic year 1916-1917 will naturally divide itself into two parts. This due to the fact of graduation of the class of 1917 on April 20, 1917, and the subsequent taking over by the 2d Class of the study of law on May 21, 1917.

The class of 1917 pursued the prescribed course in elementary, constitutional, and international law using the text books of previous years. The course was supplemented by lectures given by the Professor of Law and the instructors of the department, and in so far as the limited time available permitted the more important legal principles mentioned in the text books were emphasized by the study and discussion of leading cases. The course in international law was supplemented by the study of the Rules of Land Warfare.

The normal course in military law extending from January to June and including 32 recitation periods was necessarily abbreviated to 18 recitation periods. The text book used was the Manual for Courts-Martial, 1917.

An increasing effort was made by the department to instil into the minds of the class the value of the practical application of legal principles, to concrete facts and conditions as they may arise.

As a result of the necessary abbreviated course in military law it was found inexpedient to devote any time to lectures upon important common law subjects usually given toward the end of the academic year by lectures from law schools.

The course pursued by the 2d Class since taking up the subject of law on May 21, 1917, has been devoted entirely to the study of military law using the Manual for Courts-Martial, 1917, as a text book. In order to prepare the class for a better understanding on taking up the text book this course was preceded by a series of lectures given by the instructors of the department and based on the elementary principles of law in general.

## Department of Practical Military Engineering, Military Signaling and Telegraphy.

(From Colonel Markham's Report as Professor of Practical Military Engineering.)

The department is maintained for the outdoor instruction of cadets in the several classes of military engineering, including the execution of field fortifications and accessory works, the construction of standard and improvised types of floating and fixed bridges, the use of rigging and tackle, the making of military maps and sketches; a short though comprehensive course in surveying is pursued, followed by topographic survey of about two square miles of varied territory; military signaling is taught to the extent of qualification in the despatch and receipt of semaphore and wig-wag messages, and of demonstrations in all standard methods of electrical and luminous exchanges.

The general character of instruction has been similar to that of the preceding several years, adjusted however to accord with the advanced graduation of the class of 1917 on April 20, 1917, and the prospective graduation of the succeeding class on August 30.

The instruction of the several classes during the year may be summarized as follows:

*First Class.*—During the summer drill period one-third of the class attended daily from July 5 to August 10 for instruction in reconnaissance. The following programme was pursued:

1. Plane road traverse, 2 miles,
2. Filling in topography and details of plane traverse,
3. Position sketch,
4. Combined position sketch,
5. Road sketch, Garrison to Cold Spring,
6. Combined position sketch at Congers,
7. Mounted road sketch to Fort Montgomery,
8. Mounted road sketch to crossroads, then to redoubt No. 4,
9. Combined mounted road sketch.

*Second Class.*—This department has not ordinarily had the 2d Class for instruction. By reason of its advanced graduation on August 30, however, a comparatively short course was arranged for the present summer, beginning June 11. Incident to the continuation of academic duties till July 7, late afternoon time only is available. During the present month this time has been devoted to instruction in the use of rigging and tackle, the construction of standard and improvised military bridges, the lifting and manipulation of heavy weights, field fortifications and demolitions. During the month of July a course of reconnaissance and sketching will be pursued.

*Third Class.*—During the summer encampment of 1916 one-third of this class was instructed daily from 8:00 a. m. to noon in visual signaling, knots and lashings, use of tackle, rowing, ponton bridge building, the construction and operation of ferries, the value and use of improvised floats, for stream crossings. The last four attendances were devoted to a combined topographic and hydrographic survey.

*Fourth Class.*—From March 19 to the end of the academic year this class pursued a course in surveying, instruction alternating therein with mathematics. Twenty recitation periods were thus available for theoretical work, followed by thirteen 3 hour and 25-minute attendances devoted to a series of practical exercises.

With the advent of larger classes surveying equipment is seriously inadequate. For the past two seasons it has been possible fortunately to supplement the department's stock by the loan, through the courtesy of the Chief of Engineers, of instruments from the Depot at Washington Barracks and from various Engineer Districts throughout the country. It cannot be assumed, however, that such an arrangement will continue to be possible. It is, therefore, vitally necessary that increased appropriation be secured, sufficient to provide and maintain equipment in accord with the increased size of the classes to be instructed.

The 4th Class was instructed by thirds in wig-wag semaphore signaling at afternoon drills from 4 to 5 p. m.

*General.*—Since 1903 this department has been maintained under an annual appropriation of \$2000. For a number of years this sum has been wholly inadequate to supply sufficient equipment and reasonable stock to meet efficiently the needs of cadet and detachment instruction and maintenance. Many desirable activities have thus necessarily been provided for by makeshift materials and under makeshift methods. The legislation of 1916 will practically double the cadet corps with the result of an increase in all classes of maintenance charges.

The desirability is recognized of taking the cadet classes for practical instruction in surveying and reconnaissance during the summer to a more favorable area than is afforded in this vicinity. Such an area exists between here and Newburgh. Notwithstanding, however, the increased efficiencies involved, the proposition has not been practicable by reason of the lack of transportation funds.

In the attempted maintenance of trade schools for the engineer detachment during the long winter months, the most meagre results have been obtained due largely to insufficient funds whereby to provide tools and stock. In addition to the items of maintenance just referred to, much permanent equipment is urgently required, especially to provide for the larger 4th Classes in surveying, which will have increased from 142 in 1915 to 357 during the coming year. For the next three years \$6000 per year should be available for this department, and about \$4500 per year thereafter.

*Signal Equipment.*—The Signal Corps is prompt and generous in honoring all requisitions for signal property pertaining to cadet instruction, which is accordingly maintained at a very satisfactory standard.

*The U. S. M. A. Detachment of Engineers.*—This organization is authorized under the Professor of Practical Military Engineering, primarily for assistance in the instruction of the cadet corps, for the collection and maintenance of equipment and materials relating to cadet drills, and for the complete or partial fabrication of structures for demonstrations. To the completion of the latter,

if time is available, cadets are assigned. In addition it performs the usual duties of guard and police and receives practically the same instruction as obtains in other engineer organizations of the Army.

The authorized strength of the detachment is 100 men. The average during the year has been 95.5 men.

A considerable fraction, perhaps one-tenth to one-eighth, of the recruits assigned to the organization are unsuitable for its peculiar purposes. The detachment's primary functions pertain to assistance in the instruction of cadets, contact with whom during the several drill seasons is daily and intimate. Obviously, therefore, its personnel should be of the highest obtainable type, sober, resourceful, upstanding, self respecting, and of as much better than average intelligence as can be provided. Such a fraction of recruits as suggested, are lacking in some or all of the requirements outlined, and accordingly to a greater or less extent, are dead wood for the especial functions involved. Many are average and suitable material for the general service wherein they would be perfectly capable of rendering reasonable return for their pay and emoluments. A correction of this situation has been and will continue to be attempted by special letters of request to the recruiting service.

Reference has been made in previous annual reports, and frequently in the reports of inspecting officers, to the inadequacy of the detachment barracks. The structure was built in 1858 for the accommodation of 50 men. It can accommodate, under wholly unsatisfactory and unsanitary arrangements however, about 70 men. In step with the increase of the cadet corps the personnel of the detachment must necessarily be augmented. It is accordingly again emphasized that suitable modern barrack provision should be made for about 130 men, preferably by the construction of a new building, since it is doubtful that the existing structure can be satisfactorily or economically enlarged.

The detachment's gymnasium and assembly room has been well patronized throughout the year for gymnastic exercise as well as for dances, moving picture exhibitions, etc., which, during the winter season, were arranged by the detachment's amusement committee.

The enlisted men's club, sustained largely by the enthusiasm and interest of the Post Chaplain, assisted by Corporal Williams of the detachment, has been of the greatest value throughout the year. The two rooms heretofore available have been much improved by the installation of compo board ceiling, repainting and general renovation. In addition, the Chaplain has made available funds for the construction of a kitchen which is about completed, and of a porch which will be undertaken during the summer. It is hoped that a third room can be provided during the coming year.

The detachment's discipline and instruction have been quite satisfactory since last annual report. Eight desertions are recorded, probably accounted for somewhat by the war spirit of the times, and the desire for service in Europe, as well as the usual causes of temperament, personal troubles, insobriety, etc.

*Improvement to Roads and Grounds.*—Work was prosecuted during the year under an appropriation of \$3000 in general accord with the original suggestions of the landscape architects, Olmsted Brothers.

During the year the trail west of the State highway near the cross-roads was completed. Those leading from the Cornwall road toward Crow's Nest were

advanced an aggregate of 4850 feet. That on the south slope of the mountain has been constructed practically to the crowning plateau. The remaining distance to actual crest, perhaps 2000 feet, can be made fairly practicable for mounted travel with some incidental clearing. Construction of the trail on the north slope was suspended about 4000 feet from crest, and cannot be further prosecuted until appropriations for the work are resumed.

During the year the trails generally have had attention to the extent of the removal of loose and projecting stones, the repair and improvement of water breaks, the clearing of drainage ditches, and the restoration of side walls and culverts.

It is unfortunate that the recent appropriation bill for the support of the Military Academy fails to provide funds for continuing this improvement of roads and trails. The work thus far accomplished has proven to be of great value in affording access throughout the forested portions of the reservation, in facilitation of timber removal, fire fighting, etc. In addition, most attractive riding circuits are provided, giving desirable impetus to horse-back exercise, and tramping, of peculiar value to the many officers here engaged upon confining academic duty.

*Water Supply.*—The supply system has operated uninterruptedly throughout the year and with a minimum of trouble. The pipe line from Queensboro and Popolopen brooks developed one leak of moment, the location of which was difficult of determination during the season of melting snow. It has since been located and repaired.

The single important consideration at this time regarding the water system is the condition of the side hill retaining walls supporting the pipe line through Popolopen valley. Many sections of these walls have slipped, or have been thrown by frost during the past two winters, and although the pipe itself is yet unaffected, it is but a matter of time till the remaining support will be insufficient to prevent a side hill slip. Such an event would be certain to destroy the line for something in excess of the length of the slip, and bring into question a serious interruption of service as well as expensive repair. The matter will be further referred to in the annual estimates.

Water has been drawn from Queensboro Brook throughout the year, except for 93 days, during which Popolopen was called upon to supply the Queensboro deficiency. Supply exceeded consumption during the year save for 9 days.

By constant inspection, sanitary conditions over the watershed have been maintained satisfactorily with the result that the monthly examinations by the Post Surgeon of both raw and filtered water, have disclosed nothing of an objectionable or suspicious nature.

Consumption continues to be extravagant though less than during prior years. The available margin is large, however, and further reduction should readily be possible in case of need.

Consideration is being given to the practicability of arranging for the use of raw in place of filtered water for several of the Post's activities.

The maximum recorded daily consumption was 1,660,000 gallons and the minimum 826,000 gallons. The average has been 1,055,244 gallons. The total for the year was 385,154,000 gallons.

The department is greatly in need of better transportation facilities for inspection service and for the more prompt and economical dispatch of laborers and tools for repair along the pipe line. By road, the intake from Queensboro and Popolopen brooks are about eight miles from the Post. In the leaf season they must be inspected and cleaned frequently. In case of leaks or other defects anywhere on the pipe line, laborers, tools, and supplies must be transported to and from the work with the result of an expensive loss of time. These matters are now provided for by the assignment of a horse and buggy, supplemented by team hire where necessary. To improve these conditions authority and funds will be requested in the annual estimates to cover the purchase and maintenance of a light automobile truck of the Ford type.

### **Department of Ordnance and Gunnery.**

(From Colonel Tschappat's Report as Professor of Ordnance and Science of Gunnery.)

The course in Ordnance and Gunnery for the class of 1917 was abridged somewhat by the graduation of this class on April 20, 1917, instead of on the usual date. The early graduation necessitated the omission of the usual visits to the Sandy Hook Proving Ground and to Watervliet Arsenal. The usual written general review for the second term work was also omitted. Aside from these changes the course for this year included more chapters of a new text book which is being prepared than have hitherto been used.

An abbreviated course in Ordnance and Gunnery for the class to graduate August 30, 1917, was commenced on May 21, 1917. It is to be continued until July 7, 1917, and is a descriptive course in ordnance material. It was decided that the time available for this course was too short to permit of taking up the study of both the theory and the actual construction of ordnance material, and it was considered that the study of the actual construction would be of greater immediate value. Incidentally it is believed that through instruction in the section room the cadets taking this course have obtained a fair idea of the principles underlying ordnance construction.

**Ordnance Material.**—The armament of the Post has been kept in good repair during the year. Changes and alterations ordered by the War Department have been incorporated in the field and seacoast artillery at the Post.

**Ordnance Laboratory.**—This group of buildings comprises the ordnance barracks, machine, carpenter, and blacksmith shops, storehouses, etc. All those have been kept in good repair during the year.

**Ordnance Detachment.**—The work of this detachment consists principally in receiving and issuing ammunition for target practice; caring for seacoast armament at the Post; repairing, altering and handling target material for cadet target practice; furnishing the enlisted personnel required in the museum; furnishing assistance in instruction of cadets in shop work, and keeping in good order the grounds and buildings pertaining to the ordnance laboratory. This work has been satisfactorily performed during the year.

### Ordnance Museum.

In the Ordnance Museum the repair work on the foreign flags among our trophies has continued and it is thought will permanently preserve them. On a number of these, the work is complete as well as upon a much larger number of our own colors used prior to the Civil War.

A dozen gifts of various articles, some of considerable interest, have been received by the Museum.

### Department of Military Hygiene.

(From Colonel Shaw's Report as Professor of Military Hygiene.)

The course in Military Hygiene was conducted along the same general lines as during the preceding year.

The recitations followed the prescribed text book, Keefer's "Military Hygiene," with the exception of the subject of transmissible diseases for which a syllabus prepared by the head of the department was submitted.

Practical demonstration of field sanitary appliances was made a part of the regular course as well as practical instruction in first aid work, following the precedent of the previous year.

Instruction in field sanitation, particularly with reference to the sterilization of water and the methods of disposal of excreta, garbage, manure and other waste, was for the first time made a part of the authorized work in the summer camps.

In closing this report, my third and last, on the Department of Military Hygiene, I wish to invite attention to the paramount importance of a course in this subject which shall be thorough-going and complete.

The health of troops has always been a matter of vital importance in deciding the success or failure of a campaign. Formerly, military authorities paid but scant attention to health matters; but now that preventive medicine has advanced almost to the rank of an exact science, and the causes and means of prevention of most transmissible diseases are matters about which we have precise knowledge, commanding officers are charged with the responsibility for any unusual amount of disability among their men, due to preventable causes.

The maintenance of the health of troops is simply a question of the intelligent application of the principles of preventive medicine, and in the field it resolves itself into a matter of personal hygiene and sanitation; and in order that a commander may fulfill his entire duty with reference to his men, he must have a practical working knowledge of the fundamental principles of these subjects, if he expects to cooperate successfully with his sanitary adviser.

The course in Military Hygiene at the Academy is in my opinion entirely inadequate to give its graduates this knowledge. It now consists of nineteen hours of instruction, thirteen for recitation and six for demonstration, given

to the 3d Class. I recommend that the course be given to the 1st Class and that it cover a period of 60 hours of theoretical instruction and 12 hours of practical instruction in camp, as follows:

(a) Personal hygiene, 12 hours. This subject should be taught in such a way as to give the student a working knowledge of the human machine and practical ideas as to its care. It should include a study of elementary anatomy and physiology; of housing and ventilation; of outdoor living and sleeping; of clothing; of food, its uses and abuses, and its relation to health and disease; of the effects of alcohol and tobacco; of exercise in relation to health and physical development; of sleep and rest, work and recreation; of habit formation and of the mental life in relation to the physical.

(a) Diseases of the soldier, 12 hours. The line officer should have a practical knowledge of the causes and methods of transmission of the more common diseases, and a sufficient understanding of the symptoms and methods of prevention to enable him to cooperate with the medical officer.

(c) Sanitation, 12 hours. Field sanitation should include theoretical instruction in regard to camps; tents and their care; water supply and purification; latrines; disposal of wastes; the hygiene of marching troops; battle field hygiene and the evacuation of the wounded. Garrison sanitation should include a study of barracks construction; of ventilation, heating and lighting; of water supply and purification; of sewerage and plumbing, and of the disposal of wastes.

(d) First aid, 12 hours. The instruction in this subject should include a consideration of wound infection and healing and of emergency treatment; of haemorrhage, methods of control and treatment; of fractures and dislocations and emergency treatment; and of the treatment of emergencies in general such as drowning, heat stroke, heat exhaustion, frost bite, burns and scalds, etc.

(e) Review, 12 hours.

(f) Practical field sanitation, 12 hours. This instruction should be given in camp and should include a study of the sanitary considerations in the establishment of camps, demonstration of the methods of making sanitary inspections, of the methods of sterilizing water, of the construction and operation of latrines and incinerators and of the methods of the disposal of wastes.

### **Department of English and History.**

(From Colonel Holt's Report as Professor of English and History.)

The cadets of the 4th Class numbered 320 at the beginning of the academic work September 1, 1916. For their instruction in English and History, this department was allotted 11 instructors, and was required by a revised schedule to have each instructor teach three sections a day.

The methods adopted in previous years have been continued in the teaching so far as was practicable under the changed conditions. It was found impossible to require from the cadets as much written work in English as formerly, because of the increased burden of work placed upon individual instructors. It was found impossible in English, also, to have the same measure of individual criticism of the cadet's written work.

**English.**—The department continued to emphasize composition work during the fall term and the study of literature during the spring term. In the composition work, stress was laid upon simplicity, conciseness, and directness of expression. Written exercises were frequently required, and the papers, after being corrected, returned to the cadets for their information. In the study of literature, the attempt was made to acquaint the cadet with models of the various classes of literature and to stimulate his interest in good reading.

During the Written General Review periods, the men at the top of the class were given a special course, using Lamb's Essays of Elia as a text book at the end of the fall course, and selected dramas at the end of the spring course.

**History.**—The work in History showed less the effect of the revision of the schedule than did the work in English, because written work and careful individual conferences between cadet and instructor are not so necessary in History as in English. By adopting a system of short written recitations followed by a class "quiz" the material in the lessons was covered satisfactorily.

During the written General Review periods, the men at the top of the class were given special work. During the fall term, they studied the Campaigns of Napoleon; during the spring term, they studied the European conditions and diplomacy leading up to the present war.

**Lectures.**—As in previous years, an important feature of the work has been the lectures delivered by men from other institutions in connection with the course. Among those who lectured were: Professors Adams, Keller, Mims, of Yale; Mr. A. K. Dawson, Mr. F. L. Simonds.

### Children's School.

(From Captain Pullen's Report as Officer in Charge of School.)

The organization of the school was as follows:

	Grade	Number of pupils
Mr. Edgar P. Paulson . . . . .	8	16
Miss M. R. Noonan, teacher . . . . .	7	14
Miss M. R. Noonan, teacher . . . . .	6	24
Miss H. Schopper, teacher . . . . .	5	19
Miss A. Driscoll, teacher . . . . .	4	19
Miss A. Driscoll, teacher . . . . .	3	16
Miss A. O'Connor, teacher . . . . .	2	24
Miss A. O'Connor, teacher . . . . .	1	18
Total . . . . .		150

Number of boys registered, 78.

Number of girls registered, 72.

The resignation of Mr. Edgar P. Paulson, principal, has been accepted to take effect July 1, 1917, and Mr. Earl E. Graves, who has been principal of the graded school at Kerhonkson, New York, has been appointed principal. Mr. Earl E. Graves comes with the highest recommendations and it is believed that he is fully competent to take charge of the school. The remaining teachers were satisfactory and have been engaged for the year 1917-18.

The lack of room and the inadequate facilities of the present school building have been made the subject of previous report, and while immediate changes are not recommended it should be kept in mind that the present school building is not satisfactory and that when the opportunity arises provision should be made for a new school building.

Sixteen 8th grade pupils of the West Point Children's School took the State Regents' Examination in June, and all passed with the average mark of 93-1/5 per cent.

It is recommended that the officer in charge of the children's school be a married officer with children attending the school.

The appropriation of \$4320 for the maintenance of the school was expended as follows:

Pay of principal.....	\$1280.00
Pay of four grade teachers.....	2350.00
Pay of janitor of Chapel.....	100.00
Purchase of books and supplies.....	588.84
Balance on hand.....	1.16
Total.....	<u>\$4320.00</u>

### The Chaplain.

The labors and duties which the Chaplain of the Military Academy can undertake are very numerous, varied, and important but their inception and execution depend almost entirely upon his own initiative and determination. He often works under discouraging limitations that require an exceptional personality to overcome. The present occupant of the place has the most catholic conception of the duties of his position, and it is difficult to see how he could have made better use of the opportunities which have presented themselves. He is serving the Academy and the Post at a material sacrifice because of the satisfaction he finds in good work. I fully concur in the statement of General Townsley's report of last year that the Chaplain's salary is entirely inadequate to the importance of the position, and not commensurate with the work done and benefit conferred; it should be increased by at least one-half.

I invite especial attention to the brief statement which follows of Chaplain Silver's work during the past year, prepared at my request, and which is but a continuation, development, and repetition of the work along similar lines in previous years.

(From Chaplain Silver's Report.)

In compliance with instructions from your office, I beg herewith to submit a brief statement regarding my work, as Chaplain, U. S. Military Academy, covering the year ending June 30, 1917.

*Religious Services.*—

Number of Public Services . . . . .	278
Baptisms . . . . .	20
Weddings . . . . .	5
Funerals . . . . .	14

Services were regularly held in both the Cadet and the Old Chapel.

*Sunday School* for the children of the Post, was conducted in the basement of the Cadet Chapel. The officers and teachers of the school were drawn from the members of the Corps (save that for the infant class which was in charge of the wife of one of the officers of the Post). Nearly all the cadets at work in the school were members of the Academy football team. These men rendered faithful and efficient service.

*The Miss Warner Bible Class* (named in honor of Miss Anna B. Warner) was conducted by the Chaplain. The class met Sunday afternoons, and when weather conditions permitted, assembled in the old Warner House on Constitution Island; and at other times met at the Chaplain's quarters. Sometimes as many as 50 cadets attended.

*The Cadet Y. M. C. A.*—On invitation of the cadets I have from time to time cooperated with them in the splendid work this organization is doing for the uplift of the life of the men of the Corps.

*Cadet Bible Study Classes.*—This work is carried on under the direction of one of the Committees of the Cadet Y. M. C. A. The course of study covers a period of fifteen weeks, and about 200 members of the Corps voluntarily elect to join the classes. The Chaplain and several of the officers of the Post meet with and go over the lessons with the group leaders (cadets), and these men in turn meet with and instruct the members of their several groups.

*Memorial Windows in the Cadet Chapel.*—During the year, windows, received as memorials from the following classes were publicly dedicated: The Classes of '77, '79, '85, '91.

*The Chapel Organ.*—Several Memorial Stops were placed in the organ. We are indeed fortunate in having the services of Mr. Frederick C. Mayer as organist, under whose direction the music of the Chapel Services has become a great power for good in the life of the cadets, and all who worship at the Chapel.

*Cadet Chapel Choir.*—The Choir, numbering 105 members (all cadets) has, under the masterly direction of Mr. Mayer, rendered exceptional service. Graduates of former years will recognize that some remarkable change must have taken place in the status of the Choir when it is stated that cadets are not only willing, but anxious, and feel honored, to serve as a member of the Choir. This change in the attitude of the cadets is due to the splendid and devoted work of our organist, Mr. Mayer.

*Chimes.*—During the year I secured from Mrs. James M. Lawton of New York City (daughter of the late General Robert Anderson) the promise to place in the tower of the Cadet Chapel a Chime of Bells, as a memorial to her father. A contract was let to the Meneely Bell Company of Troy, New York, who have agreed to place in the tower of the Cadet Chapel one of the best sets of chimes ever made in this country. The contract calls for a chime to cost \$15,000, and all the expense is to be borne by Mrs. Lawton.

My work is not, as some imagine, confined to holding formal religious services, but is on a wider and higher plane, and consists in nothing else than to demonstrate that Christianity is the practical thing, vital and applicable to every day life; and intended to clearly interpret, in the language of action, the life of the Master to the Children of Earth, by reaching out into every corner of life to brighten, cheer, comfort, instruct, strengthen; ministering to the sick and needy, and, at the same time, rejoicing with them that do rejoice.

*Work Among the Soldiers.*—The Enlisted Men's Club, which I organized in a very humble way, nearly three and a half years ago, has grown and developed into a real force for good. From being a constant drain upon such funds as I could gather, it has become a self-supporting institution—so far as its running expenses are concerned.

During the past year I have expended (from funds given me for that purpose) more than \$500 in such improvements as the following: Building an additional room to serve as a kitchen; building a porch in front of the club rooms; improving the bowling alleys (\$300); placing compo-board ceilings in the lunch and billiard rooms, equipping the kitchen. We endeavor to make this club so attractive that soldiers will not feel the need of seeking their enjoyment in the more or less questionable places in the nearby villages.

There are no dues. Billiards, bowling, and the use of the Club Library and reading room are free to all members, the present enrollment numbering about 400. We operate a lunch room, and aim to place everything sold within the reach of members without thought of making any profits other than are necessary to meet actual running expenses. Our income during the past year was \$6300.35, yet we closed the year with a balance in the treasury of about \$100. All profits are given back to the club members in the form of improvements which add to their comfort. I believe this club has proven to be worth all the energy spent upon it, and is more than a worth-while factor in the life of the enlisted men. The club finances a free weekly dance, as also free moving picture entertainments, weekly, and the pictures shown are of a very high type. We constructed bath houses on the banks of the river, for the use of the soldiers and their families. The commanding officer of the Detachment of Engineers has served as President, and I have acted as Treasurer and general overseer.

*The Children's Playground.*—One of the activities demanding a great deal of my time and attention has been the Children's Playground which ministers to the 300 children of the Post, as well as to the grown up people. We have done everything in our power to make its work effective for good. This playground, which we started a couple of years ago, and which then consisted of only a few swings and a sea-saw, is now one of the best in the country, being equipped with the very best playground paraphernalia including slides, merry-go-rounds,

giant strides, basketball court, baseball ground, swimming pool, bath houses, wading pool, and all sorts of devices for the entertainment of children. This has all been made possible through the generous interest of friends who were able to contribute large sums of money for the purpose. This year we began the construction of a building (60 x 90 ft., completed in September, 1917) at a cost of \$4,000. There is a large hall, for general meetings and dances, and, at one end, two rooms for the girl scouts. These rooms are to serve as a workshop where the girls are to be taught domestic science, including instruction in cooking and general housework.

During six months of the year I employed the services of two playground directors. During the past year I have had a man, a graduate of the Springfield College, who has had charge of the boys' work, teaching them swimming, baseball, etc., and an experienced woman to handle the girls' work and play, and direct all courses of instruction. I employ, all the year round, a civilian to keep the grounds and buildings in order. I secured, during the year, a gift of \$2,500 for the construction of a building for the Boy Scouts. This structure will be erected as soon as the price of the building materials and labor are such that it will be possible to carry out our plans.

During the year we have, without any financial aid from the government, constructed the building referred to, and have also enlarged the swimming pool (cost \$300); completed the baseball diamond (cost \$250); added new playground material; paid the salaries of the two playground directors and the keeper of the grounds, as well as meeting all other expenses for carrying out a programme of numerous activities. For these purposes, during the year, I collected from friends more than \$8,000.

*Camp for Boys and Girls.*—During the summer we had a camp for the Boy Scouts at Long Pond, and following that a camp for the Girl Scouts. It fell to my lot and was my privilege to direct and finance these helpful enterprises.

*Motor Boat.*—Money was given me to purchase a motor boat with a carrying capacity of 12 persons. I employed an experienced and licensed boatman, and operated this boat all summer, running daily excursions on the river. Everyone on the Post was free to request the use of the boat at no expense to themselves, for the purpose of going off for a trip on the river. They could go either in the morning, afternoon, or the evening. Our stipulation was that parties should consist of at least eight, and not more than twelve persons. During the hot days of the summer this boat offered to many, unable to go off for vacations, an opportunity for rest, relaxation, and enjoyment. It proved well worth the all that it cost, and was a very helpful agency as it served many in a wholesome manner.

*Excursions.*—I chartered the S. S. Commander on two occasions at the rate of \$100 a trip, taking at one time the Cadet Chapel Choir on an excursion to Kingston, where we were met by Mr. Winston in charge of the construction of the Ashokan Dam, who with a party of gentlemen and a train of twelve automobiles, took our party to see the wonderful construction of this reservoir system—the drive around the property covering a distance of sixty miles. The second excursion was for the officers' families of the Post. I had arranged to take the families of the soldiers, but the Government took over the boat from its owners and that excursion was necessarily called off.

*Stringed Orchestra.*—I purchased stringed instruments (\$300) and organized an orchestra among the soldiers of the Cavalry Detachment. These men have been faithful in practicing and have been rendering good service.

We have Boy Scouts, Girl Scouts, a Girls' Friendship Club, and a Club of Women, the wives of soldiers. In their various fields of operation all these organizations have accomplished much both for their members, and for others whom they bent their energies to serve.

*Hospital Fund.*—I have started a hospital fund, at present amounting to only \$300 which is used to assist soldiers who find it necessary to send members of their families to hospitals for treatment. There are no facilities here for caring for the families of soldiers needing such care. In my judgment this is one of the crying needs of this Post, and especially so when one considers the number of women and children here.

*Visiting Nurse.*—I entered into an agreement with the Welfare League of Highland Falls, N. Y., of which I am a member, whereby the people, both of the village and of this Post might have the advantage of the services of a visiting nurse. We urged the employment of such a nurse, and agreed to pay the first month's salary, which we considered it a privilege to do, and have since then, from time to time, made such payments as were found necessary to complete the payment of the nurse's salary. The introduction of a visiting nurse in this vicinity has been a great blessing to many.

*Charity Work.*—We cooperate with the people of Highland Falls in local charity work, and with gifts of clothing, food, and money, have assisted many in need.

*War Relief Work.*—It was a most pleasant duty to have a share in organizing the ladies of this Post for war work, and to secure the funds necessary to finance such work. The great amount and the splendid character of the work done reflects great credit upon those consecrated women whose labor of love is a real offering at the Nation's Altar.

*Children's Christmas Tree.*—One of the great events of the year, at least for the little ones, is the Christmas Tree Service. We have a wonderfully beautiful tree in the Cadet Chapel, before which the children gather, to the number of about 300, and sing their Christmas Carols. Then "Santa Claus" appears with a gift for each.

Our efforts have not been devoted solely upon the work to be done here, but we have generously contributed to many outside charities, and have responded to many appeals for help from our own and distant lands.

Personally, I have gone to deliver addresses to a number of schools and colleges, and to meetings of Conventions and Associations of Men, to a number of public gatherings, in many towns in this part of the country, in an effort to do something to arouse our people in these days of the Nation's need.

With many doors of opportunity standing wide open, and with many people to serve, it has been a joy and a pleasure to be permitted to minister in this place.

Grateful to those in authority, who have been most helpful, and grateful to the many friends who have given generously of their thought, their interest, their money, we have been able to accomplish at least something.

### Chapel Organist and Choirmaster.

The organist and choirmaster has continued his zealous and efficient work not only in the performance of his official duties, but also in encouraging and securing sympathetic and material interest in the enlargement and development of the organ; he also has on frequent occasions favored the Post with organ recitals which are greatly enjoyed by visitors, the officers of the Post and their families, as well as by the cadets. His musical programs educate, as well as afford pleasure and are frequently offered when out-of-door sports are prohibited by climatic conditions, and are thus more highly appreciated and warmly welcomed by cadets.

The following extract is taken from the Annual Report of the Superintendent for 1916, which is fully endorsed by me:

"The present incumbent, Mr. Frederick C. Mayer, is a musician and an organist of rare ability and besides has a temperament and individuality that appeal most strongly and favorably to cadets. It is because of these attainments and qualities that he is able to maintain a voluntary choir of ninety cadets for chapel services and train them in music to a degree that has made this feature a pride and a delight to all who attend the cadet chapel services at West Point."

He and his work deserve the fullest encouragement and all practicable assistance.

### The Adjutant's Office.

(From Major Carter's Report as Adjutant, U. S. M. A.)

The undersigned has continued since July 1, 1916, as Adjutant U. S. Military Academy, Secretary of the Academic Board and in command of the U. S. M. A. Band and Detachment of Field Musicians.

*Headquarters Force.*—The organization of the Headquarters force has not changed during the past fiscal year except that two of the classified Civil Service employees have left the office to obtain better positions elsewhere—one in the office of the Quartermaster, and the other to private employment.

The work on the cadet records which are being accurately recorded on index cards has continued during the year, and at present there are about 5685 cards completed and filed and 680 rough copies of blank additional cards have been completed. This work was undertaken by the Chief of the Disciplinary Division, assisted by an extra duty detail, during the past fiscal year. When once completed it can easily be kept up to date and it is estimated will result in a considerable saving of labor and time in answering inquiries with respect to ex-cadets.

The additional member of the Army Service Detachment who was placed in the Bindery Division of the Printing Office during the past fiscal year has continued in this capacity during the current year. Through his assistance the bindery division has been able to perform for the Library practically all the binding required by it and at a cost of approximately one-fourth what the work would have cost had it been done elsewhere. This has, therefore, proved to be an advantageous change and is one which it is believed will be continued.

Under legislation enacted during the current fiscal year the headquarters clerks have received graded increases in their pay amounting to approximately ten per cent, and an effort should be made to have this increase made permanent. In event this cannot be done and the law is not effective during the next fiscal year it is urgently recommended that a special item be entered in the Military Academy Estimates by which the increases for all headquarters employees will be approximately that provided for under this law. In addition to this the pay of the Chief Clerk should be the same as that of chief clerks at departmental headquarters, and it is further recommended that such an item be entered in the estimates for the next fiscal year.

The increase in the Corps of Cadets over what it was at the time the present office force was organized has thrown a considerable amount of additional work upon all the headquarters clerks. This has often required longer hours and in many instances work without regard to hours. The introduction of labor saving devices has operated to help out in some instances, but when the Corps is further increased to approximately 1200 cadets it will be necessary either to increase the force or else to omit many of the important records which are now being kept. This applies particularly to the cadet records. The office force as now organized was considered ample and proper for a corps of approximately 600 cadets. The extension of the law to include candidates from the National Guard and the Regular Army has considerably increased the work of the office as has also the extension of the certificate privilege. Introduction of the War Department Correspondence File, Decimal Classification and Vertical File System, has simplified the filing of papers, but there is at present no indication of a decrease in the amount of work involved in the filing and record division. It is probable that after the clerks in this division have become more familiar with this system that there will be a considerable saving of time, although at present much additional time is often required in finding current records which are called for.

The office force, individually and collectively, has rendered most efficient and loyal service. Little time has been lost through illness and authorized leaves of absence have been given so as to create a minimum interference with office work. Work of all departments in the office has been satisfactorily performed during the current year and the work has been kept up to date.

*U. S. Military Academy Band.*—The recommendations contained in my last two reports with respect to an increase in the Band have resulted in no increase. It has been recommended each year that the following increase be made:

- Three 1st Class musicians at \$45 each per month,
- Three 2d Class musicians at \$36 each per month,
- Four 3d Class musicians at \$30 each per month.

There has been no increase in the personnel of the Band for seventeen years at which time the strength of the Corps of Cadets was only a little more than half of what it is now. The increase asked for above will add materially to the efficiency of the Band. These increases will permit the addition of a number of brass instruments, thus increasing the volume of music furnished for the increased size of the Corps. This seems to be the only solution for obtaining a proper volume of music for formations where the entire Corps is present.

*The U. S. M. A. Detachment of Field Musicians.*—The Field Music consists of 1 sergeant, 2 corporals and 22 privates, an increase of one corporal over the organization at this time last year. The proportion of non-commissioned officers to privates is still entirely too small for proper military administration and does not admit of a reasonable opportunity for advancement in the Field Music. The organization of the Field Music should be changed to agree approximately with line organizations and should be as follows:

2 Sergeants,	12 Privates, 1st class,
2 Corporals,	16 Privates.

The amount of work thrown on this detachment increases almost in direct ratio with the increase in the Corps of Cadets. The organization indicated above means an increase of one sergeant and six privates beyond what the present organization provides, and involves the classification of 1st class privates and privates. It is thought that this increase will provide sufficient men until such time as the Corps reaches the strength of 1000 cadets.

The U. S. M. A. Band and Detachment of Field Musicians are now and have been for many years under the direct command of the Adjutant of the Military Academy. In 1915 and 1916 it was recommended that the command of this detachment be turned over to the Commandant of Cadets for reasons stated in last year's report; conditions now remain the same as they were last year, and the necessities for this transfer are the same as then. It is again recommended that this transfer be made.

### Quartermaster's Department.

(From Colonel Timberlake's Report as Quartermaster.)

Report of the operations of the Quartermaster Corps, Quartermaster and Disbursing Officer, United States Military Academy, in charge of construction, and Treasurer Special Contingent Fund, for the period July 1, 1916, to June 30, 1917.

*Quartermaster Corps.*—The general duties of the Quartermaster Corps continued the same as in previous reports. The Quartermaster Corps Detachment consists of twenty enlisted men and one sergeant, Quartermaster Reserve Corps. The position of one civilian clerk, Quartermaster Corps, was vacated by transfer to the permanent establishment, U. S. Military Academy, and filled by detail of a sergeant, Quartermaster Corps. One civilian clerk, Quartermaster Corps, was transferred to the Southern Department and his position was filled by the sergeant, Quartermaster Reserve Corps. The detachment should be increased by one Sergeant Foragemaster. The amount of forage received at this post is very large, and the facilities for storage are not of the best and to keep track of the receipts and issues a good noncommissioned officer is necessary.

*Army Service Detachment.*—Since last report, the authorized strength of the Army Service Detachment has been increased by forty-three men. The number of noncommissioned officers in the detachment was considerably increased. On account of the labor conditions, it being almost impossible to get competent labor, a further increase of approximately twenty men would practically make the Post independent of outside labor. This increase is recommended.

*Civilian Employees.*—There has been a general increase in the wages paid to civilian mechanics and laborers to correspond with prevailing wages outside.

*Transportation.*—The work of hauling fuel, forage, freight, road repair, grading, police, etc., has increased considerably during the year and has made great demands on the transportation at the Post. The Quartermaster General has increased the transportation by two 3-ton freight trucks and two 1½-ton trucks. The Quartermaster General has also furnished one Maxwell touring car for use of the Surgeons of the Post in the performance of their official duties. Although the past winter was a very severe one, there was hardly a time when the motor transportation was not in use. However, this is unusual and sufficient horse drawn transportation must be kept on hand to meet emergencies during the winter.

*Post Cemetery.*—The number of interments in the cemetery during the fiscal year was 37, making a total to date of 1646. It is recommended that the appropriation for the upkeep of the cemetery be increased to \$2000 per year. The present appropriation of \$1500 is not sufficient to meet the demands.

*Fire Department.*—During the year there has been one fire on the Post which destroyed, or partially destroyed, No. 2 stables. The automobile fire engine, purchased last year, was put to its first actual test at this fire and performed its work with great efficiency. The engine was at the fire and the hose out before the men to operate the hose arrived. During the year about 150 hand chemical fire extinguishers were purchased. All buildings were equipped with these extinguishers and there were several kept on hand at the storehouse for emergencies and also to help exterminate woods fires. An estimate has been prepared and forwarded to the War Department for a combined guard-house and fire-apparatus house. This building is urgently needed, because there is no proper fire-apparatus house that can hold one-half the fire apparatus. The guard-house is totally inadequate for the needs of the Post.

*Power Plant.*—During the fiscal year, about 9,000 tons of buckwheat and bird's-eye coal were purchased. The contract price for coal for the fiscal year 1917 was \$2.90 per ton for buckwheat and \$2.27 for bird's-eye. The bird's-eye to be used in the stoker-fired boilers. The coal situation for our next fiscal year is very unsatisfactory. No bids were received for either the power plant coal or coal for domestic use. Through correspondence with the National Council of Defense, we have been informed that two coal companies will furnish coal needed for the fiscal year 1918 at current prices but will not guarantee any chemical analysis. We have made arrangements through the contractor, who has delivered coal to the Post for the last ten or twelve years, to get the same coal as purchased heretofore. The current prices for the month of July for bird's-eye coal is \$4.10 per ton. As we will need nine or ten thousand tons for

the power plant, this will practically consume the total amount of the appropriation for fuel and apparatus and will require a deficiency estimate of about \$15,000 to be submitted to Congress before the end of the year. The appropriation for 1917 carried an item of \$15,000 for installing automatic stokers under four boilers. Bids were advertised for and the lowest bid for installation of stokers was approximately \$32,000, so that the appropriation was not used and estimate for next year will be increased to cover this installation.

*Heating and Ventilating System.*—The system has worked satisfactorily throughout the year and no complaints have been received from this source. The Appropriation Act for 1918 combines the position of chief engineer of power plant and the engineer of the heating and ventilating apparatus—a saving to the Government of \$1800 a year. Mr. P. J. Bryant, the present engineer of heating and ventilating apparatus, has been promoted to this combined position and will take charge July 1st. The chief engineer of the power plant has been discharged. There has also been made a saving to the Government by reducing the number of firemen from eleven to eight. Modern up-to-date heating plants have been installed in Quarters Nos. 37 and 39, and also in the Army Service Barracks. The heating plants of the Cavalry and Artillery Barracks have been modified so as to give more efficient service.

*Gas Plant.*—The revenue derived from gas, coke, and tar, is covered into the Special Contingent Fund and applied to the payment of employees in gas works, purchase of gas coal and other miscellaneous expenses.

Gas coal for the next fiscal year will cost \$5.60 per ton, being an increase of \$1.75 per ton over that of 1917. At this rate, the amount for coal required will exceed the appropriation and a deficiency estimate for gas coal will have to be made to Congress before the end of the fiscal year.

*Special Contingent Fund.*—This fund is authorized under the provisions of Chapter 212, R. S., Act of Congress approved May 1, 1888. The fund is derived from rentals, sale of gas, electricity, coke, tar, wood, etc. The amount to be derived from rentals during the next fiscal year will be reduced by the amount from the rental of the public stables and the electric light plant on Popolopen Creek, amounting to \$1000.

*Hotel.*—The condition of the hotel is becoming such as to make it practically impossible to get any one to lease it and operate it. Every year an appropriation for a new hotel was asked from Congress but as yet no funds have been appropriated.

*Forestry Department.*—The work for the past year has been carried on by a forester and four assistants. Other men have been employed when needed. The saw mill has been run for about three months during the year and about 60,000 board feet of lumber have been sawed. During the past year the mill was thoroughly overhauled and put in first-class order.

Since July, 1916, about 400 ties, 200 cords of wood, 350 rails, and 400 posts have been cut. Ties and wood are sold to the best advantage and proceeds converted into the Special Contingent Fund.

During the Spring of 1917, the following young trees have been planted: 5000 white cedar; 9000 Norway pine; 4000 red pine. About one dozen old trees have

been removed from the Post proper and young elms will be planted in their stead. A good many of the elms on Trophy Point have been given necessary surgical treatment and all elm trees have been thoroughly sprayed.

*Laundry.*—The Military Academy Appropriation Bill for 1918 carries an item of \$75,000 for a new laundry. The estimate for the laundry desired and for which plans and specifications have been drawn up and approved by the War Department, amounted to \$130,000. Needless to say that with \$75,000 such a laundry cannot be built. Other plans of a building much reduced in size and a different method of construction are being drawn up and will be duly advertised for. An estimate should be included in the 1919 estimates for about \$50,000 so that a laundry of proper size and one that will meet the needs of the Post can be erected. With the enlargement of the Corps of Cadets to 1200, the conditions will be such as to require the old and the new laundry to be operated at the same time.

*Public Works.*—Pursuant to proviso in the Military Academy Appropriation Act, f. y. 1917, a board of officers was appointed by the Secretary of War to investigate and report upon the buildings and other improvements necessary to accommodate and care for the increased corps of cadets. This board made its report on or about November 2, 1916, and recommended buildings and other improvements that will cost about \$5,354,000. Some of these buildings are urgently needed now and their construction should begin at the earliest possible date. It will require in the neighborhood of two years to complete the buildings after they are authorized.

Attention is again called to the urgent need of Quartermaster storehouses and shops. The plans and specifications of these buildings have been drawn and approved by the War Department. Some of the first buildings to be torn down for the enlarged construction, will be some shops and garage. There is no place on the Post at present to which these can be removed.

*General Repairs and Upkeep.*—All necessary repairs and improvements to public buildings and quarters have been made as funds would permit. During the past year 20 rooms and 6 halls in south cadet barracks were refloored with composition flooring. There were installed in four divisions of the north cadet barracks, new lighting fixtures which improved the lighting of the rooms effected greatly.

Eighteen sets of officers quarters, the band practice hall, the restaurant and hotel, were equipped for electric lighting during the past year.

Work in waterproofing the walls of Post Headquarters, Bachelor Building and Gymnasium, has been carried on throughout the year with beneficial results.

*Roads.*—The roads on the Post have been kept in very good condition during the past year. The main road from the academic buildings to the hotel was resurfaced with asphalt macadam and a retaining wall and asphalt macadam road was built from the Cadet chapel to the Catholic chapel.

*Receipts and Disbursements.*—Receipts and disbursements are shown in the statements marked 1, 2, and 3.

No. 1.—Statement of receipts and expenditures pertaining to the Special Contingent Fund, U. S. M. A., for the fiscal year 1917.

July 1, 1916. Balance on hand.....		\$5,664.44
June 30, 1917. Receipts:		
Rents:		
Hotel.....	\$100.00	
Post Office Department.....	200.00	
Stables.....	150.00	
Electric Light Plant.....	525.00	
Store and Restaurant.....	187.50	
Western Union Telegraph Co.....	60.00	1,222.50
		<hr/>
Sale of:		
Wood, forestry.....	\$4,812.17	
Gas and electric current.....	11,805.80	
Coke.....	884.84	
Railroad ties.....	1,893.87	
Tar.....	451.40	
Waste paper.....	62.32	
Miscellaneous.....	85.57	19,995.97
		<hr/>
Wharfage dues.....		1,589.10
		<hr/>
Total to be accounted for.....		28,472.01
June 30, 1917. Total expended.....		20,000.53
		<hr/>
June 30, 1917. Balance.....		\$8,471.48

No. 2.—Statement of funds pertaining to the Quartermaster Corps, at West Point, N. Y., received, disbursed and deposited during the fiscal year 1917, from July 1, 1916, to June 30, 1917.

APPROPRIATION.	On hand July 1, 1916	Received since	Total to be accounted for	On hand July 1, 1917	Total disbursed, deposited and on hand
Pay of the Army.....	\$38,809.08	\$360,000.00	\$398,809.08	.....	\$398,809.08
Pay of the Military Academy.....	64,600.04	802,500.00	867,100.04	\$64,789.47	802,310.57
Pay of the Army Deposit Fund.....	3,758.80	6,000.00	9,758.80	4,043.46	5,715.34
Soldiers' Deposits.....	.....	1,536.41	1,636.41	.....	1,656.41
Pay Collections.....	.....	5,303.71	5,303.71	.....	5,303.71
Supplies, Services and Transportation.....	4,340.12	430,550.85	434,890.97	16,060.64	418,830.33
Military Post Exchanges.....	.....	200.00	200.00	.....	200.00
Barracks and Quarters.....	133.35	7,734.75	7,868.10	696.95	7,171.15
Shooting Galleries and Ranges.....	207.87	328.00	535.87	202.00	333.87
Disposition of Remains.....	.....	123.00	123.00	.....	123.00
Headstones, etc.....	.....	12.00	12.00	.....	12.00
Income Tax.....	.....	104.29	104.29	.....	104.29
Miscellaneous Receipts.....	.....	1,065.00	1,065.00	.....	1,065.00
Totals.....	\$111,849.26	\$1,615,578.01	\$1,727,427.27	\$85,792.52	\$1,641,634.75

No. 3.—Statement of funds received and disbursed from appropriations for the United States Military Academy at West Point, N. Y., during the fiscal year ending June 30, 1917.

	C. & O. 1916.	M. & I. 1916.	B. & G. 1916.	M. & I. 1915-1916.	B. & G. No Year.	Maintenance U. S. M. A. 1917.	Miscel- laneous Receipts.	Totals.
Balance July 1, 1916.....	\$11,129.31	\$4,934.92	\$22,804.96	\$1,326.64	\$6,704.86	.....	.....	\$46,900.69
Received since July 1, 1916:								
Fiscal Year, 1917.....	.....	.....	.....	.....	.....	\$310,673.95	.....	\$310,673.95
Miscellaneous Receipts.....	.....	.....	.....	.....	.....	.....	\$17.00	17.00
Cash Collections.....	60.74	.....	5.00	.....	.....	85.36	.....	151.10
Totals.....	\$11,190.05	\$4,934.92	\$22,809.96	\$1,326.64	\$6,704.86	\$310,759.31	\$17.00	\$357,742.74
Deposited and disbursed since July 1, 1916:								
Fiscal Year, 1915-16.....	.....	.....	.....	\$ .99	.....	.....	.....	\$ .99
Fiscal Year, 1916.....	\$1,265.16	\$205.09	\$835.30	.....	.....	.....	.....	2,305.55
Fiscal Year, 1917.....	.....	.....	.....	.....	.....	\$11.60	.....	11.60
Miscellaneous Receipts.....	.....	.....	.....	.....	.....	.....	\$17.00	17.00
Disbursements since July 1, 1916	9,924.89	4,729.83	17,609.66	1,325.65	1,352.40	272,163.26	.....	307,105.69
Balance on hand July 1, 1917..	.....	.....	4,365.00	.....	5,352.46	38,584.45	.....	48,301.91
Totals.....	\$11,190.05	\$4,934.92	\$22,809.96	\$1,326.64	\$6,704.86	\$310,759.31	\$17.00	\$357,742.74

**Treasurer U. S. Military Academy, Quartermaster and  
Commissary for the Corps of Cadets.**

(From Major Estes' Report as Treasurer, U. S. M. A.)

*Treasurer's Office.*—State of business May 31, 1917:

<i>Assets.</i>		<i>Liabilities.</i>	
Accounts receivable.....	\$5,712.97	Accounts payable.....	\$45,678.63
Cadet Store stock.....	179,889.66	Cadet Store.....	10,616.58
Cadet Mess stock.....	19,984.21	Equipment Fund.....	161,052.35
Cadet Laundry stock....	2,221.24	Interest on Equip. Fund.	23.26
Treasurer's cash.....	23,549.84	Glee Club.....	.80
Pay due.....	27,583.33	Miscellaneous Fund....	8.50
Tennis Club.....	181.90	Y. M. C. A.....	267.65
Dialectic Society.....	191.78	Howitzer.....	1,155.16
First Class Club.....	13.30	Golf Club.....	47.10
		Reserve Fund, Store....	37,144.80
		Reserve Fund, Mess....	241.19
		Reserve Fund, Laundry.	3,092.21
	\$259,328.23		\$259,328.23

Total business for the year ending May 31, 1917:

Receipts, all sources.....	\$648,534.85
Disbursements, all accounts.....	\$809,857.29

Due to the advancement of dates of graduation of classes of 1917 and 1918, it was necessary to withdraw \$90,000.00 of the Equipment Fund which was on deposit at interest. Accrued interest on this deposit from May 1, 1916, to April 30, 1917, \$3,051.68, was apportioned to each cadet of the Corps in proportion to his Equipment Fund balance.

It required \$94,787.86 to pay off and close the accounts of the class graduating April 20, 1917. This class left the Academy completely equipped as officers and with all bills and other indebtedness paid, and with an average of \$260.42 each in cash. Succeeding classes will feel the increase of cost of all items due to the war and will not be able to save very much with the present rate of pay.

*Cadet Store.*—The Cadet Store departments and shops have been re-arranged in efforts to accommodate the increased business due to the increase in the size of the Corps of Cadets. The amount of business transacted by the Cadet Store is out of all proportion to the physical size of the plant, which is inconveniently arranged and wholly inadequate in every particular.

The cost of every item of uniform and equipment used by the cadets has continued to advance during the year. The sales at the Cadet Store for the year ending May 31, 1917, amounted to \$217,877.30.

*Cadet Laundry.*—The business of the Laundry for the year ending May 31, 1917, amounted to \$31,183.40, and the Dry Cleaning Department \$3,751.75.

In the Act for the support of the Military Academy for the fiscal year ending June 30, 1918, the sum of \$75,000 was appropriated for labor and material for construction of a new Cadet Laundry, which will be constructed under the supervision of the Quartermaster, West Point.

*Cadet Mess.*—The effect of the war on the cost of foodstuffs has been sorely felt in the Mess. The cost of the Mess in 1914 was \$19.49 per month for each cadet; in 1917 \$22.98.

The comparison of prices of foods during April, 1914, before the war, and April, 1917, is interesting:

	April, 1914.	April, 1917.	Increase.
Sugar, granulated, pound.....	.04	.09	125%
Flour, barrel.....	6.50	13.50	107
Milk, fresh, quart.....	.06	0.8	33
Lard, pound.....	.12½	.25	100
Butter, pound.....	.30	.55	83
Eggs, dozen.....	.21	.38	80
Bacon, pound.....	.17½	.26½	52
Ham, pound.....	.15	.27	80
Beef, fresh, pound.....	.13½	.18½	37
Lamb, pound.....	.13¼	.19½	47
Pork, pound.....	.14½	.22½	55
Potatoes, peck.....	.23	.90	291
Onions, pound.....	.04	.13	250
Sweet Potatoes, peck.....	.35	.75	114
Cabbage, pound.....	.03	.15	400

During the year ending May 31, 1917, there was paid out for food supplies \$168,407.37, and in addition \$38,393.18 for operating expenses. This is all borne by the cadets.

In the annual Army appropriation bill, subsistence of the Army, there is carried: "For payments of commutation of rations to the cadets of the United States Military Academy, in lieu of regular established ration, at the rate of 40 cents per ration." The subsistence allowance for cadets is analogous to the same allowance for enlisted men, U. S. Army. The cost of the latter per man is .3647 cents per diem, and in addition the enlisted man is subjected to no charge for the preparation and service of his food. The cadet at present pays from his salary the expenses of wages of all employees of the Cadet Mess, for the supply and upkeep of china, linen, tableware, silverware, for cleaning material, and for laundry of mess linen, as well as freight, express and all delivery expenses connected with the food and other supplies for the Mess. When the commutation of rations for cadets was fixed at 30 cents in 1902, the value of the enlisted ration was 18 cents. Under the same proportionate increase in cost of supplies the cadet ration should now be 60+ cents. The increase of 20 cents in the ration allowance for cadets will just about pay for the services of the employees of the Mess, leaving the various other items to be borne by the cadets as well as the difference between the actual cost of food supplies and the present 40-cent ration.

## Health and Sanitation.

(From Colonel Shaw's Report as Surgeon.)

Pursuant to instructions contained in Memorandum No. 14, U. S. M. A., 1917, the following report is submitted upon the work of the Medical Department with reference to health and sanitary conditions of this command during the fiscal year ending June 30, 1917.

*Corps of Cadets.*—The health of the corps as a whole has been very satisfactory. There were 756 admissions during the year, equivalent to an annual admission rate of 1061 per thousand, an increase of 61 per thousand as compared with the preceding year. This increase is mainly due to a mild epidemic of influenza during the month of January, 123 cadets being admitted to hospital during that month as compared with 63, the average for the other months during the year. The non-effective rate for cadets treated in hospital was 14.54 per thousand and as compared with 13.82 for 1916; the average number of day's treatment of each case was 5.0, the same as last year, as compared with 6.4 days for 1915, 4.0 for 1914, and 4.8 for the preceding four years. The following table shows the hospital admission rates and the non-effective rates per thousand for hospital cases for the past eleven years:

*Table I.*

Year.	Mean actual strength command.	Case.	Rates per thousand.	Non-effective Rates per thousand Hospital
1906-1907	440	682	1550	35.22
1907-1908	404	641	1586	32.17
1908-1909	422	992	2350	32.77
1909-1910	417	987	2366	35.73
1910-1911	407	780	1916	28.25
1911-1912	531	764	1438	17.70
1912-1913	515	587	1139	16.89
1913-1914	562	612	1088	11.92
1914-1915	612	690	1127	19.83
1915-1916	579	579	1000	13.82
1916-1917	712	756	1061	14.54

With few exceptions there were no cases of critical illness or serious injury under treatment during the year; one cadet in the 4th Class developed pulmonary tuberculosis and was transferred for treatment to Fort Bayard, N. M., where he has since died; one new cadet reported at West Point with gangrenous appendicitis and died of complications following operation. There were two other deaths during the year, both cadets being on leave; one was drowned and the other died as the result of an operation for cerebral tumor.

Eight cadets were discharged for physical disability, three for defective vision, two for chronic aural defects, two for venereal disease and one for valvular disease of the heart. Two cadets were transferred to the Walter Reed General Hospital with dementia precox.

No new cases of malaria occurred during the year, and only one case was under treatment, a recurrent attack.

Of the 756 hospital admissions, 258 or 34.12 per cent were for diseases of the digestive system; 117 or 15.47 per cent were due to general diseases; and 112 or 14.71 per cent were on account of injuries and other affections due to external causes.

*Football.*—During the football season from September 1 to December 1 there were only 22 accidents requiring hospital treatment; none of these injuries was sufficiently serious to cause permanent disability of any sort; the longest period of treatment of any case was 15 days, a sprain of the left knee which recovered entirely before the season was over. This is the smallest and least serious casualty list of which there is any record during the past ten years and is the direct result of careful supervision of the football squad during practice and in contests with other teams. Increasing experience with football at the Academy leads to the conclusion that serious football injuries like most other injuries are preventable. The following table shows the number of football injuries during the past ten years and the number of days lost by treatment in hospital:

Table II.

Year.	Number of cases.	Days lost in hospital.	Average days per case.
1907	25	117	4.6
1908	62	362	5.8
1909	34	174	5.0
1910	27	210	7.7
1911	34	169	4.9
1912	35	259	7.4
1913	28	157	5.6
1914	36	221	6.1
1915	25	159	6.3
1916	22	106	4.8

*Enlisted Men.*—During the past year there were 332 admissions to sick report, equivalent to an admission rate of 450 per thousand; the total number of days lost was 3087, giving an average non-effective rate of 11.4 per thousand for the year. The following table shows the number of admissions, the admission rates and the non-effective rates per thousand among enlisted men for the past seven years:

Table III.

	1911	1912	1913	1914	1915	1916	1917
Admission to sick report	622	401	415	302	359	231	332
Rates per thousand (admission).....	825	626	603	468	501	326	450
Non-effective rates.....	18.87	14.81	15.26	11.25	9.35	7.90	11.4
Mean annual strength of command.....	649	648	683	702	716	708	737

The number of admissions for transmissible diseases included influenza 28, venereal 25, German measles 5, mumps 4, malaria 2, and cerebro spinal meningitis 1.

*Civilians.*—The health of the civilian population has been satisfactory, no epidemic of any dangerous transmissible disease having occurred at West Point. During July, August, and September poliomyelitis in epidemic form appeared in Highland Falls, the origin of the first cases being traced to New York City and Brooklyn. In all twenty-four cases occurred in the village with five deaths, the disease being about evenly divided between the families of civilians attached to this command and families of other residents of Highland Falls. Nearly every town in the vicinity of West Point was more or less infected from early in July to October, including Fort Montgomery, Cornwall, Newburgh, Peekskill, Garrison, Cold Spring, and Fishkill; the immunity of this garrison to the disease was due first to the exclusion from West Point of all children under 16 years of age; second, the restriction of travel to and from the Post to persons having official business only, thus greatly reducing the amount of contact with infected areas and minimizing the danger from carriers; and third, the making of a thorough medical survey of the entire juvenile population of Highland Falls, so that practically every case of infantile paralysis was discovered and identified.

*Sanitation.*—Sanitary conditions were excellent throughout the year. The stringent measures heretofore adopted for combating fly and mosquito breeding were continued successfully. Only three cases of malaria occurred during the year of which two were recurrences. This is the lowest malarial record of which there is any record at the Academy. The admission rates for malaria for cadets and for enlisted men for the past ten years are shown by the following table:

Table IV.

	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
Cadets.....	19.	126.3	127.6	58.9	88.5	25.2	0	11.4	8.6	1.4
Enlisted men..	69.4	72.2	76.2	36.9	41.6	23.2	5.6	8.3	4.2	2.7

*Hospital Buildings.*—The greatest need of the Medical Department at West Point is a new hospital. The present cadet hospital was erected in 1875. Since this time views as to the treatment of the sick and in regard to hospital construction have been fairly revolutionized, and although this building has been enlarged and has received some minor alterations in a line with modern sanitary improvements, it is not adapted to the present needs of the service nor can it in my opinion be so reconstructed as to satisfy the demands of modern hospital treatment. It is inadequate in the following particulars:

(a) There are no facilities for the hospital treatment of officers nor of women and children. In a Post of this size cases frequently occur in the families of officers and enlisted men where such facilities are essential for proper treatment. At present such cases must be sent to civilian hospitals or treated in private quarters.

(b) There are no small rooms for the treatment of patients requiring isolation or quiet such as seriously ill medical cases or those recovering from the effect of grave surgical operations.

(c) The surgical operating department is wholly inadequate. There is no etherizing and no recovery room; no wash-up room for the operator and his assistants; no separate room for sterilization; and not sufficient space for minor operations and surgical dressings.

(d) The facilities for treating out-patients are inadequate and unsatisfactory; there is no waiting room; only a small extemporized closet for the examination

of eye, ear, nose and throat cases and no room for the examination of women.

(e) There are no facilities for the open-air treatment of the sick. This is one of the most serious defects of the present building.

(f) There is no study or reading room for cadets. A room of this sort is essential, for many of the cadets are perfectly well able to keep up with their academic work while in hospital. At present they are obliged to study in the ward which is prejudicial to the best interests of all.

(g) A separate building should be provided for housing and messing the hospital corps detachment. At present the squad rooms are in the third story of the hospital and it is undesirable from every point of view to have them in such close proximity to the wards. This detachment has no reading or recreation rooms which are so essential for the efficiency and contentment of any organization.

Preliminary studies of a hospital building have been made in this office and submitted to the Surgeon General by whom they were approved and elaborated into sketch plans. The complete plant contemplates a hospital building of about 150 beds, with wards and rooms in separate portions of the building for the treatment of officers and their families, for cadets and for enlisted men and their families; another building for female nurses and a third for enlisted men of the Medical Department. The estimated cost for the three buildings is \$450,000.

### The Library.

(From Major Runcie's Report as Librarian of the U. S. M. A.)

The character of the Library of the United States Military Academy has long been established and remains essentially unchanged. It consists primarily of military works, including military history and the history of the art and science of war; a collection of general literature and history such as is indispensable for every institution giving education of a general character; a collection of public documents issued by the federal government and the governments of the several States and some municipalities; and special collections bearing on the studies which are characteristic of the course of instruction at the Academy. During the year an endeavor has been made to keep each of these collections up to date. A special effort has been made to collect the current literature of the war now in progress, in which our Nation has become engaged. Much if not most of what has been published on this war is of an ephemeral character, but it has been attempted to select from the mass of such publications those which will best represent or reflect in future times the contemporary attitude of the people of the various belligerent countries toward the great struggle. In addition to this works containing reliable information, which is the raw material of the history of the war which will be written in the distant future, have been acquired wherever possible.

The number of volumes in the Library on July 1, 1916, was 98,323. On June 30, 1917, the catalogues show 100,997 books, an increase of 2,674 volumes during the year.

The collections of works relating to the history of the Revolutionary armies and the regular and volunteer armies of the Civil War are a special feature of the Library, and these collections have been materially added to during the year.

The thanks of all graduates of the Academy are due to many donors of valuable and interesting gifts which have been received during the course of the year. Among those who have generously remembered the Library are Sir Gilbert Parker, Bart.; Prof. W. Macneile Dixon; Col. W. H. Harts, C. E.; Col. J. B. Bellinger; Capt. C. B. Clark; Mrs. A. B. Shattuck; Mrs. A. P. Weimer; Mrs. Butler; Miss Margaretta L. Hazzard; Mr. Russell Thayer; Lt. Col. E. W. Hubbard, Ret.; Mr. W. E. D. Stokes; Dr. A. H. Strong; Mr. J. D. Rockefeller, jr.; Mr. S. A. Wood, jr.; Mr. Samuel Insull; Mr. Bartow A. Ulrich; Messrs. Thomas Y. Crowell Co.; Messrs. E. P. Dutton & Co.; Messrs. Albert D. Smith & Co.; the Library of the Historical Society of Pennsylvania; the Woman's Peace Party; the Union-Cable Mail S. S. Co., Ltd.; American Society of Mechanical Engineers; National Research Council; Wistar Institute of Anatomy and Biology; General Education Board; Yale University Press; National Highways Association; Michigan Historical Society; Lake Forest University; National Biscuit Company; National Advisory Committee for Aeronautics.

No repairs have been effected to the Library building during the year.

Under the methods followed in the Library by which practically all of its volumes are open to readers it is not possible, nor desirable, to keep a record of the kind or extent of the reading done in the Library by cadets and others who use it. A record of books taken from the Library for reading outside is contained in the following table, an examination of which shows a small but gratifying decrease in the proportion of fiction read by cadets and a very considerable decrease in the volume of fiction and a perceptible diminution of the amount of non-fiction read by others than cadets who use the Library.

*Statistics of Circulation.*

Month.	CADETS.				OTHER THAN CADETS.				Total vols. for month.	Avg. vols. per day.
	Fiction.		Non-Fiction.		Fiction.		Non-Fiction.			
	No. Vol.	%	No. Vol.	%	No. Vol.	%	No. Vol.	%		
<b>1916</b>										
June	307	65	143	35	292	51	281	49	1023	36
July	164	69	74	31	336	62	210	38	784	26
Aug.	173	75	59	25	377	54	327	46	936	30
Sept.	209	58	151	42	359	51	351	49	1070	36
Oct.	487	61	312	39	254	57	339	43	1392	45
Nov.	608	65	356	35	216	37	355	63	1535	51
Dec.	634	66	324	34	207	34	406	66	1571	51
<b>1917</b>										
Jan.	762	62	459	38	296	36	514	64	2031	65
Feb.	566	69	388	31	268	42	372	58	1594	57
Mar.	637	59	448	41	284	38	453	62	1822	59
April	391	56	307	44	231	46	276	54	1205	40
May	286	52	265	48	189	31	418	69	1158	37
<b>Total</b>	<b>5224</b>	<b>61</b>	<b>3286</b>	<b>39</b>	<b>3309</b>	<b>43</b>	<b>4302</b>	<b>56</b>	<b>16121</b>	<b>45</b>
<b>Total for same period—</b>										
<b>1915-16</b>	<b>4118</b>	<b>64</b>	<b>2334</b>	<b>36</b>	<b>4133</b>	<b>48</b>	<b>4430</b>	<b>52</b>	<b>15015</b>	<b>41</b>

A re-arrangement of some of the collections in the Library has been effected by which works of a character which make them valuable for educational purposes have been made more readily accessible to readers; a special room has been set aside for the law library; and the library space utilized to what is believed to be greater advantage and convenience of readers.

### Board of Visitors.

The following-named members of the House of Representatives made an official visit to the Academy in the latter days of May. They inspected the general conditions of the Post and Academy and collected information as to the necessity for the requests made to Congress:

Honorable J. Q. Tilson,	Honorable C. P. Caldwell,
Honorable T. W. Harrison,	Honorable William Gordon,
Honorable S. J. Nicholls,	Honorable J. H. Davidson.

With the exception of Mr. Davidson these gentlemen were accompanied by their wives. In addition to the above named the Honorable Edmund Platt was present part of the time.

### Alumni.

For the first time since 1818 no graduating exercises took place at the Academy in June this year. As a result of this departure many of the other usual exercises of this month were omitted, among the most important of which were the gatherings of the Alumni of different classes.

The representatives of the Class of 1865 were the only ones who came together here in June, but it is understood that the Class of 1867 will adhere to its determination to maintain an unbroken record by coming together at the graduation of the class arranged for August 30. It is hoped that the conditions in June, 1918, will be such as to bring together a large number of the Alumni of early and late years, whose advice and criticism are always welcome and will receive glad consideration.

### Acknowledgments.

Since the Superintendent's assumption of duty at the Academy he has found the Academic Board, the staff and the office assistants at headquarters working with interest, zeal and loyalty for the best interests of the Academy. To their labors and assistance is due the main credit for whatever success attends the efforts of the authorities.

S. E. TILLMAN,  
Colonel, U. S. Army,  
*Superintendent.*

