

REPORT

OF THE

BOARD OF VISITORS

TO THE

UNITED STATES MILITARY ACADEMY

FOR

THE YEAR 1897.



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UNITED STATES MILITARY ACADEMY
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To the Secretary of War, the President of the Senate, and the Speaker of the House of Representatives:

The following report of the Board of Visitors, appointed in pursuance of section 1327, Revised Statutes, to the United States Military Academy at West Point, N. Y., June 1, 1897, is respectfully presented.

The persons constituting the Board are named below:

APPOINTED BY THE PRESIDENT OF THE UNITED STATES.

- | | |
|----------------------------------|---------------------|
| 1. Mr. GEORGE F. EVANS..... | Portland, Me. |
| 2. Col. JAMES E. FLEMING..... | Newark, N. J. |
| 3. Hon. LOUIS W. HALL..... | Harrisburg, Pa. |
| 4. Hon. W. H. UPSON..... | Akron, Ohio. |
| 5. Col. ALDACE F. WALKER..... | New York, N. Y. |
| 6. Mr. WILLIAM B. PLUNKETT..... | Adams, Mass. |
| 7. Col. WILLIAM R. SMEDBERG..... | San Francisco, Cal. |

APPOINTED BY THE PRESIDENT OF THE SENATE.

- | | |
|--------------------------------|-------------------|
| 8. Hon. JOSEPH B. FORAKER..... | Cincinnati, Ohio. |
| 9. Hon. SAMUEL PASCO..... | Monticello, Fla. |

APPOINTED BY THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

- | | |
|------------------------------------|-------------------|
| 10. Vacant. | |
| 11. Hon. HUGH R. BELKNAP..... | Chicago, Ill. |
| 12. Hon. JOSEPH E. WASHINGTON..... | Cedar Hill, Tenn. |

All the members of the Board except Hon. Joseph B. Foraker were present, and, after a temporary organization, elected Hon. W. H. Upson president, Hon. Samuel Pasco vice-president, and Hon. Joseph E. Washington secretary.

The following committees were appointed:

Appointments and examinations.—Messrs. Pasco, Walker, and Washington.

Discipline and instruction.—Messrs. Smedberg, Hall, and Fleming.

Armament and equipment.—Messrs. Fleming, Evans, and Smedberg.

Buildings, grounds, and lights.—Messrs. Belknap, Pasco, and Plunkett.

Fiscal affairs, supplies, and expenditures for cadets.—Messrs. Walker, Evans, and Hall.

Hygiene and athletics.—Messrs. Washington, Plunkett, and Belknap.

The examinations, exercises, and military drills were attended from day to day by the members of the Board. The Superintendent, the Commandant of Cadets, the professors and instructors gave to the Board all needed assistance in the performance of their duties and furnished all the information from time to time required.

The general condition of the Academy is good in every respect, and it admirably accomplishes the object for which it was established by furnishing to the Army of the United States patriotic, honorable, and thoroughly educated officers.

The Board has given to the subject of appointments and examinations careful attention and consideration and has arrived at the following conclusions:

The success of the Military Academy rests upon the appointing power. The highest and best results will be accomplished only when it is wisely and judiciously exercised.

Though this power is vested in the President, he acts upon his own judgment only in selecting the ten cadets at large and the one from the District of Columbia; those from the Congressional districts and the Territories are nominated by the Representatives and Delegates in Congress, and, under the practice that has for a long time existed, the nomination is in effect an appointment, for the President always acts favorably upon it.

The whole number of appointments is as follows:

At large.....	10
Congressional districts.....	357
Territories.....	3
District of Columbia.....	1
Total.....	371

The appointing power is, however, limited by certain qualifications as to age, height, health, and educational advancement, and by the express terms of the law a candidate must be unmarried. The requirements as to health and scholarship are fixed by law and under the direction of the War Department. Boards of Army officers convene early in March of each year in different parts of the country to examine the candidates who have been selected, and those who succeed in passing these examinations are admitted to the Academy in the following June.

A further opportunity to fill the vacancies that may exist in consequence of failures at the March examination, and other causes, is offered

in June, just before the time for the entering of the new class. This examination is held only at West Point. In cases of unavoidable absence at these examinations a further opportunity is given to candidates to present themselves before an examining board at the Military Academy during the last week in August. The successful candidates at these examinations are admissible to the new class, and the places of those who fail to present themselves, or who are rejected, remain vacant until the following year, except in cases where alternates of the rejected candidates have been appointed and have appeared and passed a successful examination. In these cases the successful alternates succeed to the rights and privileges of their rejected principals.

The following statement shows the result of the examinations held in March of the present year:

Accepted:		
Principals	74	
Alternates	12	
	<hr/>	86
Alternates qualified for whom no vacancies exist		20
Rejected as not mentally qualified:		
Principals	31	
Alternates	25	
	<hr/>	56
Rejected as not physically qualified:		
Principals	7	
Alternates	5	
	<hr/>	12
Rejected as not qualified mentally or physically:		
Principals	5	
Alternates	5	
	<hr/>	10
Left before completion of examination:		
Principal	1	
Alternate	1	
	<hr/>	2
Failed to report:		
Principals	5	
Alternates	19	
	<hr/>	24
Total:		
Principals	123	
Alternates	87	
	<hr/>	210

From this it appears that out of the 210 candidates 106 were successful, but 20 of these were alternates for whom there were no vacancies, because the principals were also successful.

A statement of the result of the examination held in March, 1896, has been furnished the Board, and it shows that 189 candidates presented themselves. Ninety-four of these were successful, but there were no places for 15 of these, because their principals were also successful.

Some other statements are here submitted which will be of assistance in determining the number of those who, in recent years, have,

which has been discussed by former Boards of Visitors and by others interested in the advancement and success of the Academy. It has been suggested that there is room here for more cadets, and that so many opportunities should not be lost to the young men of the country who are capable of profiting by the advantages here offered.

If there were more appointments at large, and two from each State for the Senators to fill, it is urged that the additional cadets could be provided for without any large additional expenditures for buildings or instructors, and the increased number of graduates would fill useful places in their different States and Territories when they were not needed in the military service of the country.

But we do not find that there are accommodations in the barracks for a much larger number of cadets than can be appointed under the law as it now exists. It was reported last year that there were ample accommodations for 296 cadets, placing two in a room according to existing arrangements, and that by vacating certain rooms, used for other purposes, sufficient accommodations could be provided for 384. This is only 13 in excess of the number of cadets now authorized by law, and the history of the past admonishes us that there will be an increase of 30 or more in the whole number of appointments when an apportionment is made under the new census which will be taken in 1900.

If the present average of failures, rejections, and dismissals is to be treated as inevitable, and is to enter into our estimates as a fixed and determined quantity, it may be safe to authorize the appointment of 90 or more additional cadets, otherwise the number should not be increased without enlarging the barracks.

A considerable addition to the number of cadets would make it important and desirable to have a larger number of instructors. Under the present system of recitations the classes are divided into sections, and each cadet is called upon every day to recite, and there is no opportunity to escape the result of a failure to prepare for a recitation, as there is when divisions are large and all are not required to recite whenever the division meets.

The Board does not deem it desirable to recommend any enlargement of the purposes of the Academy beyond those now contemplated by existing law. Provision should be made for supplying the Army with a sufficient number of competent officers. This work is being satisfactorily accomplished. If arrangements are made for giving a much larger number of young men such an education as the course at the Academy affords, it will be with the expectation that many of them will be obliged to seek employment after they graduate outside of a military life, and it is not desirable to offer to a select few educational advantages merely to fit them for usefulness in private life in other professions and vocations than a public military career.

We favor, however, a more complete execution of the purpose contemplated by the law establishing and carrying on the Military Academy.

The figures already submitted show that many of those who are appointed are not qualified to enter upon the prescribed course of study and that many others who enter upon it fail to complete it. There are others who manage to get through the course, but without distinction and without developing any particular ability in the studies and accomplishments that fit one for a successful military career. This is largely due to the unwise action of the appointing power. The examinations are necessarily strict; their purpose is to ascertain whether the candidate is fitted to undertake the course of study, and the number of failures after the course has been entered upon indicates that the examiners have not been too exacting.

There would doubtless be fewer failures if the appointments were more carefully made. One of the members of this Board of Visitors has had some experience in the discharge of this duty, and the candidates he has recommended have generally been successful. He has selected a few young men from the applicants in his district by means of his personal knowledge of their character, associations, and opportunities. These have been required to go before an examining board, and the one best qualified, in the judgment of this board, has obtained the nomination and appointment.

The Board suggests that the March examinations be extended; that the papers be passed upon without delay, and that in case of failure the person who made the appointment be at once notified and authorized to make another nomination, and again a third, if practicable, before the examining board closes its labors. If there is a third failure, still another opportunity might be given at the June examination to a candidate who had not had a previous trial at any of the March examinations, and this should be final, except as at present, in cases of unavoidable absence. Greater care in selecting candidates, with these enlarged opportunities for examination, would largely reduce the number of vacancies with which the academic year usually opens.

The Board is informed that most, if not all, of those who attain a high rank in the academic course have, before their admission, made progress in other studies than those included in the statutory requirements. This is particularly the case with reference to mathematical studies. It is believed that better results would be obtained if all who enter were required to pass an examination in algebra and the elements of geometry. The free public schools all over the country teach these branches, and if they were among the requirements for admission candidates would take greater pains, during the time allowed for preparation after their appointment, to prepare for their examinations, and perhaps the results would be more satisfactory. To effect this change the Board recommends that section 1319 of the Revised Statutes be amended to read as follows:

SEC. 1319. Appointees shall be examined under regulations to be prescribed from time to time by the Secretary of War before they shall be admitted to the Academy, and shall be required to be well versed in reading, writing, arithmetic, and algebra,

and to have a knowledge of the elements of geometry, of English grammar, of descriptive geography, particularly that of the United States, and of the history of the United States.

The examinations have been conducted by the academic board from day to day in the presence of the members of the Board of Visitors and others who have attended. To accomplish the work in less time and in a thorough manner the academic board were divided into two committees, who began their sessions on the 1st instant and continued them till they were completed, on Tuesday, the 5th instant. Their daily sessions were from 9 a. m. to 1 p. m. and from 2.30 p. m. to 4 p. m. The Superintendent presided at some of these examinations, and the professors and instructors belonging to the two committees were diligent and faithful in the discharge of the duties assigned to them.

The oral examinations were fairly conducted, and the members of the Board who attended them were impressed with the bearing of the cadets toward their instructors and with the admirable discipline that was everywhere manifest. So far as they could judge, the examinations appeared to be thorough, and the recitations were generally creditable and satisfactory.

In examining the course of study, we have been impressed with the importance of making a larger place in the curriculum for the study of the English language. The want of time has been urged as a reason why this important subject has not received the attention it deserves. Perhaps, if the change in the requirements for admission is made according to the recommendation contained in this report, time and space may be found for extending the brief course of study in this department, now restricted to a part of the first year's course.

An officer ought to have a thorough knowledge of his own language. It is not often important that he should be an orator, but it is important that his reports, letters, and orders be expressed in clear and terse language. The operations of armies and the exploits of individual officers and men frequently fill pages in the history of our country. It is through the official reports that the accounts of such operations and acts reach the Department and the public, and it should be a part of the education of every army officer to learn his own language thoroughly, so that this important duty may be done on the same plane of excellence that characterizes his other work. It will not be necessary to go beyond the limits of our own country to find military writers whose style may be studied with profit and advantage.

The Board suggests that, in connection with the course of history, the cadets might be required to study the military operations leading up to and resulting in a battle or a siege, and after the class has become well acquainted with the details let the members prepare reports of the part taken in these operations by each brigade, division, corps, or detached command. It is believed that a few such exercises would be valuable in the education of officers who may sometimes meet the realities of war in the service of their country.

We express the hope that the academic board will consider the subject of extending and enlarging the English course. Many cadets enter the Academy who have had little time and few opportunities to study their own language and literature, and they will be better fitted for the great duties which await them in the outside world if a judicious course of study is marked out to supply such deficiencies.

ARMAMENT AND EQUIPMENT.

We have carefully inspected the armament and equipment of the Academy. The needs and condition are clearly stated in the communication made to the Board by Capt. L. L. Bruff, instructor of ordnance and gunnery, which we will print as an appendix to this report.

We cordially concur in the recommendations made by Captain Bruff with reference to appropriations, which are as follows:

For model carriages to complete the collection.....	\$2,500
For keeping the Museum in repair and purchasing new models and fitting up the same	300

Also the complete armament of the siege gun and siege mortar battery, the material for which can be supplied by the Ordnance Department.

DISCIPLINE AND INSTRUCTION.

We find that the methods of discipline and instruction, as followed at West Point, are the result of many years of experience of accomplished and painstaking officers and are as nearly perfect in their result as it seems possible to make them.

With the exception of such as are noted elsewhere, we have no changes to suggest and nothing but commendation for the working of all the branches of the Military Academy.

The result of Captain Parker's painstaking as instructor in cavalry tactics was evidenced in the admirable drill of the graduating class in the school of the troop and the exercises in horsemanship in the riding academy; also in the improved appearance of the detachment of United States cavalry stationed at the post.

The able, efficient, and satisfactory manner in which Col. Samuel M. Mills, commandant of cadets, has discharged the duties of that position deserves special notice and commendation.

BUILDINGS AND GROUNDS.

The barracks are in good condition and the cadets are comfortably quartered. The mess hall is well adapted to its purpose and ample space is afforded for the members of the corps of cadets. The kitchen, pantry, and other necessary appurtenances are well kept and afford all the conveniences for carrying on the work properly belonging to the establishment. The parade grounds and the immediate surroundings present an attractive appearance and give evidence of constant care

and industrious supervision. The gymnasium, riding hall, stables, and other outbuildings are in good order.

LIBRARY BUILDING.

Attention has been called in former reports to the library building and the importance of making such changes in it as to make the entire building suitable for library purposes. There are more than 40,000 books and pamphlets belonging to the library, besides many valuable pictures, maps, and manuscripts, and by the removal of the observatory and other changes the entire building can now be used for library purposes. It has been frequently recommended to Congress that the building be made fireproof and that other alterations and modifications be made, with this purpose in view. An appropriation of \$1,250 was made by Congress in 1895 for procuring plans, specifications, and estimates for the complete renovation of the building. This work has been done, and the architects' estimate of the cost of the proposed changes is \$63,100. The Superintendent has recommended an increase in the estimate of \$6,900 for removing and returning the books and for inspection and contingencies, making a total of \$70,000. We understand that the Secretary has recommended that an appropriation be made by Congress of this sum, in accordance with these estimates, but as yet Congress has taken no action.

We fully agree as to the great importance of this work. The proposed changes should be made at the earliest possible time. The danger of irreparable loss will continue as long as there is so much woodwork in the interior. The addition of more shelving and the enlargement of space for reading rooms will afford greater accommodations for those who desire to use the library. We, however, are not satisfied that so large an amount is necessary to make the proposed alterations, and we suggest that the plans, specifications, and estimates be carefully examined under the direction of the Secretary of War, so that if the desired results can be accomplished on a more economical scale the estimates may be revised before the proposition for an appropriation is again submitted to Congress.

In connection with the library building we recommend the construction of a fireproof vault for the preservation of the valuable archives and military records of the post, some of which date back sixty years or more.

HOTEL.

The hotel on the grounds is in very bad condition and requires very much repairing. In nearly every room floor boards are loose; blinds and sashes, doors and locks are out of order. We recommend that the \$1,000 used annually for repairs about the hotel be appropriated the coming year to improvement of above-mentioned items and the establishment of an additional bathroom on first and second floors. We fully recognize the necessity in the near future of remodeling or rebuild-

ing the hotel, that it may be in keeping with other Government buildings on the post and containing the ordinary comforts of a modern hotel, but, owing to the sum absolutely required for the urgent and immediate improvement of the post, we suggest that further action in the matter be, for the present, postponed.

BUILDING FOR OFFICERS' MESS.

At every army post built during the past ten years the necessity has been recognized of a separate and detached building for officers' mess hall, kitchen, etc., clubroom, and bachelors' quarters, assembly room, etc.

At this post, where more officers are stationed than at any other, the most beautiful in the country, and the most visited by foreigners as well as by our own people, where more guests are necessarily entertained, no such building exists, and it appears to us that these accommodations should be provided at an early date.

Without plans and estimates no definite recommendation can be made by the Board, but we recommend that this question be considered by the Superintendent, commandant, and other military officers of the post, and the academic board, in order that the Board of Visitors of 1898 may have the necessary data before them as to style, expense, and location of building, to consider and report upon the matter understandingly.

THE WHARF.

Our attention has been called to the condition of the wharf at the south dock. We have examined it carefully. Some recent repairs have made it safe for the present, but it has been standing a long time and many of the timbers are decaying. It should be rebuilt at an early day, and this, next to the library and the expenditures in connection with the water supply, appears to be the most urgent want of the post. We are informed that a new wharf will cost \$20,000, but do not know what this estimate is founded upon. We recommend, with respect to this, as to other buildings and repairs, a rigid scrutiny of all estimates, so that there may be no profuse expenditure of the public money. A sidewalk from this wharf, leading up the hill, has also been recommended, and we favor its construction. We believe it is greatly needed. Many of the visitors walk up and down the hill while carriages and other vehicles are going to and fro, and there is always danger to life and limb, particularly when little children are passing. We recommend that the walk be of concrete and that the cost do not exceed the sum of \$3,000.

Other wants of the post have been called to our attention, but for the present they should give way to those that appear to be more urgent.

FISCAL AFFAIRS.

The committee of this Board to whom the duty was assigned investigated the fiscal affairs, the supplies and expenditures for the cadets.

They found nothing to condemn and reported that existing arrangements are working smoothly and the officers in charge are performing their duties satisfactorily and well.

THE BAND.

We concur in the recommendations made by previous Boards of Visitors that the band be increased to 40 pieces.

HYGIENE.

We made as thorough an examination into the sources of the supply the quantity and quality of the water as our time would permit. We were afforded every opportunity to examine the reservoirs, filters, pipes, etc., and received the greatest courtesy and kindness from Capt. James L. Lusk, the efficient officer in charge. We reached the unanimous conclusion that, with the completion of the new reservoir, the supply of water would be ample for all the needs of the post for many years to come. The water is unusually clean and free from pollution. It is gathered from the watershed formed by the high, heavily wooded mountains back of the post. The rains and snows percolating through the soil and rocks feed never-failing springs. These, in turn, supply the small streams whose flow is stored in the reservoirs. There are no streams available with a constant flow sufficient to furnish all the water required; therefore it has been found necessary to gather and store away in reservoirs a quantity of water sufficient to last for several months. The water, in percolating through the soil and earth, takes up a considerable quantity of vegetable matter, and, while standing in the reservoirs, might take up some germs. As a matter of precaution, therefore, we think it would be the part both of wisdom and economy for Congress to appropriate the amount required to finish, as quickly as possible, the filtering houses already authorized by law and now under construction.

The progress of the work, the need of further appropriation, and many other facts are so clearly set forth in a communication addressed to us by Captain Lusk that we print it as an appendix to this report.

The sanitary condition of the Academy is excellent. There is very little sickness other than an occasional case of malaria, due to no local cause so far as we could ascertain. There has been but one death in the corps of cadets for many years.

CADET HOSPITAL.

Too much can not be said of the order, system, and neatness which we found in the cadet hospital, and due credit should be given Maj. George H. Torney, surgeon in charge. No very serious surgical operation has been necessary at the Academy for a long time. Smaller operations, requiring the greatest care against infection and the highest surgical skill, are not infrequent. The construction of an operating room, where surgical work can be performed under the conditions

required by modern surgery, is, in our opinion, eminently desirable. There is no such room in the cadet hospital at present. There is also a great necessity for a suitable addition to the annex to the hospital, in which the urinals and water-closets shall be located. The existing arrangement and appliances are unsatisfactory. Proper sanitary precautions, comfort, and privacy for the sick make this necessary. The estimated cost of this addition, including new plumbing, submitted by the quartermaster is \$2,200.

We examined the hospital for the enlisted men and found it in such excellent condition that we can not refrain from paying a just tribute to Capt. Charles F. Mason, assistant surgeon in charge. No improvements or alterations are asked.

ATHLETICS.

We find the condition of the gymnasium all that can be desired. It is equipped with all the modern appliances. The drill of the fourth class showed careful training and good work. We find that regular instruction is given only to the fourth class. More advanced cadets are required to attend the gymnasium and practice only for the purpose of overcoming any particular deficiency which may have been found to exist.

We cheerfully join in the recommendation hitherto made that the master of the sword and instructor in the gymnasium be given the rank, pay, and allowances of a first lieutenant.

The proper enforcement of military discipline in the gymnasium makes this exceedingly desirable, and, in the case of the present instructor, it would be a just recognition of merit, proficiency, and long and faithful service.

In conclusion, the members of the Board wish to express their appreciation of the uniform courtesy and kindness with which they have been treated in the discharge of their duties by all who are connected with the Academy.

All of which is respectfully submitted.

WM. H. UPSON,
President.

SAMUEL PASCO,
Vice-President.

JOSEPH E. WASHINGTON,
Secretary.

GEO. F. EVANS.

W. B. PLUNKETT.

HUGH R. BELKNAP.

LOUIS W. HALL.

W. R. SMEDBERG.

ALDACE F. WALKER.

JAMES E. FLEMING.

APPENDIXES.

APPENDIX A.

WEST POINT, N. Y., *June 7, 1897.*

SIR: In accordance with your request and by direction of the Superintendent of the United States Military Academy, I have the honor to submit, for the information of your committee, the following statement with reference to the present armament and equipment of the Academy:

THE BATTERIES.

These may be divided into seacoast, siege, and field batteries.

Seacoast batteries.—There are two of these, one called “the seacoast battery” and the other “Battery Knox.” The seacoast battery, so called, is at the north end of the post looking north up the river. Battery Knox is on the eastern side of the post looking across the river. The seacoast battery is used for the instruction of cadets in heavy gun drill, and Battery Knox is unused except occasionally for saluting purposes.

Armament of seacoast battery.—The following guns and carriages are in place in this battery: One 8-inch steel breech-loading rifle complete, of the latest model, mounted on the barbette carriage provided for it, this carriage being also of the latest type; one 15-inch Rodman smoothbore, mounted on a front-pintle barbette carriage strengthened, with hydraulic buffer; one 12-inch steel breech-loading mortar complete, of the latest model, mounted on the service mortar carriage, also of the latest type; five 8-inch converted rifles, mounted on front-pintle barbette carriages strengthened, with hydraulic buffers. This battery has lately been remodeled, and it now contains a type of each of our service guns and carriages.

Armament of Battery Knox.—The following guns and carriages are in place in this battery: One 100-pound Parrott rifle, on old carriage; one 300-pound Parrott rifle, on old carriage; four 10-inch Rodman smoothbore guns, on old carriages; one 8-inch converted rifle, on old carriage. As this battery can not be fired owing to its location, and is never used except for saluting, no changes are needed in its armament.

The siege and mortar battery.—This battery is located at the north end of the post above the seacoast battery, looking up the river. The following guns and carriages are in the siege battery: Two 5-inch steel breech-loading siege guns, mounted on their carriages, and four 4.5-inch cast-iron rifled siege guns mounted on wooden carriages. The carriages for the two 5-inch guns are of the modern type, but can not be used at present, as they have no hydraulic buffers. These will be supplied as soon as they are completed. The 4.5-inch siege guns, with their carriages, are obsolete and are no longer used except for drill purposes. This battery will contain when complete, four 5-inch steel breech-loading siege guns and two 7-inch steel breech-loading siege howitzers, mounted on their proper carriages. The guns and howitzers are completed and ready for delivery, but the carriages are not yet ready. New platforms will be required for these guns, and all these supplies will be furnished by the Ordnance Department.

The following mortars and beds are in the mortar battery: Six 10-inch smoothbore mortars, mounted on their beds. These mortars are also obsolete, and are to be

replaced by four 7-inch steel breech-loading siege mortars, mounted on their carriages of latest type, and by two 3.60-inch steel breech-loading field mortars mounted on their carriages. The date of delivery of these mortars and their carriages is uncertain.

The field batteries.—There is one complete field battery, composed of six 3.20-inch steel breech-loading rifles complete, mounted on the latest type of field carriage, with limbers and caissons complete. This battery is used for light artillery drill. There is also a battery of four 3.20-inch steel breech-loading field guns, mounted on the latest type of gun carriage, with limbers complete, but the caissons of this battery are of the old pattern and belong to an old 3-inch battery. This battery is used for foot artillery drill.

As soon as the new model 3.20-inch steel guns for metallic ammunition are ready the six pieces will be replaced by them, and the present wood caissons and limbers will be replaced by those of steel.

Machine guns.—There are also at the post the following machine guns, which have been supplied partly by the Ordnance Department and partly by purchase from appropriations made by Congress; they are used in the practical instruction of cadets: One Gatling gun, caliber .45, model of 1875; one Gatling gun, caliber .45, model of 1883; one Gatling gun, caliber .30, model of 1895; one Gardner gun, caliber .45; one Maxim automatic gun, caliber .45; one Hotchkiss revolving cannon, caliber 1.50.

Rapid-fire guns.—There are also the following rapid-fire guns, which have been supplied by the Ordnance Department or purchased from appropriations made by Congress for the purpose; these guns are used for the practical instruction of cadets: One Hotchkiss mountain gun, caliber 1.65 inches; one Hotchkiss rapid-fire gun, 3-pounder; one Nordenfelt rapid-fire gun, 3-pounder; one Driggs-Schroeder rapid-fire gun, 6-pounder. In addition to the above, one Maxim semiautomatic rapid-fire gun has been ordered from the Maxim Company, appropriation for that purpose having been made at the last session of Congress.

SMALL ARMS.

The Department has on hand samples of the small arms and ammunition of a number of the leading foreign nations, and efforts are constantly being made to obtain these different arms for the purposes of comparison and study, and also for the museum. It is important that the Academy should have a sample of each of these arms, to enable the cadets to study practically their features, advantages, and defects, and compare them with our own gun.

MODELS OF SERVICE GUNS AND CARRIAGES.

The Department now has on hand models of all the service, field, siege, and sea-coast guns and their carriages, with the exception of a mortar carriage of the first type and one of the field carriages. These models were made at the Watervliet, Watertown, and Rock Island arsenals, and have proved to be of the greatest use and importance, as they are kept in the recitation rooms while the guns and carriages are being studied, and the cadets are thus enabled to become thoroughly familiar with the details of their mechanism. It is hoped that the necessary appropriations to complete these models will be recommended.

MUSEUM.

The work of fitting up the new museum in the academic building is nearly completed. The room is to be painted, and the collection catalogued. After this is done a small annual appropriation will be required to keep the models in repair, and to do the necessary work required in making additions to the collection.

With reference to the armament of the post, it is believed that, with the exception of the siege and mortar batteries and the wood caissons of the field battery, it is in a satisfactory condition.

Owing to the very short range attainable here for heavy guns, the vicinity of towns and railroads, and the number of vessels constantly passing on the river, it is believed that it would be unsafe to attempt to fire with the modern high-power guns, and hence types of these guns have, with the approval of the Superintendent, been placed in the seacoast battery, and the older guns of less power, mounted on the latest improved carriages, have been retained for target practice. By this means safety is insured; all cadets are given a sufficient amount of target practice, and all become familiar with the modern guns by seeing and handling the models, and by having a type of each class of gun mounted in the battery. Those cadets, whose duties require a more detailed knowledge of the modern high-power gun obtain this knowledge at Fort Monroe, and at the various artillery posts after graduation.

RECOMMENDATIONS.

I have the honor to recommend:

First. That the appropriation for model carriages be continued to complete the collection. The amount required is about \$2,500.

Second. An annual appropriation of \$300 for keeping the museum in repair, purchasing and fitting up new models, etc.

Third. The complete armament of the siege guns and siege mortar battery as proposed.

Very respectfully, your obedient servant,

LAWRENCE L. BRUFF,
*Captain, Ordnance Department, U. S. A.,
 Instructor of Ordnance and Gunnery.*

The CHAIRMAN OF THE COMMITTEE ON ARMAMENT, etc.
 (Through headquarters U. S. Military Academy.)

APPENDIX B.

WEST POINT, N. Y., *June 8, 1897.*

SIR: Complying with your request of this date, I have the honor to submit the following suggestions concerning the local water supply:

During recent years the volume of stored water has been entirely insufficient for the needs of the post. This deficiency in quantity has been remedied by the building of the new reservoir southeast of Fort Putnam, which, at the flow line, will store about 92,000,000 United States gallons, or about six months' supply at the maximum rate of consumption. At present this reservoir contains about 82,000,000 gallons.

The supply of water is derived from the mountain areas surrounding the post. These areas are free from animal pollution, but abound in vegetable matter, living and dead, while there are only scant deposits of sand and gravel to filter the water on its way to the streams. The latter are small and generally go dry for several months every summer and fall. Filtration proves that the water holds some vegetable matter in suspension, while analyses show that there is at times the same kind of matter in solution.

To place the water above suspicion as a cause of malaria, it has been decided to subject the whole daily consumption to natural sand filtration at a moderate rate per acre per day.

Congress has appropriated \$25,000 of the \$40,000 estimated as necessary for constructing and putting in operation the necessary filters. The \$15,000 not yet appropriated will be included in my estimates for the coming fiscal year.

The estimates named will also include an item of \$10,000 for removing an area of shallow flowage from the east side of the new reservoir, for providing fencing and parapet walls for the roads bounding the same reservoir, and for necessary repairs, fencing, and cleaning at some of the other reservoirs.

An item of \$3,000 will also be submitted for building a dwelling for the keeper of the new reservoir and new filters.

With the appropriations now available, and those to be estimated for this year, the latter amounting to about \$28,000, it is my opinion that the water works can be placed in condition to supply an ample volume of water which should be safe and pure beyond suspicion, and at such increased head as will allow of adequate direct fire pressure at all of the important buildings except the observatory.

Upon the completion of the work thus outlined, it will be possible to abandon as sources of water and ice supply several of the small reservoirs which are now leaky and too low to give suitable pressures or difficult to maintain in sanitary condition, as well as some very old mains which are so badly rusted as to be practically unserviceable. The work of construction begun in 1893, and intended to be completed with appropriations to be made next winter, will constitute in itself almost a new and complete system of water supply and purification, which should be sufficient to last for a long term of years.

Very respectfully,

JAS. L. LUSK,
Captain, Corps of Engineers,
In charge of Water Supply.

Hon. J. E. WASHINGTON, *Secretary Board of Visitors.*
(Through headquarters U. S. Military Academy.)

ADDRESS OF HON. HUGH R. BELKNAP.

GENTLEMEN OF THE GRADUATING CLASS:

I give to you as my dearest sentiment, "The fittest place where man can die is where he dies for man."

I hardly know in what language to express my sincere gratitude for the honor of addressing you, for, standing in the presence of such a company, my heart is full, while my lips are almost dumb as my mind reverts to an occasion of like character, almost a quarter of a century in the past, when I heard him whose name I bear and whose memory I revere, and whose heart for this Academy and its graduates was ever filled with earnest interest and high regard, address the then graduating class.

But that was yesterday; to-morrow is before us. In a soldier's life it is, as it should be, cheers for the living and tears for the dead; to the grave a dirge, a quickstep back to quarters.

All the world honors men who go to war, and "None but the brave deserves the fair." The poet who told the truthful story in this line, which runs through all men's lives, builded better than he knew, but just as he would have formed his words could he have seen the future. The eyes which in bright beauty glisten their affection from this grove, the fair hands which wave to you in honor, the smiles which each man gathers and cherishes as his, and his alone, all tell to you that, by work which duty demands, by persevering effort, you have won the glad acclaim of those who are now here to meet and greet you.

"None but the brave deserves the fair."

In that wonderful City by the Lakes, from which I proudly hail, a few years since was celebrated the four hundredth anniversary of our continent's birth. There were gathered the people from all countries and all climes; there was shown the most marvelous exhibit of the fruits, of the sciences, and the arts the world has ever known. Such a sublime event was made possible by the united efforts of a reunited people.

The war is over. Time, with unrelenting finger, points to the dial, and with amazement we read "Anno Domini one thousand eight hundred and ninety-seven."

Over thirty years have come and gone since the Union's former valiant foes laid down their arms to that magnanimous chieftain, the Old Commander, the nation's hero, Ulysses S. Grant, who by his matchless military genius gave to European nations lessons in the art of war and to our nation peace.

Old ideas and hatreds have vanished in the dim shadows of the past; the watchword of the nation is now "Onward and upward." The South stretches forth her arms and bids welcome to the North; the North, gratefully appreciating the kind invitation, gladly sends her muscle, her manhood, and her capital to develop earth's hidden treasures of the Southern States and to make their fields blossom as the rose.

With a heart full of gratitude to the God of all that we have reached this happy epoch in our career, the American people look to you, who come from every section of our beloved country, to see to it that the principles represented by the Stars and Stripes, the dearest flag that waves, always triumph.

Thrones are tottering, crowned heads are trembling, dynasties are falling. The people of the Old World look to our young Republic for all that is good in government; and you, who have been educated at the nation's cost, must do your very best to make this the government of the people, by the people, and for the people.

Some seem to think that patriotism is dying out, that love of country is diminishing; but this can not be. On the heathered hills of Scotland the sword of Wallace is yet a bright tradition; the genius of France, in its brilliant literature of the day, still pays its high homage to the Young Maid of Orleans; on the mountains and in the valleys of the picturesque Republic of Switzerland the story of William Tell is still rehearsed and his memory most highly honored; and here, in our own fair land, if anyone, be he citizen of this grand Republic, or be he one who bends the knee to foreign prince or potentate, dare insult the Stars, he shall bear the Stripes.

If the prophecies of the future are realized all systems of warfare will be changed most thoroughly and the better plan of arbitration will be forced upon the world. When dynamite can be used to its full power, when shells are utilized whose contents when distributed bring certain death to every living thing, animal or vegetable, within the radius of its consuming vapor, the time will be hastened when war will be no more.

You have been trained to war, and until the world knows naught but peace you must hold yourselves in readiness to wage most bitter conflict; for, though hearts are pitiful, war is pitiless. The more severe the struggle, the sooner the triumphant end.

By the knowledge acquired in this Academy, and gaining inspiration from the noble deeds of those who have gone before, you will be nerved and enabled to press on for right and justice until you receive your summons to the undiscovered country; to press on until you reach the gates of the eternal city; to press on as, with your faces toward the flag, you march up the golden streets; to press on until you stand before the great white throne, in the presence of Him who is not only the God of Battles but the Prince of Peace, and there, in the midst of the immortal spirits of the soldier dead, when you are called upon to

render up your stewardship, you will gladly turn to this lovely banner of the Union, and, with pride, pointing to its bright Stripes and glistening Stars, in one voice acclaim:

“In this sign we conquer.”

The hour has come; friends wait to welcome you; fathers, mothers, sisters, and lots of other fellows' sisters, extend their loving arms. This whole assemblage joins with me in wishing that the felicities of life and the blessings of Heaven may be yours in the fullest measure.

There may be times in your lives when some strain of music whose air has not come to you for years will bear you at once far back to these attractive scenes of other days where the same air was heard. The friends and the classmates who were with you here, the duties and the surroundings of a forgotten but then recalled hour in the dear delightful past will be with you once again, revived by the melody of that music whose magic power brings the forms and familiar faces of the loved of other days once more into your presence. Then will you reconsecrate your lives and your best endeavors to perpetuate for all time to come the splendid institutions of free America.

Gentlemen of the graduating class I beseech you, Guard well the Republic.



