

REPORT

OF THE

COMMISSION APPOINTED BY THE PRESIDENT TO INVESTIGATE THE CONDUCT OF THE WAR DEPARTMENT IN THE WAR WITH SPAIN.

MEMBERS OF THE COMMISSION:

Gen. GRENVILLE M. DODGE, Iowa, *President.*

Col. JAMES A. SEXTON, Illinois.

Col. CHARLES DENBY, Indiana.

Capt. EVAN P. HOWELL, Georgia.

Ex-Governor URBAN A. WOODBURY, Vermont.

Brig. Gen. JOHN M. WILSON, Chief of Engineers,
U. S. A.

Gen. JAMES A. BEAVER, Pennsylvania.

Maj. Gen. ALEXANDER McD. MCCOOK, U. S. A.

Dr. PHINEAS S. CONNER, Ohio.

RICHARD WEIGHTMAN, *Secretary.*

Lieut. Col. F. B. JONES, Chief Quartermaster of
Volunteers, *Disbursing Officer.*

Maj. STEPHEN C. MILLS, *Recorder.*

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COMMISSION REPORT ON THE CONDUCT OF THE
WAR DEPARTMENT IN THE
YEAR 1914

COMMISSION APPOINTED BY THE PRESIDENT TO
INVESTIGATE THE CONDUCT OF THE
WAR DEPARTMENT IN THE
YEAR 1914

MEMORANDUM OF THE COMMISSION

The Commission was organized on July 1, 1914, and has since that time been engaged in a study of the conduct of the War Department in the year 1914. It has held numerous public hearings and has received many suggestions from the public. It has also conducted extensive investigations into the various phases of the War Department's activities. The results of these investigations are set forth in this report.

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OFFICE OF COMMISSION APPOINTED BY THE PRESIDENT TO
INVESTIGATE THE CONDUCT OF THE WAR DEPARTMENT IN
THE WAR WITH SPAIN.

WASHINGTON, D. C., *February 9, 1899.*

To the PRESIDENT:

SIR: The undersigned, members of the commission appointed by you to investigate the conduct of the War Department in the War with Spain, have the honor to submit the following report:

On the 8th day of September, 1898, Gen. R. A. Alger, Secretary of War, submitted to you a letter (a copy whereof is annexed hereto, marked "A"), wherein he requested you to appoint a board, consisting of from five to seven members, with full power to investigate every bureau of the War Department and everything connected with the Army during the recent War with Spain.

In pursuance of this request you appointed the undersigned a commission for the purpose indicated.

At your request the members of the commission assembled at the Executive Mansion September 24 last. You then read to them a paper embodying your instructions (a copy whereof is hereto attached, marked "B"). In this paper you instruct the commission to thoroughly investigate all charges of criminal neglect of the soldiers in camp, field, hospital, and on transports; and to make the fullest examination of the administration of the War Department in all of its branches with the view of establishing the truth or falsity of the accusations of neglect and incompetency which had been made in the public press and elsewhere. Under your instructions there was no limit to the scope of our investigation, and you assured us that every facility would be afforded for the closest scrutiny and examination of all departments connected with the Army. You impressed upon us in the strongest manner your wish that our investigation should be so thorough and complete that our report should, when made, fix the responsibility for any failure or fault by reason of neglect, incompetency, or maladministration upon the officers and bureaus responsible therefor, if it should be found that the evils complained of had existed.

Appreciating to the fullest extent the candor and earnestness of your instructions, and resolved to abide by them in their meaning and spirit, we entered upon the discharge of our important duties. Immediately on leaving your presence the commission organized by electing Gen. Grenville M. Dodge, of Iowa, president; Col. Charles Denby, of Indiana, vice-president; and Mr. Richard C. Weightman, of Washington City, secretary. Gen. James A. Beaver, of Pennsylvania, was designated to conduct the examination of witnesses. Lieut. Col. F. B. Jones,

chief quartermaster of volunteers, was detailed by the War Department as disbursing officer, and Maj. Stephen C. Mills, U. S. A., was appointed by you recorder of the commission.

The organization of the commission took place at the War Department September 24, but on the next day and thereafter we met at the Lemon Building, in Washington City.

At the second meeting of the commission the necessary arrangements were made for the securing of clerks and stenographers, and a general discussion had as to the line of investigation to be pursued.

It was determined that the fullest possible publicity should be given to the proceedings of the commission.

Only two rooms were assigned us for public use. One was used and occupied by the members of the commission for the taking of testimony and other business; the other by the employees of the commission. There was, therefore, but little space available for the accommodation of reporters desiring to report proceedings; but there were allowed to be present at the sessions of the commission during the examination of witnesses six representatives, three of whom represented the three press associations of the United States, to whom all needed conveniences were assigned. A copy of the orders relating to reports by representatives of the press is annexed hereto, marked "C."

In further preparation for the labors of the commission it was resolved at the first meeting for business, held September 25, that the Secretary of War, the Adjutant-General, the Quartermaster-General, the Commissary-General, and the Surgeon-General should be requested to transmit to the commission all complaints received by them since April 1, 1898, touching the conduct of the war.

This request was promptly complied with by the officials above mentioned, and a large number of letters and communications touching the subject-matter thereof were transmitted to the commission for its consideration. For the resolution see the paper hereto annexed, marked "D."

In order that all persons should have the most ample opportunity to present to the commission any complaints they might see fit to make touching the conduct of the War Department, the commission, by a resolution adopted September 27, which was immediately given to the press, resolved that it invited and was ready and willing to receive and consider any complaints about the conduct of the War Department from any person or persons, and that it was respectfully requested that such complaints should be made in writing, stating facts that the party might know of his own knowledge precisely and in detail, giving names of any officers or enlisted men who were charged with misconduct or incompetency, and that such communications should be addressed to the secretary of the commission at Washington, D. C.

A copy of this resolution is hereto annexed marked "E."

In compliance with this resolution we received many hundreds of

letters and newspaper clippings, all of which were duly considered by the commission.

In order to further facilitate our labors and to furnish every possible opportunity for presenting complaints it was ordered that whenever any person made a complaint which was not specific, he should be requested to forward a written statement, giving in as definite and complete a form as practicable all facts based upon personal experience and knowledge that would aid the pending investigation. (See paper hereto annexed, marked "F.")

September 26, 1898, a communication was addressed to the Secretary of War, wherein he was requested to direct the Adjutant-General, the Quartermaster-General, the Commissary-General, the Surgeon-General, the Chief of Engineers, and the Chief of Ordnance to furnish to the commission, as soon as practicable, information as to the condition of their several departments at the time of the declaration of war with Spain, and the operations of the same from that time until the war closed; a copy of which communication to the Secretary of War is annexed hereto, marked "G."

This communication recited in detail the subjects on which information was desired, comprising facts touching the mobilization of troops, and their organization; the amount and kind of camp and garrison equipage on hand at the beginning of the war, the amount subsequently purchased; similar information with regard to furnishing the troops with arms and accouterments; information as to which of the volunteer regiments were armed and equipped in the various State camps; how the location of the camps of general rendezvous was determined; full particulars as to the transportation of troops; an account of the quantity, quality, and kind of food furnished; information as to the tentage, beds, linen, medicines, and all other necessaries for the hospitals; as to whether the medical staff was efficient; and as to the conditions and operations of the engineer and ordnance departments.

To aid the Secretary of War in complying with this request there was submitted a list of special questions addressed to the heads of departments, which list is attached to said communication.

The Secretary of War and the heads of the departments, to wit, the Adjutant-General, the Quartermaster-General, the Commissary-General, the Surgeon-General, the Chief of Engineers, and the Chief of Ordnance, in compliance with our request, furnished answers to the questions propounded to them, copies of which, in the order above named, are hereunto annexed, marked, respectively, "H," "I," "K," "L," "M," "N," and "O."

These replies have materially aided us in our investigation. Having thus arranged the preliminary matters which seemed advisable to be determined, the commission resolved that all charges specifically brought before it should be made the basis of the examination of witnesses who had, or professed to have, knowledge of the facts involved in such charges.

It was further determined that in the examination of witnesses the strict rules of evidence as applied in legal proceedings should not be adhered to, but considerable latitude should be allowed.

While, therefore, in general, the rules of evidence have been followed, we have not hesitated to relax their application when thought advisable. During our sessions we examined 495 witnesses. All of these were sworn or affirmed, except one who declined to take the oath. The chief examination was conducted by the member designated for that purpose, but each witness was interrogated by every member of the commission who desired to do so.

Our purpose in the discharge of our duties was to arrive at the facts touching the conduct of the war, and no effort was spared by us to reach that result. We have examined the Secretary of War; the Commanding General; heads of departments; officers of corps, divisions, brigades, regiments, and companies; noncommissioned officers and privates; nurses, and persons from many employments in private life. No man or woman who has stated to us that he or she had any material matter touching the subject of our inquiry to communicate has been refused a hearing.

All the members of the commission have been engaged in taking testimony. It has happened that subcommittees have been occupied in hearing witnesses at four different places at the same time.

Testimony has been taken in Washington, D. C.; Jacksonville, Fla.; Fort McPherson, Ga.; Anniston, Ala.; Huntsville, Ala.; Chattanooga, Tenn.; Knoxville, Tenn.; Lexington, Ky.; Chicago, Ill.; Cincinnati, Ohio; Detroit, Mich.; Harrisburg, Pa.; New York City; Boston; Burlington, Vt.; Tampa, Fla., and Fernandina, Fla. The commission visited in person most of the old camps; Jacksonville, which was occupied by the Seventh Corps; the sites of the camps at Tampa, Fernandina, and Camp Thomas; the new camps at Anniston, where the First Division of the Fourth Corps was located; Huntsville, where the Second and Third divisions and cavalry division of the Fourth Corps were located; Knoxville, where the Second Division of the First Corps was located; Lexington, where the headquarters and First Division of First Corps were encamped; and Camp Meade, where the Second Corps was encamped. As a rule the inspection was not only of camps but of troops and supplies, and much valuable information was obtained by contact with officers and enlisted men.

At all of these places we have invited, sometimes with special insistence, every person to come before us and testify who could throw any light on the conduct of the War Department in any of its branches.

Any charge of corruption or intimation of fraud or bribery in connection with the letting of any contract, even a hint of wrongdoing, has been carefully investigated.

It may be said now, at the beginning of this report, that there has been no evidence before us that anyone in or connected with the War

Department has dishonestly received a dollar. We have made persistent efforts to secure the attendance of persons to whose names rumor had attached an allegation that they knew of corruption of officials in the War Department, but these men have either denied the statements attributed to them or have maintained silence when invited to tell what they knew.

Preliminary to a specific report on the conduct and management of the bureaus of the War Department, as well as on camps and sanitation, and the conditions attending the operations of armies in the field, attention is called to certain topics had under consideration. We have regarded it as a part of our duty to make suggestions touching changes that might be desirable in the future control and management of the Army.

RETIRED OFFICERS.

Under existing laws the officers of the Army are retired when they reach the age of 64. We have had before us many suggestions made by officers on the retired list, who are men of experience and distinction, that this law should be so amended as to give to the President the right to call into active service any retired officer during the time of war. This right exists as to the retired officers of the Navy, and it seems to us there is no reason why it should not be extended to embrace retired Army officers.

It does not appear reasonable that an arbitrary law should prevent during the existence of war the use of experienced men merely on account of their age. We think it would be wise to make it discretionary with the President to use the officers on the retired list for filling positions during war and not trench on the active organization, that may be needed in the field.

During the recent war many positions were filled by the appointment of civilians to which retired officers could have brought professional training, valuable knowledge, and large experience.

These remarks must not be construed as reflections on the appointments made from civil life. The young civilians who received staff and other appointments in the main discharged their duties in a highly commendable manner. Although inexperienced, they learned quickly. Among the officers of the staff departments appointed from civil life were many who had had experience in work identical with or similar to that they were called upon to perform while in service.

REGIMENTAL OFFICERS.

Volunteer regiments commanded by regular officers or by officers of experience were better cared for than those regiments which were commanded by inexperienced men. The colonel of a regiment is responsible for the care of the men in every respect as to their health, drill, and discipline, and incessant care is necessary on his part to force upon

the men the practice of hygiene in all matters relating to camp life, such as cleanliness, bathing, care of kitchen and sink, and general policing. The less sickness among regular troops as compared with volunteers must be ascribed, in part at least, to the fact that they are commanded and cared for by skilled and experienced officers.

EXAMINATION OF APPOINTEES IN THE ARMY.

In order to secure competent officers in all the branches of the Army, it is desirable that before receiving his commission every applicant should be examined by a board designated for the purpose by the President. The fact that regimental officers are nominated by the governors of the States constitutes no valid objection to their being compelled to undergo such examination. If it were known that appointees would be examined as to their qualification, greater care might be exercised by the governors in their selections. All such appointees are to be mustered into the service of the United States, and before the muster takes place the Government should be satisfied that they are capable of properly discharging the duties incumbent upon them after muster into service. It is the practice of the Government now to require every officer up to a certain grade to be examined for promotion. During the war it was the practice of the Government to require nominees for appointment in the Regular Army to be examined. The system should be adhered to in increasing the Army in time of peace and in all future wars. The short duration of the war with Spain, perhaps, did not render it practicable to convene boards of examination, but there is no reason why such should not be convened hereafter.

SCHOOLS OF INSTRUCTION.

We have been greatly impressed by the proof taken before us as to the advantages derived from schools of instruction, which were established in many brigades and regiments. Regular Army quartermasters and commissaries held such schools at some places where large numbers of troops were collected; their services were greatly appreciated by civilian appointees, and good results followed. There were also in many regiments schools held for instructing the commissioned and noncommissioned officers in tactics and other soldierly duties. Binding regulations on this subject should be enacted, and the system extended to all branches of the service, particularly in any special duties pertaining thereto. It would be perhaps especially beneficial to surgeons appointed from civil life, who, informed in the line of their profession, are usually unacquainted with the purely military duties in which they should be specially instructed.

PAPER WORK OF THE WAR DEPARTMENT.

The routine work in the departments, in our opinion, is far beyond what is necessary, and each year seems to increase it. The methods employed make it almost impossible to transact business promptly. The heads of all departments, officers of large depots, chiefs of staff departments, corps, and divisions have necessarily been obliged to give the time and attention to details which should have been given to matters of larger moment. No well-regulated concern or corporation could transact business satisfactorily under such regulations as govern the staff departments, and the fact that every officer of each of the staff departments holding responsible positions has been obliged to ignore routine demonstrates the necessity of a thorough reform.

THE ARMY.

On the 1st day of April, 1898, the strength of the Army was 2,143 officers and 26,040 enlisted men, a total of 28,183. War with the Kingdom of Spain was declared April 21, 1898. Just before the war began portions of the Regular Army were stationed in Washington, Idaho, California, Utah, Nebraska, Wyoming, Montana, the Dakotas, Kansas, Minnesota, Missouri, Oklahoma, Arkansas, and at various posts, amounting in all to 80 in number. On April 15, 1898, by direction of the Secretary of War, the regiments of the Regular Army, with few exceptions, were ordered to proceed to various points in the South—Chickamauga, Ga., New Orleans, La., Mobile, Ala., and Tampa, Fla. By proclamation of April 23 the President called for 125,000 volunteers, and on May 25 for an additional force of 75,000. Congress also authorized an increase of the Regular Army to 61,000 and in addition provided for 16 regiments of volunteer infantry (immunes), cavalry, and engineers.

On May 31, 125,000 volunteers had been mustered into the service.

In August, 1898, the Regular Army numbered 56,365, the Volunteer Army 207,244—a total of 263,609.

These figures of themselves indicate that an immense work was thrown upon the War Department. After thirty-three years of peace, during a great part of which the Army did not exceed 26,000 men, it suddenly became necessary to arm, clothe, feed, and equip more than a quarter of a million.

How that duty was discharged will appear in detail in subsequent parts of this report. The sudden emergency which called our people to arms after an interval of half a century of peace with all foreign powers was met by the War Department with earnestness and energy. The situation found the country unprepared with any large stock of arms, ammunition, clothing, supplies, and equipments. That they were duly provided and that the numerous demands on the industries of our people were met so promptly will remain one of the marvels of history.

It is to be noted that the organization of the Army indicated a desire on the part of the War Department to place in separate and responsible commands experienced officers of the Regular Army and officers from civil life who had received a military education and had experience in the civil war. The chiefs of the staff departments in the field were selected from a similar class of officers. They took charge of the depots of supplies at the camps and were assigned the most responsible positions. So many officers of the Regular Army commanded, supplied, and superintended the movement of troops that the service was markedly reduced in its field, line, and staff.

The rapidity with which commanding officers of corps, divisions, brigades, regiments, and officers of the staff departments have profited by the first six months' service is shown in the improvements in the new camps, their location, water supply, and sanitary arrangements. The weak spots in the first arrangements for camping troops were soon discovered, and it was learned that with proper system and little expense they could be camped under favorable sanitary conditions. The present camps are models, the hospitals adapted to the comfort and care of the sick, the grounds clean, and the sanitary conditions greatly improved. The troops are now moved with promptness, without friction, and with more rapidity than in the beginning of the war. These improvements have come from experience, and the new army now is far advanced in facilities for feeding, equipping, camping, and transportation.

CASUALTIES.

The reports before us show that during the war 23 officers and 257 enlisted men were killed; 113 officers and 1,464 enlisted men wounded. Between May 1 and September 30, inclusive, the deaths from all causes were 107 officers and 2,803 enlisted men, being an aggregate of 2,910 out of a total force of 274,717, but a little over one per cent.

PREPARATIONS FOR FUTURE WARS.

One of the lessons taught by the war is that the country should hereafter be in a better state of preparation for war. Testimony has been taken on this subject, and suggestions have been made that large supplies of all the material not liable to deterioration should be kept on hand, to be continuously issued and renewed, so that in any emergency they might be available. Especially should this be the case with such supplies, equipment, and ordnance stores as are not in general use in the United States and which can not be rapidly obtained in open market.

THE AID SOCIETIES.

It is gratifying to report that most valuable assistance to our soldiers during the war was rendered by various voluntary relief associations the

more conspicuous of which were the American National Red Cross, the National Relief Commission, the Daughters of the American Revolution, the Army and Navy League, and the Young Men's Christian Association. Representatives of these and other societies worked in cooperation with many good men and women in all the States and were present in the camp, the hospital, and on the field of battle. To these societies and those who cooperated with them the country owes a debt of gratitude.

There were many individual instances of personal devotion to the interest of the soldiers. We do not name these beneficent laborers here, but they will not be forgotten.

AUTHORITY AND RESPONSIBILITY.

For many years the divided authority and responsibility in the War Department has produced friction, for which, in the interest of the service, a remedy, if possible, should be applied. The Constitution makes the President the Commander in Chief of the Army, and he can not transfer that authority to any other person. The President selects his Secretary of War, who has his confidence, and who is his confidential adviser. The commanding general is assigned to duty as such by the President, and under the Military Laws of the United States his duties are defined as follows:

The command exercised by the commanding general of the Army, not having been made the subject of statutory regulation, is determined by the order of assignment. It has been habitually composed of the aggregate of the several territorial commands that have been or may be created by the President.

The military establishment is under orders of the commanding general of the Army in that which pertains to its discipline and military control. The fiscal affairs of the Army are conducted by the Secretary of War through the several staff departments. (Par. 187, A. R., 1895.)

All orders and instructions from the President or Secretary of War relating to military operations or affecting the military control and discipline of the Army will be promulgated through the commanding general. (Par. 188, A. R., 1895.)

Lieutenant-General Schofield, who has probably had as much experience and given the question as much thought and study as any one in our country, says in substance:

Recent experience has served to confirm all the results of my lifelong study and large experience that the proper position for the senior officer of the Army on duty at Washington is not that of commanding general, a position which is practically impossible, but that of general in chief, which means in fact chief of staff to the President. The title of general in chief was a permanent one during the entire history of the country up to the time when General Grant became Lieutenant-General.

When I became the commanding general I addressed to the President a letter, in which I pointed out to him what had been the result of my study and experience, and saying that the only way was to abandon entirely, which I did during my seven years of service, all pretense of being the commanding general and to content myself with acting as the chief of staff of the Army under the Secretary of War and the President. The result was that perfect harmony prevailed during my time, and I

did exercise a legitimate influence in command of the Army, this because I did not claim to exercise anything which the law did not give me.

The President must have the same power of selection of his general in chief as he has of his Secretary of War; without this there can be no guaranty that he will give, or that the Secretary of War will place in the general in chief, that confidence which is necessary to perfect harmony. Neither the President nor the Secretary of War should have in the command of the Army an officer who is not working in harmony with him.

THE SECRETARY OF WAR.

The records of the War Department, which have been laid before us, show that the Secretary of War extended to all chiefs of bureaus cordial and full support, and promptly responded to every proper demand made upon him by commanding officers.

No testimony has been presented showing intentional neglect of duty nor any attempt to serve personal interests. The charges made that the Secretary of War was pecuniarily interested in contracts, purchases, and other transactions of the War Department have been thoroughly examined and found baseless.

In the judgment of the commission there was lacking in the general administration of the War Department during the continuance of the war with Spain that complete grasp of the situation which was essential to the highest efficiency and discipline of the Army.

The commission has refrained from criticizing certain of the heads of bureaus for not having acted with foresight in preparing their various departments for active war before war was actually declared, because it has appeared that the national defense fund provided by the act of March 9, 1898, was not made available for use, except for the Navy and for coast defenses and the expenditures incident thereto, until after the declaration of war.

ADJUTANT-GENERAL'S DEPARTMENT.

BRIG. GEN. H. C. CORBIN, ADJUTANT-GENERAL, U. S. A., IN CHARGE.

The working force of this department is composed of 6 officers, 105 permanent clerks, and 195 temporary clerks.

The Adjutant-General's Department is the bureau of orders and records of the Army. Orders and instructions emanating from the War Department or Army Headquarters and all general regulations are communicated to troops and individuals in the military service through the Adjutant-General. In his office are the records of the War Department relating to the personnel of the permanent military establishment and militia in the service of the United States, to the military history of every commissioned officer and soldier thereof, and to all movements and operations of troops.

The department is divided into divisions as follows:

The Military Academy division has charge of the qualifications and manner of appointment of cadets. The graduation of the classes of 1898 and 1899 in advance of the usual time created the impression that there must necessarily be a corresponding increase in the number of cadet appointments, which occasioned a large increase of applications and correspondence in this division.

Enlisted branch of the Regular Army.—The work of this division comprises the appointment of noncommissioned staff officers, transfers, furloughs, discharges, etc. This work up to September 1 was largely increased because of the added charge of the enlisted men of the Volunteer Army. Since that date the division has had to do with men of the Regular Army only. The discharges by favor in years before the war were less than 100 per month; since September 1 there have been over 600 per month. The enlisted branch of the Volunteer Army since September 1 has had charge of the enlisted men of the volunteers, and there have passed through the office about 1,500 papers per day. This division also has charge of special orders. It receives the communications from soldiers serving with their regiments, soldiers away from their regiments, relatives and friends of soldiers, Members of Congress and other influential people asking for discharges and furloughs of volunteers. This correspondence has greatly increased from the fact that regulations and military discipline have often been ignored.

Division of orders, books, and blanks.—From May 1 to August 1, 1898, the number of special orders issued was 79; the number of special orders distributed was 31,752; number of paragraphs of special orders issued, 5,660; number of paragraphs of special orders distributed, 23,800; general orders issued, 102; general orders distributed, 736,000; circulars issued, 36; circulars distributed, 256,000. During this time 4,000,000 blanks were distributed to the Army from Porto Rico to Manila, and 15,700 packages of blank and record books.

Army rolls division.—This division has control of the enlistment papers, descriptive and assignment cards, and death and disability papers pertaining to the enlisted men of the Regular Army. On the muster in of the volunteer organizations all similar records pertaining to them were committed to the care of this division. Before the war the average number of muster rolls received bimonthly was 855. During the war this has been increased to 4,000.

Appointment, promotion, and commission division.—Ordinarily about 350 appointments and commissions were issued in a year, while since March 1, 1898, in the Regular and Volunteer Army 3,997 commissions have been issued. There have been filed over 30,000 applications for appointment as general and general staff officers of volunteers.

Returns division.—This division has charge of receiving, examining, noting, and filing all the various Army returns, keeping record of service of all officers of the Army, movement of troops, establishment of posts, their abandonment, etc. It also has charge of the records of the various

departments, corps, divisions, brigades, commanders, and staff officers of each command, the movements and operations of the entire Army, as well as that of a single company, actions in which engaged, losses sustained, etc. It is in receipt of thousands of letters and newspapers daily going to regiments and individuals of the Army, which have to be readdressed and remailed. Since the commencement of the muster out of the volunteers a record is kept of the home addresses of all volunteer officers.

Mail and record division.—All mail received in the office of the Adjutant-General is opened and distributed in this division, requiring the services of three clerks. During the eight months preceding the war with Spain there were received 60,000 pieces of mail, and from May to December, 1898, 400,000.

Muster-in division.—This division prepared the regulations for the muster in, the ordinary rolls, and other blanks. There were detailed in each State for mustering duty from one to three officers, to whom was assigned the further duty of arranging for the sheltering, subsisting, and clothing of the volunteers. They made physical examinations of 288,000 men, accepting 216,500, and have mustered out to date about 110,000.

Telegraph division.—Prior to the war with Spain the business of this branch of the service was 1,000 telegrams per month. With the sinking of the *Maine*, on February 15, the telegraph business began to steadily increase, so that on April 21, when war was declared, the working force was 8 operators, which number steadily increased to the time of the battle of Santiago, when there were 20 operators, 5 clerks, and 7 messengers.

Recruiting division of the Regular and Volunteer Army.—Prior to March, 1898, the monthly rate of enlistment was from 700 to 1,000. Under the stimulus of the war, during the month of May the enlistments for the Regular Army reached 9,569, and for the three months May, June, and July they numbered 25,500, accepted from 102,000 applicants. In addition, under the President's second call, over 40,000 volunteers were enlisted individually from 50,000 applicants to recruit the regiments mustered in under the first call. During the months of August, September, and October, the rate of enlistment for the Regular Army was 3,300; since November the monthly rate has been 5,000.

Military information division.—The work of this division began a long time before war was declared. Information was collected as to the strength, armament, supplies, and operations of the Spanish troops in Cuba and Porto Rico. Lieutenant Whitney visited Porto Rico and Lieutenant Rowan Cuba, and the result of this labor and personal examination was that when war was declared the War Department was in possession of information showing the probable amount of resistance to be met with at any given point. Plans of the forts around Havana and other fortified points and the trochas were obtained.

Military maps and military notes of Cuba, Porto Rico, and the Philippines were published, and illustrated pamphlets of the Spanish navy prepared for the purpose of informing the commanding officers of seacoast forts of the character of the ships they might have to cope with. In conjunction with the Navy Department a confidential code of signals between our ships and the forts was drawn up. It also sent and received all the confidential telegrams of the War Department.

There were submitted to the commission by the Adjutant-General detailed statements respecting the Regular Army, the volunteers, and militia, and correspondence and telegrams in relation to the three different campaigns. For information on these subjects reference is made to reports appended.

This department, which was organized and trained to take care of a small regular army, was required to rapidly provide for organizing and mustering in 250,000 soldiers, and within six months to muster out 100,000. The Adjutant-General's Department of the Army having full knowledge of the condition of the Army when the declaration of war was made, it could not be surprised by the inability of the departments to immediately respond to the demands. The economy of previous years, by which nearly every article of equipment not immediately needed by the Army was disposed of and no provision made for emergencies, rendered immediate effective expansion of the Army impossible. In the organization of the Army for active duty provision was made for eight corps, seven of which were fully equipped and placed in the field.

The suggestion has been made, and opinion given, that it would have been better to have organized the Army and equipped the troops in each of their States before they were concentrated and mobilized into brigades, divisions, and corps, but the War Department had not the officers to send to each State to organize, muster, feed, and equip them, nor had it officers of sufficient rank to command, drill, and discipline the troops while in State camps. Early removal of regiments from State camps has the advantage of avoiding the disturbing influences of home locality.

During the organization and equipment of the Army a daily report by telegraph from each camp was received, showing what supplies they had and what was needed, and a copy of this report was furnished each staff department. Where important deficiencies were reported, the Secretary of War called attention to the fact, and in most cases it was found that such deficiencies were due to the nonexistence of the articles.

There were about 250 regiments, batteries, and separate organizations in the Army, from only 25 of which came complaints, aside from those affecting the Medical Department. Investigation has shown that the most of these complaints were because of lack of supplies not obtainable at first or were due to the inexperience of officers in command, not, so far

as we can discover, from any intentional neglect. Prompt action seems to have been taken in most cases to remedy them, but they were what occur naturally from new experiences, new conditions, unexpected and emergency movements, and in fact from the entirely new life, discipline, and training.

In the staff departments about 400 regular officers, on the strength of their efficiency records, were taken to fill the more responsible positions. Then it was found necessary to go outside and appoint from civil life, the selections being frequently made from officers who had had experience in the National Guard, graduates from military colleges and schools, and citizens whose business or professions fitted them for the positions for which they were selected. The testimony shows that they were honest and manifested a desire to become efficient in their duties. Not one has been court-martialed and but few dropped as incompetent.

In the Inspector-General's Department every appointee except one had had experience. In the Medical Department the President did not appoint unless the Surgeon-General had examined the application and recommended the applicant.

The Adjutant-General testified that there had not been a deficiency of one dollar reported on the part of a volunteer staff officer, and that he wished to make it a matter of record that in the distribution of many millions of dollars during this war there was yet to be made the first charge of defalcation against an army officer, regular or volunteer.

The testimony shows that it was the custom of the Secretary of War, when any large or emergency movement was contemplated, to call in consultation the heads of the different departments that related to the movement. It also shows that the heads of departments consulted the Secretary of War frequently, at times daily, upon matters relating to their departments, and were given prompt and ample support in their various duties.

The military colleges of the United States should be encouraged, especially those that have a system of education and drill similar to West Point, and their graduates should be given preference, after West Point, in the appointment to the grade of second lieutenant in the Army over other civilians. It is a simple and effective way for the United States to induce young men who have a taste for military life to fit themselves for it, and creates a reserve force that always in times of war seeks service and performs efficient and valuable duties.

From the day war was declared until this hour the office of the Adjutant-General has not been closed. The heads of the departments were frequently called in the night for consultation and to furnish supplies in emergencies. The Adjutant-General was in his office almost the entire time, often spending the night there, and the greater part of the force worked Sundays and holidays and at all hours when the emergency required it.

There have been very few complaints against this department. The records and testimony show that it has been prompt in its work, and has added greatly to the efficiency of the Army. Lack of proper legislation and strict construction of laws and regulations made officers hesitate in assuming responsibilities and meeting emergencies by going outside the regulations and laws. However, most officers, seeing the necessity and appreciating the emergency, obtained by purchase and in other ways all needed supplies, being sustained in their action by the Secretary of War and chiefs of bureaus. This, however, will not relieve them of their personal liabilities, which can be removed only by act of Congress. Under the law no contract or actual expenditure preparatory for war could be made until appropriations were available. The different staff departments were called upon to obtain information and to make such preparation as was possible under the law and existing conditions.

INSPECTOR-GENERAL'S DEPARTMENT.

BRIG. GEN. J. C. BRECKINRIDGE, INSPECTOR-GENERAL, U. S. A., IN CHARGE.

DUTIES.

The Inspector-General's Department has no power to order inspections except as directed so to do by the Secretary of War or the Major-General Commanding the Army, and has no control over inspectors-general assigned to department, corps or division headquarters.

Its duties are prescribed partly by the statute law and partly by Army Regulations and General Orders. Those prescribed by statute are:

First. Inspections or surveys of unserviceable stores, act of March 3, 1825.

Second. Frequent inspections of disbursements of appropriations made by officers of the Army, act April 20, 1874.

Third. Annual inspection of the Soldiers' Home at Washington, D. C., act March 3, 1883.

Fourth. Annual inspection of the National Homes for Disabled Volunteer Soldiers, act August 18, 1894.

Army Regulations and General Orders prescribe that the sphere of inquiry of an inspector includes every branch of military affairs, except when limited in orders or by the Army Regulations.

General Order 81 of 1898 prescribes that inspectors will be assigned by the War Department to the headquarters of geographical departments, and to the headquarters of armies and army corps in the field, and by the commanding generals thereof to divisions.

Inspectors thus assigned are under the orders of their commanding officers, and make such inspections as are directed. An inspector, of himself, has not the authority to inspect when and where he pleases.

It is directed in general order 81 of 1898 that he make known his orders or instructions to commanding or other officers whose troops and affairs he is directed to inspect, and an attempt to inspect without such orders would meet with a prompt and proper refusal to be inspected. Ordinarily an inspector is given wide latitude by his immediate commanding officer and becomes a confidential staff officer. Frequently he is empowered to give orders in the name of the commanding officer to correct irregularities, or meet the deficiencies exposed by inspections, but this is in the discretion of the commanding officer and applies usually to troops only. The heads of the other staff departments, being staff officers of the commanding officer, their departments are inspected only by order.

REPORTS.

Inspectors-general report in person to the Commanding General and by letter to the Adjutant-General of the Army. They report monthly to the Adjutant-General of the Army the inspections and investigations made by them during the month. Their reports are made to their immediate commanding officer, who forwards them to the Adjutant-General of the Army for transmittal to the Inspector-General of the Army. They will not give orders unless specially authorized to do so, and then only in the name of the superior giving such authority.

In active service, many of the reports of inspecting officers are made verbally. With new troops especially, commanding officers do not desire to have written reports of all inspections made. It is recognized that many errors, irregularities, and deficiencies are the results of inexperience, and it is not thought desirable to make a record of all these matters which may soon be corrected, but which, put on record, would be a source of mortification to the troops afterwards.

This feature, together with the immense amount of work to be done and the want of clerical assistance and appliances in the field, explains the lack of complete reports on file in the office of the Inspector-General in Washington.

PERSONNEL.

REGULAR ESTABLISHMENT.

At the beginning of the war the Department had a force of one brigadier-general, two colonels, two lieutenant-colonels, and two majors. The act of Congress approved July 7, 1898, made a temporary increase of one colonel, one lieutenant-colonel, and one major during the war.

The largest number of officers in the regular Department during the war was ten, which number was reached in August, when those newly appointed reported for duty. Of these, four were appointed general officers of the volunteers by the President of the United States and assigned to duty on their volunteer rank.

The other six were on duty with troops or in the office of the Inspector-General in Washington.

Five line officers were performing the duties of acting inspectors-general at geographical departments, detailed by the War Department for such duties on the recommendation of the Inspector-General of the Army. As indicative of the class of men so selected, it may be noted that the division commanders in the battle of July 1, in front of Santiago—Kent, Sumner, Lawton, and Chaffee—had all been acting inspectors-general.

The Inspector-General of the Army, Maj. Gen. J. C. Breckinridge, while inspecting Camp George H. Thomas, under orders issued from headquarters of the Army, under authority from the Secretary of War, was ordered by the Major-General Commanding the Army to Tampa, Fla., and, discontinuing his inspection, he reported to the major-general commanding there June 5.

At General Shafter's request, approved by the Secretary of War, he was ordered to embark with the Fifth Corps for Cuba, was present at the operations which resulted in the surrender of the city of Santiago and the Spanish army, and as Inspector-General of the Army reported upon these operations.

The following table shows the stations of inspectors-general, regular and volunteer, during July, 1898:

Stations.	Regular.			Volunteers.	Total.
	Command of troops.	Special.	Inspector's duties with troops.		
With army at Santiago	1	1	1	5	8
With army at Porto Rico			1	1	2
With army at Manila			1	3	4
At Camp Alger				4	4
At Camp Thomas	1			8	9
At Camp Cuba Libre				3	3
At camp at Tampa				4	4
Total	2	1	3	28	34

INSPECTORS-GENERAL OF VOLUNTEERS.

The act of Congress approved April 22, 1898, authorized the President to appoint one inspector-general with the rank of lieutenant-colonel for each army corps and one with the rank of major for each division organized.

Under this authority there were appointed nine inspectors-general with the rank of lieutenant-colonel and twenty-three with the rank of major.

Of the nine lieutenant-colonels so appointed, six were from the Regular Army and three from the National Guard. Of the twenty-three majors, sixteen were appointed from the Regular Army and seven from civil life, the latter, with one exception, having had experience with the National Guard.

The Adjutant-General of the Army testifies that the officers appointed inspectors-general from the Regular Army were selected on their efficiency records.

There is before the commission no evidence nor statements that the individual officers of the Inspector-General's Department, either Regular or Volunteer, with one exception, were not fitted for and did not properly perform their duties.

CONCLUSIONS AND RECOMMENDATIONS.

The commission find that the Inspector-General's Department was not as efficient as it ought to have been. There seems to have been question as to the authority by which inspections were to be ordered. On at least one occasion, May 17, the Secretary of War instructed the Major-General Commanding the Army to inspect certain camps, viz, those at Chickamauga, Atlanta, New Orleans, Mobile, Tampa, Miami, and Key West. The Major-General did not act upon such instructions, stating it to be his place to order inspection.

Further, the commission find that although several of the officers of this department were assigned to duty in command of troops in the field, still competent officers were left in charge of the department in Washington to perform such duties as were assigned to them. The organization in the field was ample, and the inspectors made reports to the commanding officers to whom they had been assigned. Those reports were often not acted upon and were not forwarded to the War Department.

For this important branch of the Army a better system could be adopted. It is recommended:

1. That it should be the duty of the Inspector-General to submit to the Secretary of War, at stated intervals, plans for the inspection of camps and troops.
2. The corps of inspectors-general should be sufficiently large to fully perform its duties, and inspections should be frequently made.
3. Reports of such inspection should be promptly forwarded by the Inspector-General's Department to the Secretary of War for his information.

JUDGE-ADVOCATE-GENERAL'S DEPARTMENT.

BRIG. GEN. G. N. LIEBER, JUDGE-ADVOCATE-GENERAL, U. S. A., IN CHARGE.

The Judge-Advocate-General's Department consists of eight officers, and is the bureau of military justice. The Judge-Advocate-General is the custodian of the records of all general courts-martial, courts of inquiry, and military commissions, and of all papers relating to the title of lands under the control of the War Department, except the Washington Aqueduct and the public buildings and grounds in the District of Columbia. The officers of this department render opinions

upon legal questions when called upon by proper authority. The only addition made to the department during the war was judge-advocates for corps. The Judge-Advocate-General considered that such officers for divisions should also have been appointed, but did not think that the failure to so appoint was detrimental to the best interests of the service.

For the twelve months ending September 1, 1898, the trials by general court-martial were:

Commissioned officers:

Regulars	3
Volunteers.....	12

Enlisted men:

Regulars (convicted 1,148, acquitted 94)	1,242
Volunteers (convicted 497, acquitted 126).....	623

Total	1,880
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The superior class of men that has been recruited for the Regular Army is shown by the less number of courts-martial in 1898 as compared with 1897, which was 139; also in the decrease of desertions, which for 1894 were 518, for 1897, 244, and for 1898, 176. The total number of convictions for desertion in 1898 was, regulars 176, and volunteers 18.

About one-half of the time of this office was occupied in civil matters, such as preparing contracts, examining titles, etc.

No complaint has been received by the commission in relation to the office or any member of its corps, therefore the commission concludes that it has performed its duties with efficiency and to the benefit of the service.

THE QUARTERMASTER'S DEPARTMENT, UNITED STATES ARMY.

BRIG. GEN. M. I. LUDINGTON, QUARTERMASTER-GENERAL, U. S. A., IN CHARGE.

The duties devolving upon the Quartermaster's Department under the Secretary of War during peace and war, as required by law and regulations, are as follows:

To provide the Army with military stores and supplies requisite for its use, such as clothing and equipage, tents, band instruments, tableware and mess furniture, equipments for bakeries, fuel, forage, stationery, lumber, straw for bedding for men and animals, all materials for camp and for shelter of troops and stores, furniture for barracks, heating and cooking stoves for use in barracks and quarters, tools for mechanics and laborers in Quartermaster's Department, furniture, books, etc., for post schools, reading matter for post libraries, wagons, ambulances, carts, saddles, harness, water supply, sewerage, plumbing, illuminating supplies, and heating for all military posts and buildings.

The department is also charged with the duty of transporting, by land and water, troops, munitions of war, equipments, and all articles of military supplies from the place of purchase to the several armies, garrisons, posts, and recruiting places.

It also supplies quartermaster's stores, clothing, and equipage to the militia of the States and Territories, furnishing transportation therefor as well as for ordnance and ordnance stores issued by the General Government to States and Territories.

It prepares the plans and constructs the barracks, quarters, store-houses, hospitals, etc., builds the wharves, constructs the roads, builds bridges at military posts, provides, by hire or purchase, grounds for military encampments and buildings, contracts for all horses for cavalry, artillery, Indian scouts, etc., and pays all incidental expenses of the military service which are not provided by other branches.

On March 1, 1898, with the possibility of war with Spain, the Quartermaster's Department found itself charged with the varied, numerous, and important duties indicated in the foregoing, its appropriation small, and facing the probability of a large army being soon organized for field service.

The department consisted of fifty-seven officers. It was provided with all necessary clothing, camp and garrison equipage, for the Regular Army of 25,000 men; was prepared to equip and move an army at least double that size under peace conditions, but was suddenly called upon to furnish within a short period all that was required to fit out an army of 275,000 men for probable operations in an enemy's country.

The department, up to March 1, 1898, found itself confronted with the following statutes, the legality of which is unquestioned and which apply to all departments of the Army:

SEC. 3679 (Revised Statutes). No department of the Government shall expend in any one fiscal year any sum in excess of appropriations made by Congress for that fiscal year or involve the Government in any contract for the future payment of money in excess of such appropriations.

SEC. 3732. No contract or purchase on behalf of the United States shall be made unless the same is authorized by law or is under an appropriation adequate to its fulfillment, except in the War and Navy Departments, for clothing, subsistence, forage, fuel, quarters, or transportation, which, however, *shall not exceed the necessities of the current year.*

SEC. 3709. All purchases and contracts for supplies or services in any of the departments of the Government, except for personal services, shall be made by advertising a sufficient time previously for proposals respecting the same, when the public exigencies do not require the immediate delivery of the articles or performance of the service. When immediate delivery or performance is required by public exigency, the articles or service required may be procured by open purchase or contract at the places and in the manner in which such articles are usually bought and sold or such services engaged between individuals.

It will thus be observed that the declaration of war threw upon the Quartermaster's Department an amount of labor and responsibility for which it was neither physically nor financially prepared.

Under the acts of Congress approved April 22 and July 7, 1898, 121 volunteer officers were appointed to the Quartermaster's Department, of whom 23 qualified in May, 49 in June, 31 in July, 14 in August, and 4 in September. Of this number 22 were regular officers who received higher rank in the volunteer service. One of the officers of the regular estab-

lishment was temporarily transferred to duty in the Judge-Advocate-General's Department, so that during the period of hostilities the Quartermaster's Department had at its command the services in all of 155 officers of the regular and volunteer establishments.

FUNDS AVAILABLE.

By the act of March 9, 1898, Congress appropriated the sum of \$50,000,000 for national defense, a portion of which was allotted to the Quartermaster's Department. The available funds during the war were as follows:

At the command of the Quartermaster's Department April 1, 1898, available for war expenditure.....	\$2, 657, 456. 87
Allotments to the department from the appropriation for national defense	1, 500, 000. 00
Appropriated by the act of March 15, 1898	6, 555, 000. 00
Appropriated by the deficiency act of May 4, 1898.....	19, 550, 000. 00
Appropriated by the deficiency act of July 7, 1898	103, 200, 000. 00
Appropriated by the act of July 8, 1898	200, 000. 00
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Making in all	133, 662, 456. 87

It will thus be seen that however handicapped the Quartermaster's Department might have been for lack of funds before war was declared, Congress freely placed immense sums at its disposal so soon as it was believed that a determined struggle seemed inevitable.

In order that the subject may be more systematically discussed, it is deemed best to take up, seriatim, the various branches of this important division, both during peace and war, of the supply departments of the Army.

1. CLOTHING, CAMP AND GARRISON EQUIPAGE.

The department has reported that on April 1, 1898, it was amply provided with all necessary clothing and equipage supplies for three months for the Army as then organized and for probably 10,000 additional troops; that on April 23 it was confronted with the problem of clothing and equipping an army of 125,000 men; that on April 26 the Regular Army was increased to 61,000 men, and on May 25 the second call for 75,000 volunteers was issued. Adding to these the 10 regiments of immunes, the 3 regiments of cavalry, the 3 regiments of volunteer engineers, and the Signal Corps, it appears that within a few weeks it became necessary to provide for clothing and equipping an army of more than a quarter of a million of men.

So soon as funds were available, so soon as war was inevitable, so soon as law permitted, the Quartermaster's Department undertook this enormous work; probably its chief had foreseen the great emergency in advance; possibly someone else would have gone into the market earlier, anticipating approval of his acts in case war was declared and the Army increased tenfold; that the Quartermaster-General threw the energy of his department into this work when funds were available

seems evident, and that his officers labored faithfully in their efforts to aid him is plain to those who have carefully studied their work.

To clothe and equip 275,000 soldiers was a massive undertaking; kerseys and flannels of required quality were not in the market; articles were procured conforming as nearly as practicable to the army standard, but difficulties were encountered everywhere; some of the material so rapidly obtained failed to retain its color, other portions proved to be of defective quality, soon wearing out, and the blame of course fell upon the Quartermaster's Department, few realizing the demands upon it and the struggles and anxieties of its officers.

The troops concentrating in the South and coming from the North and West were supplied with clothing required for the climate in which they had been serving; that on hand April 1 was not suitable for tropical climates. To meet the call for such clothing the department procured a supply of twilled and plain duck for issue to troops in Cuba and Porto Rico, but this was not available until after the surrender of Santiago.

It seems unnecessary to enumerate the many articles furnished by this department, but it may be said that on April 1, there were on hand at the depots at Philadelphia, Jeffersonville, and San Francisco and due under contract, about 69,000 blankets, 28,000 blouses, 53,000 forage caps, 98,000 canton-flannel drawers, 28,000 campaign hats, 12,000 cork helmets, 23,000 overcoats, 12,000 ponchos, 47,000 dark blue flannel shirts, 62,000 pairs of shoes, 305,000 pairs cotton socks, 167,000 pairs woolen socks, 35,000 pairs foot soldiers' trousers, 23,000 pairs mounted soldiers' trousers, 170,000 cotton undershirts, 83,000 woolen undershirts, besides other necessary articles of apparel for the soldiers' use, together with 210,000 yards of blouse flannel, 114,000 yards of shirt flannel, and 137,000 yards of kersey.

Of camp equipage there was available about 6,750 common tents, 1,450 conical wall tents, 730 hospital tents, 38,000 halves of shelter tents, 2,750 wall tents, 400,000 yards of duck canvas, and a tolerably good supply for the existing army of the many articles needed for use in camp and on the march.

In March the Quartermaster-General directed the officers at the Government manufacturing depots to push manufactures in certain lines, and authorized the purchase of additional material for tentage and clothing, not, however, on an extensive scale. He also instructed the depot officers to ascertain and report the number of tents of every size that could be purchased and how rapidly they could be manufactured. Some purchases were made early in April, and about the middle of that month correspondence was opened with manufacturers of blankets, blouse and shirting flannels, kersey, shoes, leggings, and other necessities for the purpose of ascertaining prices and in what quantities and how rapidly the articles could be obtained.

On April 20 and 25 proposals were invited, under a few days' notice, for large quantities of clothing materials, for blankets, forage caps,

ponchos, shoes, summer underclothing, and in fact all classes of materials for clothing, camp and garrison equipage.

During April and May arrangements were made for purchases in various large cities of our country amounting in value to about \$3,000,000.

Among the articles issued by the department between May 1 and August 15 were about 546,300 blankets, 390,800 blouses, 523,200 pairs trousers, 476,700 campaign hats, 153,170 canvas field uniforms, 782,300 pairs shoes, 588,800 pairs leggings, 622,200 dark blue flannel shirts, 1,257,000 undershirts, 1,210,680 pairs drawers, 65,000 tents, exclusive of shelter tents, 372,400 halves of shelter tents, 39,000 axes, 34,300 camp kettles, 58,600 mess pans, besides a multitude of minor articles.

It is understood that the department, after having once started with its plans, adopted every possible expedient to obtain supplies, but met with many difficulties.

There was but very little standard duck canvas in the market of this country, and the production of tents was governed entirely by the ability of the mills to turn out proper material.

To meet the immediate demands of the troops, all the tentage that could be obtained in the various cities, which seemed of fair quality, was purchased. Much of this proved short lived, and the troops during the rainy season suffered discomfort accordingly.

The same trouble occurred with some of the articles of clothing, particularly in the article of sky-blue trousers, where the wool had to be dyed out of which to manufacture the cloth. It became necessary to provide dark-blue material, which was available, but which did not come up to the standard of the sky blue, being lighter and not satisfactory on account of color.

The Quartermaster-General states that these articles were shipped in bulk to the various camps as soon as obtained, without waiting for requisitions or requests of any sort, and the depot quartermasters were urged to inform the department as the supply of any article ran low.

In spite of every effort there were occasions where troops suffered from poor tentage or from lack of tentage and absence of straw for bedding, where clothing was scarce and troops suffered discomfort for lack of shoes, shirts, and other articles of apparel. This was noticed even as late as October in the camps at Anniston, Huntsville, and Lexington, while at Huntsville, Ala., and Fort Monroe, Va., in spite of the cool nights, there was a lack of stoves in the hospitals, and at Huntsville the supply of wood was short. With some of the troops sent from San Francisco to Manila the deficiency in shoes of proper size continued even up to August 31.

At Santiago the deficiency at the front appears to have been caused rather from lack of transportation from the coast than from lack of clothing and tentage, a supply of which was on the transports.

The question of the character of clothing for troops in a tropical country is one for serious consideration of experts, and this commission

is gratified to learn that the matter is receiving the thoughtful attention of the War Department.

2. PUBLIC ANIMALS FOR WAGONS, ETC., WAGONS, HARNESS, AMBULANCES—HORSES FOR CAVALRY AND ARTILLERY.

On April 1, 1898, the department had at its command 6,701 horses, 1,188 wagons, and 4,963 sets of harness. Between July 1, 1897, and March 31, 1898, the average cost of animals was as follows:

Cavalry horses.....	\$126.15
Artillery horses.....	137.79
Draft horses.....	148.11
Draft mules.....	99.84
Pack mules.....	72.93

Between April 1 and August 31, 1898, there were purchased at prices indicated the following:

	Average cost.
10,743 cavalry horses.....	\$100.42
2,551 artillery horses.....	130.85
1,137 draft horses.....	125.38
2,115 riding horses (including 1,500 small horses for Cuban service).....	77.70
32 bell horses.....	49.84
40 pack horses.....	30.00
17,515 draft mules.....	110.05
2,667 pack mules.....	83.15

The wagons, ambulances, harness, etc., procured between July 1, 1897, and March 31, 1898, and between April 1 and August 31, 1898, were as follows:

	Peace period, from July 1, 1897, to Mar. 31, 1898 (9 months).			War period, from Apr. 1, 1898, to Aug. 31, 1898 (5 months).		
	Num-ber.	Total cost.	Average cost.	Num-ber.	Total cost.	Average cost.
Army wagons.....				604	\$61,467.00	\$101.77
Escort wagons.....				109	8,584.75	78.76
Farm wagons.....				3,605	238,942.75	66.28
Spring wagons.....	8	\$2,295.00	\$286.87	70	18,218.00	260.26
Wagonettes.....	4	944.00	236.00	8	1,540.00	192.58
Ambulances:						
Rucker.....				500	122,950.00	245.90
Red Cross.....				59	13,259.50	224.74
Miscellaneous wagons.....				224	13,148.50	58.70
Total.....	12	3,239.00		5,179	478,111.10	
Harness, sets, single.....	30	900.00	30.00	28,012	358,449.18	

Horses for cavalry were purchased, so far as was practicable and economical, in the States from which the regiments came by boards of officers appointed for the purpose. The mules and a portion of the horses were purchased by officers of the Quartermaster's Department after a call for figures.

Before war was declared the Quartermaster-General called upon prominent wagon and harness manufacturers of the country for information in reference to their ability to promptly supply wagons and

harness suitable for army use in case of emergency and to what extent their factories could be relied upon to supply the needs of the Army. These inquiries also secured information as to the stock of wagons and harness on hand and enabled the department when the emergency did arise to place wagons and harness at convenient points for issue to the troops in the field.

The following animals, wagons, and ambulances were purchased and issued by August 31:

Purchased:

Horses.....	16,618
Mules.....	20,182
Total.....	36,800
Wagons.....	4,620
Ambulances.....	559

Issued:

Horses.....	16,483
Mules.....	19,550
Total.....	36,033
Wagons and ambulances.....	4,891

Great complaint was made of lack of transportation facilities at the camp at Montauk Point, N. Y., and Col. W. H. Forwood, Assistant Surgeon-General, United States Army, chief surgeon of the camp, testifies as follows: "The trouble was, we did not get ambulances and wagons as fast as we needed them;" and further states, "when ambulances came they were sometimes incomplete."

Col. C. P. Miller, of the Quartermaster's Department, states that it was decided to use Montauk as a camp on August 2, and that transportation was shipped to that locality between August 3 and September 7, as follows:

Date.	From whence.	Mules.	Horses.	Wagons.	Ambulances.
1898.					
Aug. 3	Governors Island.....				8
6	St. Asaphs.....	96		20	
7	.....				4
8	St. Asaphs.....	4		1	
9	Tampa, with Sixth Cavalry.....	150		25	
10	St. Asaphs.....	60		25	
11	do.....	101			
13	Chickamauga.....				9
13	Tampa, with Ninth Cavalry.....	120		20	
14	Camp Alger.....	100		25	
14	Tampa, with Third Cavalry.....	107		20	7
15	Van Aken Company.....		50	25	
16	St. Asaphs.....	60		25	
18	do.....	97		24	
19	New York.....		128	62	
19	Tampa, with First Cavalry.....	286		44	
19	Lakeland, with Tenth Cavalry.....	218		36	
28	St. Asaphs.....	179		44	
Sept. 3	Toledo, Ohio.....				5
4	St. Asaphs.....		18		
5	do.....				15
7	do.....		36		
	Total.....	1,578	232	396	48

^aIn addition to the 48 ambulances there was a number brought from Tampa and Lakeland with troops.

3. TRANSPORTATION BY LAND AND WATER.

RAILROADS.

No arrangements were made for the movements of regiments by railroad for field duty previous to April 1.

On May 8 the Quartermaster-General, in anticipation of the transfer of large bodies of troops, notified the officers of his department of the proposed movements, and directed them to make proper arrangements with the railroad officials, so that the troops might be moved with comfort and celerity. These officers appear to have acted with zeal in obtaining rates, in many cases very advantageous to the Government. When extended journeys covering night travel were to be made, tourists' cars were obtained wherever possible, and when these could not be obtained the contracts provided that each soldier should have a double seat.

The Quartermaster-General reports that in making these movements the rates generally did not exceed $1\frac{1}{2}$ cents per mile for passengers in many cases being less.

There were transported by rail between April 1 and the breaking up of Camp Wikoff, early in November, 17,863 officers and 435,569 enlisted men.

Many complaints were made in reference to unnecessary delays and lack of promptness on the part of the Quartermaster's Department in moving regiments and in the care of sick and convalescents returning home either with their regiments or alone.

Col. H. L. Turner, of the First Illinois Volunteer Infantry, states that his experience was terrible when he removed his regiment from Montauk to Chicago, the suffering of the sick having been intense, greatly owing to the delay of one railroad company in having proper cars ready for his command.

In explanation of this delay it is stated that a mistake was made by the commanding general of the camp at Montauk in ordering the regiment to be in readiness to embark twenty-four hours in advance of the time indicated by the chief quartermaster in New York City.

Vast quantities of freight were handled and sent to the camps at Chickamauga, Jacksonville, Fernandina, Miami; Dunn-Loring, Va. (Camp Alger); Camp Meade, Pennsylvania; Camp Wikoff, Montauk Point, and to the camps at Anniston, Huntsville, Knoxville, Lexington, Tampa, and other localities throughout the South.

Great complaint was made of the railroad congestion at Tampa and the absolute lack of ability to bring order out of chaos at that place during the early part of the period of its occupancy by troops. The Major-General Commanding has stated that supplies for 70,000 men for 90 days were ordered there, and the confusion on the railroad when he reached Tampa was very great, 1,000 cars being sidetracked, some of them as far back as Columbia, S. C.

It is stated that in the hurry and rush attending the commencement of this work the contents of cars were unknown at Tampa; that bills of lading were not forwarded, and that it seemed impossible for a time to determine where absolutely necessary articles were located.

Colonel Bird, of the Quartermaster's Department, testifies that this was corrected later on, when the contents of cars were clearly marked upon them and bills of lading promptly forwarded.

The condition of the railroad congestion during the early portion of the time Tampa was occupied by troops seems unparalleled, showing an almost inexcusable lack of executive ability on the part of those charged with the loading, unloading, and handling of the trains.

Colonel Bird and General Humphrey testify that there were very poor facilities for transferring troops and supplies arriving at Tampa via the Florida Central Railroad to the Plant System leading direct to Port Tampa.

Order was finally brought out of chaos, the cars unloaded, the congestion overcome, and a vast amount of supplies of every character delivered at this immense encampment.

Congestion also occurred at Chickamauga Park, probably with not so serious results as at Tampa, but complaint was made that materials of different classes, belonging to different departments, were frequently packed in the same car, rendering it necessary to remove large packages of quartermaster's or commissary stores in order to obtain the smaller packages of medicines and medical supplies.

There was also congestion and confusion in connection with the railroad facilities between the 5th and 15th of August at Camp Wikoff, caused by the side tracks being in such condition that they could not be used. Cars in switching would get off the track and cause blockades for hours; troops and animals came by rail from Long Island City more rapidly than they could be unloaded and cared for at Montauk. By the middle of August the side tracks were in order and necessary storehouses made available for supplies. The railroad between Montauk and Long Island City was evidently worked to its maximum capacity.

WATER TRANSPORTATION.

For more than half a century it had not been necessary for the United States to send large bodies of troops by sea for the invasion of a foreign country, but in May, 1898, the Quartermaster's Department was suddenly called upon to prepare for work of this important character.

The Quartermaster-General reports that the needs of his department for the transportation of troops and supplies by sea were canvassed prior to April 1, 1898, and measures taken to ascertain the best method for providing such transportation.

On March 24, the Quartermaster-General directed the depot quartermaster in New York to report at once all available vessels of the coast-line steamship companies that could be obtained by charter, and to state their capacity, etc. The reply reached him on March 29, furnishing

the desired information, but adding that a member of the board on auxiliary cruisers had stated that the Navy had absolute option on all boats of the most prominent steamship companies.

The testimony before the commission shows that between April 1 and August 31, 44 steamships were chartered and 14 purchased for service on the Atlantic and Gulf waters; that 17 were chartered and 2 purchased for service on the Pacific Ocean, and that all were fitted up, to a certain extent, for the transportation of troops, animals, and supplies. While complaints have been made as to the character of the equipment of the vessels used on the Atlantic, the reports from those on the Pacific show them to have been arranged as satisfactorily as was possible.

The steamship *John Englis* was also purchased, at a cost of \$450,000, for the use of the Medical Department, and after some delay was refitted as a hospital ship, at a cost of \$136,851.11, and renamed the *Relief*. The total tonnage of the ships used as transports on the Atlantic coast was 166,987 tons, and the Quartermaster-General reports that they were fitted up for the accommodation of 40,723 officers and men.

The total tonnage of the ships on the Pacific coast was 61,287 tons, and they were reported as having been arranged so as to accommodate 18,120 officers and men.

The records of the Quartermaster's Department show that troops and civilian employees were transported by sea between April 1 and September 15, 1898, as follows:

	Men.
To Cuba.....	28, 195
To Porto Rico.....	17, 460
To Manila.....	16, 405
To Honolulu.....	629
Returned from Cuba.....	21, 686
Returned from Porto Rico.....	5, 541
Civilian employees transported.....	2, 920
Total.....	92, 836

The testimony shows that the first call upon the Quartermaster's Department was for ships to transport 5,000 men to Cuba, and that soon after the call was increased and demand made for steamers to transport 25,000.

The fleet of transports concentrated at Port Tampa, Fla., for transportation of these 25,000 men to Cuba consisted of 38 vessels, and included 2 water boats, 3 steam lighters, 1 collier, 1 tug, and 2 decked barges. Upon loading these vessels it was found that their capacity had been largely overrated, and it was impossible to carry upon them, without great discomfort and danger, more than 16,000 men, with their equipments, artillery, ammunition, subsistence, medical supplies, and 2,295 animals, for a voyage of 1,000 miles. Even with this reduction the vessels appear to have been crowded.

In spite of the efforts of the Quartermaster's Department many of these vessels were poorly equipped with sleeping accommodations; the

sinks in many instances were inconvenient and insufficient, and some of the vessels were badly ventilated and filled with disagreeable odors. It has been stated that had the fleet encountered a severe storm while en route for Cuba the discomfort would have been intense and there might have been loss of life. The Quartermaster's Department ought to have been able to more thoroughly equip these vessels, and surely it should have been more certain of their carrying capacity. A sufficient number of vessels for transporting 25,000 men, with the required lighters for their disembarkation, should have been promptly furnished, even had such action rendered necessary the seizure of every steamer on the Atlantic and Gulf coasts sailing under the American flag.

Testimony shows that the vessels were not loaded systematically. A battery with its guns and horses would be placed on one vessel and its ammunition on another. The Second, Seventh, and Seventeenth Regular Infantry were each divided up and portions in each case sent on three different vessels.

The Quartermaster-General reports that pontoons were taken for use in landing in coves and in still water when possible; that urgent but unavailing efforts were made to procure lighters for purposes of disembarkation; that three steam lighters were chartered at Galveston and one ocean tug at Mobile and sent to Port Tampa to accompany the Santiago expedition, and that two decked barges were purchased at Tampa for the same purpose.

A seagoing tug with three barges started from Mobile for Cuba; another with two barges started from New Orleans for the same destination, but all of these barges, except one, were lost, and only one of the tugs reached Santiago. One tug was reported as having broken down or left the fleet while en route for Santiago.

The fleet of transports arrived safely at Daiquiri, but the failure to provide a full and sufficient number of lighters for disembarkation of troops, supplies, and artillery caused delay, anxiety, annoyance, and danger, and had there been serious storms, or had the landing been opposed by a vigilant and well-trained force of the enemy, the result might have been far different.

Finally, the Quartermaster's Department entered into contract with a New York firm to fit out an expedition with a large force of mechanics and laborers, with necessary materials, machinery, pile drivers, and implements for construction of docks and railways. The Quartermaster-General reports that this outfit proceeded to Santiago, Cuba, and thence to Ponce, Porto Rico, where its services were of much assistance to the Army.

The testimony shows that in the transportation of the Spanish prisoners from Santiago to Spain the interests of the General Government received the most ample protection; that proposals were invited; that every effort was made to procure proper vessels, to provide for the care and comfort of the men, and that the cost of transportation by the

Spanish Trans-Atlantic Company was at the rate of \$55 each for officers and \$20 each for enlisted men. The first proposal of the company was at the rate of \$60 and \$30, respectively, but they finally reduced their demands, so that the total price paid was over \$200,000 less than the original offer.

The contract required that at the price named the company should furnish subsistence and medical attendance and practically care for these prisoners from the time of their embarkation until landed in Spain. The total number of persons transported was 22,864, at a cost of \$513,860.

The purchase of transports by the department showed an equal effort to guard the interests of the General Government, and the testimony is to the effect that the purchase of these vessels was made direct either with the owners or their agents; that the prices were reasonable, and neither fees nor allowances were granted by the Government officials or paid by the Government to so-called middlemen.

The following vessels were purchased for use on the Atlantic and Gulf coasts:

Name of vessel.	Tonnage.	Cost.	Class.	Carrying capacity.		
				Officers.	Men.	Animals.
Panama, No. 1	2,085	\$41,000	Freighter	10	400	.....
Port Victor, No. 2	2,792	175,000	do	25	400	.....
Rita, No. 3	2,194	125,000	do	15	700	.....
Mohawk, No. 20	5,658	660,000	Combination	80	1,000	1,000
Mobile, No. 21	5,780	660,000	do	80	1,000	1,000
Massachusetts, No. 22	5,673	660,000	do	80	1,000	1,000
Manitoba, No. 23	5,673	660,000	do	80	1,000	1,000
Minnewaska, No. 24	5,796	660,000	do	100	1,200	1,000
Mississippi, No. 25	3,732	350,000	do	40	800	800
Michigan, No. 26	3,722	350,000	do	40	800	800
Roumanian, No. 27	4,126	240,000	do	45	1,100	50
Obdam, No. 30	3,656	250,000	Troop ship	50	1,300	100
Berlin, No. 31	5,641	400,000	do	75	2,000	.....
Chester, No. 32	4,770	200,000	do .....	.....	.....	.....
Total	61,298	5,431,000	.....	720	12,700	6,750

Eight of these vessels were provided with refrigerators for the transportation of fresh meat, seven of them having a capacity of 1,000 tons each. Two, the *Panama* and the *Rita*, were captured by the Navy, and were purchased by the Quartermaster's Department after having been condemned as prizes by the proper courts and offered for sale.

All of these were merchant vessels, and were temporarily fitted up as army transports to meet the urgent demands of the service, for which purpose an expenditure of \$178,018.37 was made.

For use in the Pacific Ocean the following steamships were purchased:

Name of vessel.	Tonnage.	Cost.	Carrying capacity (men).
Scandia	4,253	\$200,000	1,500
Arizona	5,000	600,000	1,700

The *Scandia* was fitted out as a hospital ship and the *Arizona* for the transportation of troops and supplies to Honolulu and Manila. Serious complaints were made in reference to the condition of the *Chester*, upon which the First United States Volunteer Engineers were transported to Porto Rico, and of the *Berlin* when it was loaded at New Orleans with the First United States Volunteer immunes.

It was stated that when the Sixth Massachusetts Volunteers were taken to Porto Rico on the United States naval vessel *Yale* they were subjected to discomfort and abuse. The testimony before the commission does not sustain this charge, but shows that the discomforts were no greater than might have been anticipated for any troops making such a trip under similar circumstances.

TRANSPORTS FOR PORTO RICO.

The first troops for the Porto Rican campaign sailed on the war vessel *Yale* from Guantanamo, Cuba, under the Commanding General of the Army, on July 21, and landed at Guanica, Porto Rico, July 25; from that date until August 26 forty transports arrived at the island, loaded with troops, munitions of war, and supplies.

In addition to these, the *Gypsum King* arrived August 10, towing three large lighters or barges consigned to Messrs. Van Aiken & Co., contractors, and loaded with lumber, bridge timber, railroad iron, coal, and other supplies, and a steam tug. The latter was transferred to the Quartermaster's Department, and was of great assistance in towing lighters to and from the transports to shallow water, in which they could be pulled to the docks.

The loading of some of these transports exhibited carelessness, and in several instances important supplies intended for the army of General Shafter were found upon them.

Thirty-six vessels arrived at Porto Rico without invoices to show their contents, causing much confusion and requiring the overhauling of the entire cargo in order to learn the contents of the ship. The first invoice was received with cargo No. 37, that of the *Alamo*, which left Newport News, Va., on August 9 and reached Ponce on August 16. After that date regular invoices accompanied each vessel.

The first steam launch supplied by the Quartermaster's Department arrived on the *Rita*, which sailed from Tampa August 15, and reached Ponce August 23.

Gen. James H. Wilson, United States Volunteers, testifies that his command, while en route for Porto Rico, was delayed two weeks in Charleston, S. C., by failure of the transports to arrive, and that when he reached Ponce the disembarkation of the troops and materials was delayed by lack of landing facilities, so that ten days were required for a work that should have been accomplished in two days had there been proper steam tugs, launches, etc., available.

THE MANILA EXPEDITION.

Major-General Merritt testifies that the transports used on the Pacific Ocean for conveying troops to Manila were carefully inspected by the Quartermaster's Department; that every possible change that was necessary was made, and that the vessels reached their destination without severe sickness among the troops or serious annoyance of any kind.

The first expedition for Manila sailed from San Francisco, Cal., on May 25, under command of General Anderson, with 2,491 officers and men, upon three steamships, *City of Sydney*, *Australia*, and *City of Peking*.

The second expedition, under command of General Greene, with 3,586 officers and men, sailed on June 15 on the steamships *China*, *Colon*, and *Zealandia*.

The third expedition, under command of General Merritt, with the command of General MacArthur, consisting of 4,847 officers and men, sailed on June 25, 27, 28, and 29 on the steamships *Senator*, *Morgan City*, *City of Para*, *Indiana*, *Ohio*, *Valencia*, and *Newport*.

The fourth expedition, under command of Gen. Elwell S. Otis, with 1,682 officers and men, sailed July 15 on the steamships *Peru* and *City of Puebla*, followed on July 19 by the steamship *Pennsylvania*, with 1,348 officers and men.

The last expedition, under command of Gen. H. G. Otis, sailed on July 23 and 29 on the steamships *City of Rio de Janeiro* and *St. Paul*, with 1,735 officers and men.

These vessels arrived safely at Manila, and the reports show that as a rule the health of the men was maintained during the long voyage of over 7,000 miles.

The sailing ship *Tacoma*, with 30 enlisted men, 19 civilian teamsters, 210 horses and mules, 44 wagons and ambulances, and six months' supply of subsistence and forage, sailed from San Francisco on August 6. On August 21 the steamship *Arizona*, with 490 officers and men and 4 women nurses on board, sailed from San Francisco, and on August 29 the steamship *Scandia* sailed with troops for Honolulu and 173 officers and men for Manila.

The entire movements show that transportation was furnished from San Francisco to Manila for 16,405 persons, with their equipments and supplies.

CONTRACTS.

Contracts covering millions of dollars were made by the Quartermaster's Department during the period between April 1 and October 1, and although indefinite charges have from time to time been made of fraud and collusion, no evidence has been produced before the commission to substantiate these charges, although the parties making them have been invited to appear.

The commission has made every effort to reach witnesses who might be supposed to have any knowledge upon this subject.

Under date of November 1, the New York World telegraphed the president of the commission that it had collected many facts of alleged influences exerted to affect the awarding of war contracts by the Government and offered to present to the commission "legal documents, contracts, articles of retainer, affidavits," etc., bearing directly upon contracts and efforts to influence their award, together with the names of persons that could be called as witnesses in relation to the facts in the World's possession.

The World requested the commission to give the matter immediate attention and added that if this could be done its representative would at once be sent to Washington to present the facts.

On November 2, the commission through its vice-president notified the World that when it arrived in New York it would be very happy to hear any witnesses that might be produced by the World or by any person.

When the commission reached New York under date of November 19, it notified the World that it was prepared to investigate any contract that had been made by the Government, where fraud was charged against any officer of the War Department, and would be pleased to hear any evidence bearing upon such cases.

Under date of November 29, after the commission had left New York City, the following reply was received:

[The World. Morning Edition. Editorial Department, Pulitzer Building, Park Row, N. Y.]

NEW YORK, November 29, 1898.

Gen. GRENVILLE M. DODGE,

*President of the Commission appointed by the President to
Investigate the Conduct of the War Department in the War with Spain.*

DEAR SIR: The World received in due course your courteous note of November 19, stating that "The commission is prepared to investigate any contract that has been made by the Government where fraud is charged or undue influence against any officer of the War Department," and adding that "If the World has any evidence bearing upon such cases, the commission would be pleased to hear it."

Knowing the great difficulty often experienced in establishing facts by legal proof, even in a court of justice, the World carefully considered and took counsel on your offer during the nearly three weeks that elapsed between the making of the proposition and the meeting of your commission in this city. It observed the proceedings of the commission from day to day, and could not fail to perceive the public knowledge of the fact that your commission had neither the power to compel the attendance of witnesses nor to protect those who had volunteered their testimony.

The witnesses to the facts discovered by the World in relation to a trade in army contracts were unwilling to submit to an ex parte examination in these circumstances. As their attendance could not be compelled, the World deems it best to await the Congressional investigation which it hopes will be ordered and conducted with a determined purpose and adequate authority to bring to light all the facts relative to the "conduct of the War Department in the war with Spain."

Respectfully, yours,

THE NEW YORK WORLD.

At a later date the statement was made that a Mr. W. H. Ryan had intimated that there had been fraud or rascality in the matter of contracts.

The only Mr. W. H. Ryan known to the commission was a Representative-elect from the State of New York. He was courteously invited to appear before the commission, but under date of December 12 telegraphed from Buffalo, N. Y., as follows:

I have made no complaint personally or in writing concerning war investigation; any use of my name verbally is unauthorized, in writing is a forgery.

Representative Ryan did not appear before the commission, and the parties making the statement in reference to a Mr. Ryan failed to furnish his address when requested.

Under date of November 21, 1898, Mr. E. M. Knox, of New York, a prominent merchant engaged in the hat business, wrote to the commission, charging that the quartermaster's department in Philadelphia was rotten and corrupt, and stating that he had made earnest and unavailing efforts to have the Quartermaster-General investigate the subject; that the latter was holding the evidence he had submitted, and urging the commission to aid him in obtaining the papers he had left with the Quartermaster-General, and then to grant him a hearing.

Under date of November 22 the commission offered to hear Mr. Knox on the 23d of November, and added that if he preferred to await the return of his papers it would be gratified to hear him in Washington.

The commission brought the subject to the attention of the Quartermaster's Department, and requested the return to Mr. Knox of his papers.

In the meantime it was learned that the matter in which Mr. Knox was interested was a large contract for hats, which contract, it is understood, he claimed should have been awarded to him.

The subject was carefully investigated by Col. James M. Moore, assistant quartermaster-general, United States Army, who, in his testimony before this commission, fully demonstrated that the award of the contract as made was a proper one and perfectly free from the very slightest taint of fraud.

Upon the return of the commission to Washington, and after Colonel Moore's report had been made, it again invited Mr. Knox before it, but he declined, on the ground that the Quartermaster-General had not returned to him all the evidence he had left with him, and he was, therefore, not ready to testify.

The foregoing were the only specific cases submitted to the commission, and in each instance, as will be observed, the parties presenting them failed to appear and substantiate their statements.

From all the facts before the commission there is no reason whatever even to suspect that any officer or agent of the Quartermaster's Department has been actuated by other than the purest motives in making

contracts for supplies and transportation, and that in every instance they had in view the best interests of the great Government they had sworn to support.

Comment has been made in reference to the contract with the Long Island Railroad in regard to traffic between the camp at Montauk Point and New York City. This contract provided for the transportation of all persons connected with the military service of the United States at the rate of 1 cent per mile and freight at a discount of 25 per cent off the regular published tariff freight rates of the railroad company; it also required that the company should construct additional side tracks where necessary and provide free switching of cars to secure prompt loading and unloading.

The proviso which caused invidious comment was as follows:

And in consideration thereof the military authorities in charge of said camp will not contract with or employ any other carrier for transportation facilities for troops or freight between said camp and New York or points on Long Island, and that no vessel owned or controlled by private individuals or corporations shall be permitted to land at or use the present or any future docks on Montauk Point for passengers or freight traffic between said camp and New York or points on Long Island without the permission of the railroad company. It is agreed, however, that any Government transport or vessel may discharge and load troops or supplies at such dock or docks, and that vessels may take or discharge passengers thereat from or to other points than those hereinabove excepted, with the permission of the military authorities.

It was claimed that this contract gave the railroad company complete control of the entire transportation from all points to Montauk Point. The last portion of the part quoted shows that the Government reserved the right to use its transports and vessels as it pleased between New York and elsewhere and Montauk Point, and that from all localities except New York City and points on Long Island any vessels might take or discharge passengers with permission of the military authorities.

Testimony before the commission shows that the proviso prohibiting vessels owned or controlled by private individuals or corporations from landing at the docks for passenger or freight traffic between New York and Montauk Point was especially inserted by the distinguished officer, since dead, who signed the contract, for the purpose of preventing the landing of excursion parties or of improper articles at Camp Wikoff.

TRANSPORTATION OF MEDICAL SUPPLIES AND OF SICK AND WOUNDED SOLDIERS.

It is somewhat difficult to follow up the transportation of medical supplies.

Large quantities were purchased by the surgeons in charge of the medical depots in New York, St. Louis, and San Francisco, carefully boxed, and transferred to the Quartermaster's Department for transportation to the various camps and to the armies in the field at Santiago, Porto Rico, and Manila.

So far as railroad transportation was concerned, the usual steps appear

to have been taken. The supplies were sent as freight, and the great delay in delivery at Tampa and Chickamauga was mainly due to the congestion of the railroads at those places, to which reference has been made in the foregoing. The supplies were sometimes sent by express, thus insuring their more prompt delivery. It would have been preferable in every large shipment by railroad had an agent of either the Quartermaster's or Medical Department accompanied the supplies to their destination.

The delay in some instances in receiving medical supplies at Santiago seems to have been partially due to carelessness in loading them on the transports. This is shown in the cases of the steamship *La Grande Duchesse*, which left Charleston, S. C., July 20; upon unloading the vessel at Ponce, on July 28, a large supply of medical stores were found upon her destined for General Shafter's army at Santiago. The vessel was ordered to Santiago July 31.

When the *Mobile*, which left Charleston July 22, was being unloaded, on August 5, at Ponce, five tons of ice and a large supply of medical and hospital stores, intended for the army at Santiago, were found on board. The *Mobile* was ordered to Santiago August 7.

Attention is invited to the fact that General Shafter's telegram to the Secretary of War, reporting scarcity of medicines at Santiago, is dated August 4, 1898.

Under date of July 30, Colonel Greenleaf telegraphed the Surgeon-General that there was a large sick report at Ponce, Porto Rico; that tentage, medical supplies, and doctors were lacking, and urging that hospital ships should be sent there promptly.

A special outfit was provided, under orders of the Secretary of War, to be used by the Surgeon-General as a hospital train. This train was made up of ten tourist sleepers, two kitchen and dining cars, and a combined passenger and baggage car. It was furnished by the Medical Department, supplied with trained nurses, and kept exclusively for the purpose of carrying sick and wounded to points designated by the proper medical officers.

For the transportation of the sick and wounded by sea the steamship *John Englis* was purchased, thoroughly refitted, after some delay, with all modern appliances and conveniences as a hospital ship, and transferred to the Medical Department.

On July 1 Mr. B. N. Baker, president of the Atlantic Transport Line, Baltimore, Md., generously placed at the disposal of the Government the steamship *Missouri*, with its captain and crew, for use as a hospital ship. Mr. Baker's offer was promptly accepted, and on July 15 the Quartermaster's Department was requested to fit the vessel for the purpose of transporting six or seven hundred sick or wounded men; that department stated that its officer in charge of such work in New York reported that the necessary improvements could be made within two weeks, but it was not until August 23 that the ship was ready to sail.

The steamship *Olivette* was selected by Lieutenant-Colonel Pope, of the Medical Department, for a hospital ship, to accompany the army to Santiago.

The steamers *Seneca* and *Concho* were used as hospital ships for the return of sick and wounded from Santiago in July. Their conditions for this purpose were very unsuitable. An officer who was on the *Seneca* reports:

The water supply aboard the vessel was beyond description. It smelled badly and was filled with something that looked like iron rust, but which I was told was rotten wood, and was of such a character that I absolutely could not drink it.

A witness testifies that on the steamer *Concho*, during the transportation of the sick, the water was offensive to the sight, taste, and smell, and that the sleeping accommodations consisted of rough board bunks, without mattresses, pillows, or blankets.

Another witness testifies that, by consent of the medical authorities, she went on board the *Seneca* on July 13, the day before the vessel started north with sick and wounded, and acted in capacity of nurse during the voyage. She states that the captain of the ship informed her that his vessel was not clean, not fit for a hospital ship, and that not a soul had examined or inspected it for hospital purposes. She adds that the ship was overcrowded; the staterooms on starting were occupied by passengers to the exclusion of the sick; that the two surgeons, one of whom was ill nearly all the time, had no surgical instruments, and that, with the exception of a few supplies she obtained from the Red Cross Association, there was no food on board for the sick and wounded other than the regular army ration; the staterooms were vacated after starting and given up to the sick and wounded.

The condition of the transports and the treatment on board of the sick and wounded are discussed elsewhere in the report of the commission.

The following statement shows the sailing of army transports between July 12 and November 22, 1898, from Cuba and Porto Rico with troops, dates of sailing, destination, date of arrival, and number of sick and convalescents on board so far as shown by the records of the Quartermaster-General's Office:

Name of vessel.	Port sailed from.	Date of sailing.	Destination.	Date of arrival.	Troops on board.	Number of sick and convalescents.
		1898.		1898.		
Vigilancia	Santiago..	Aug. 8	Montauk Point.	Aug. 14	6th Infantry.....	
Do.....	do.....	Sept. 6	do.....	Sept. 8	Stragglers.....	
Orizaba.....	do.....	Aug. 26	do.....	Sept. 2	Paymasters and clerks.	
Santiago.....	do.....	July 24	Tampa.....	July 30	.....
Do.....	do.....	Aug. 19	Montauk Point.	Aug. 26	Half 34th Michigan.	
Seguranca.....	do.....	July 30	Tampa and New York.	Aug. 13	.....	331
Do.....	do.....	Sept. 15	New York.....	Sept. 21	.....	50
Saratoga.....	do.....	July 30	Tampa.....	Aug. 6	.....	Convalescent.
Do.....	do.....	Sept. 8	New York.....	Sept. 14	.....	255

Name of vessel.	Port sailed from.	Date of sailing.	Destination.	Date of arrival.	Troops on board.	Number of sick and convalescents.
Seneca.....	Siboney ..	1898. July 12	Fort Monroe....	1898. July 18	.....	Sick and wounded.
Do.....	Santiago..	Aug. 13	Montauk Point.	Aug. 18	4th Infantry.....	150
Yucatan.....	do.....	July 28	Tampa.....	Aug. 1	.....
Do.....	do.....	Aug. 19	Montauk Point.	Aug. 26	Half 7th Infantry..	
Do.....	do.....	Sept. 22	New York.....	Sept. 26	7 officers; 46 discharged men.	
City of Washington.....	do.....	Aug. 28	Montauk Point.	Sept. 1	.....	Convalescent.
Manteo.....	do.....	Sept. 14	New York.....	Sept. 22	.....	Sick and wounded.
Concho.....	do.....	July 22	Fort Monroe....	July 28	.....
Do.....	Ponce....	Sept. 8	New York.....	Sept. 15	4 batteries and 1 company of the Provisional Engineer Battalion.	
Leona.....	Santiago..	July 23	Fort Monroe....	July 27	.....	Sick and wounded.
Do.....	do.....	Aug. 17	Montauk Point.	Aug. 22	2 troops 9th Cavalry, 3 companies 12th Infantry, 2 companies 34th Michigan.	
San Marcos.....	do.....	July 28	Tampa.....	Aug. 3	.....	105
Rio Grande.....	do.....	July 22	Fort Monroe....	July 28	.....
Do.....	do.....	Aug. 13	Montauk Point.	Aug. 20	9th and 10th Cavalry.	Sick and wounded.
Comal.....	do.....	July 28	Tampa.....	Aug. 3	.....	80
Alamo.....	do.....	July 22	Fort Monroe....	July 27	.....
Do.....	Ponce....	Sept. 8	New York.....	Sept. 16	3 companies 2d Wisconsin; Company A, 1st Illinois; Company H, District of Columbia; Battery C, Pennsylvania Volunteer Artillery.	Sick.
Cherokee.....	do.....	Aug. 2	do.....	Aug. 10	Came up in ballast.	
Iroquois.....	Santiago..	July 31	do.....	Aug. 5	No report of what was carried.	
Comanche.....	do.....	Aug. 13	Montauk Point.	Aug. 18	25th Infantry.	
Matteawan.....	do.....	Aug. 8	do.....	Aug. 14	1st Cavalry and Battery H, 4th Artillery.	
Miami.....	do.....	do.....	do.....	do.....	13th Infantry.	
Breakwater.....	do.....	Aug. 14	do.....	Aug. 20	2 battalions 12th Infantry.	
Aransas.....	Playa del Este.	July 21	Tampa.....	July 27	.....	Convalescent.
D. H. Miller.....	Santiago..	Aug. 19	Montauk Point.	Aug. 26	1st Infantry, except Company F.	
Berkshire.....	do.....	July 20	New York.....	July 25	.....	350
Do.....	do.....	Aug. 25	Montauk Point.	Sept. 1	11 companies 1st Illinois.	
Allegheny.....	do.....	July 28	Tampa.....	Aug. 6	.....	Convalescent.
Do.....	do.....	Aug. 24	Montauk Point.	Aug. 31	Part of 9th Massachusetts.	
Olivette.....	do.....	Aug. 15	Fort Monroe....	Aug. 19	.....
City of Macon ..	do.....	Aug. 14	Montauk Point.	Aug. 23	.....	203
Gate City.....	do.....	Aug. 7	do.....	Aug. 14	17th Infantry.....	41
Do.....	do.....	do.....	do.....	do.....	Troops of 3d and 6th Cavalry.	
Catania.....	do.....	Aug. 17	do.....	Aug. 26	.....	410
Louisiana.....	do.....	Aug. 2	New York.....	Aug. 7	10 officers, 32 men.	
Knickerbocker ..	do.....	July 30	Tampa.....	Aug. 6	.....	Convalescent.
Hudson.....	Playa del Este.	July 21	Fort Monroe....	July 25	.....	Sick and wounded.
Do.....	Santiago..	Aug. 19	Montauk Point.	Aug. 26	1st and 2d battalions of 1st District of Columbia.	
Specialist.....	do.....	Aug. 25	do.....	Aug. 30	4 batteries of artillery.	

Name of vessel.	Port sailed from.	Date of sailing.	Destination.	Date of arrival.	Troops on board.	Number of sick and convalescents.
Unionist.....	Santiago..	1898. Aug. 26	Montauk Point.	1898. Sept. 1	1 company 1st Illinois.	
Arkadia.....	do.....	Aug. 17	do.....	Aug. 23	Battery E 1st and Battery F 2d Artillery.	
Nueces.....	do.....	Aug. 26	do.....	Sept. 2	1 battalion 24th Infantry, detachment 1st Illinois.	
Clinton.....	do.....	July 23	Tampa.....	July 29		Sick.
Wanderer.....	do.....	Aug. 2	do.....	Aug. 8	No report of what was on board.	
La Grande Duchesse.	do.....	Aug. 9	Montauk Point.	Aug. 15	17th Infantry, 2 battalions 71st New York.	
Relief a.....	Porto Rico	Aug. 13	New York.....	Aug. 19		
Do.....	Santiago..	Sept. 1	Philadelphia..	Sept. 5		
Do.....	Ponce.....	Oct. 3	Fort Monroe...	Oct. 8		
Do.....	do.....	Oct. 22	Philadelphia..	Oct. 25		246
Do.....	do.....	Nov. 22	Fort Monroe...	Nov. 26		
Missouri a.....	Santiago..	Sept. 4	Montauk Point.	Sept. 10		292
Do.....	Ponce.....	Sept. 29	Fort Monroe...	Oct. 5		
Do.....	Arroyo.....	Oct. 23	New York.....	Oct. 31		
Yale.....	Santiago..	Aug. 19	Montauk Point.	Aug. 23	3d and 20th Infantry	
Harvard.....	do.....	Aug. 22	do.....	Aug. 25	Half of 33d Michigan	
St. Paul.....	do.....	Aug. 11	do.....	Aug. 15	2d Infantry and 4 companies 71st New York.	
Panama.....	Ponce.....	Sept. 4	Fort Monroe...	Sept. 10		255
Do.....	do.....	Sept. 30	do.....	Oct. 5		175
Port Victor.....	Fort Monroe.	Sept. 11	New York.....	Sept. 17		Sick.
Mohawk.....	Santiago..	Aug. 18	Montauk Point.	Aug. 24	8th Ohio.....	
Mobile.....	do.....	Aug. 12	do.....	Aug. 19	2d and 8th Infantry, 2d Massachusetts.	
Manitoba.....	Ponce.....	Sept. 7	New York.....	Sept. 13	6th Illinois.....	
Do.....	do.....	Oct. 21	do.....	Oct. 26	2 battalions 3d Wisconsin.	
Minnewaska.....	Santiago..	Aug. 25	Montauk Point.	Aug. 29	2 companies 33d Michigan, 2 companies 1st District of Columbia, part 2d Cavalry.	
Do.....	Ponce.....	Oct. 11	New York.....	Oct. 17	16th Pennsylvania..	
Mississippi.....	do.....	Sept. 3	do.....	Sept. 10	Troops A and C New York Cavalry, Sheridan and Governor's Troop Pennsylvania Cavalry.	
Do.....	San Juan	Oct. 22	Boston.....	Oct. 27	6th Massachusetts..	
Roumanian.....	Santiago..	Aug. 28	Montauk Point.	Sept. 4	2 companies 9th Massachusetts.	400
Obdam.....	Ponce.....	July 31	Newport News.	Aug. 5		
Do.....	do.....	Sept. 1	New York.....	Sept. 7	9 companies 2d Wisconsin.	
Do.....	Santiago..	Oct. 6	do.....	Oct. 11		191
Berlin.....	do.....	Aug. 25	Montauk Point.	Aug. 30	1st Illinois.....	
Do.....	do.....	Oct. 5	New York.....	Oct. 10	Mail service.....	252
Michigan.....	do.....	Sept. 11	do.....	Sept. 18	Miscellaneous cargo	
Do.....	do.....	Oct. 12	do.....	Oct. 19	General Lawton and stragglers.	
Rita.....	Ponce.....	July 27	Tampa.....	Aug. 3	No report of what was carried.	
Chester.....	do.....	Sept. 1	New York.....	Sept. 6	4th Pennsylvania..	
Do.....	San Juan	Oct. 29	do.....	Nov. 3	4th Ohio.....	
Mortera.....	Santiago..	Oct. 12	Montauk Point.	Oct. 21	21st Infantry.....	
Mexico.....	do.....	Aug. 25	do.....	Sept. 1	Troop M, 10th Cavalry.	
Lampasas.....	Ponce.....	July 31	Newport News.	Aug. 4		Sick and wounded.

a Hospital ship.

In addition to the foregoing, shown by the records of the Quartermaster-General, Brig. Gen. C. F. Humphrey, United States Volunteers,

chief quartermaster of General Shafter's expedition, under date of September 15, 1898, reports the following vessels as having left Cuba between June 30 and July 12, 1898:

Name of vessel.	Date of departure.	Troops or civilians returning.	Destination.
Breakwater.....	July 9	Wounded	Fort Monroe.
Cherokee.....	July 5	Sick and wounded.....	Key West.
City of Washington.....	July 8	.....do.....	Port Tampa.
D. H. Miller.....	June 30	Civilian employees, sick and discharged soldiers.	Do.
Gussie.....	.....do.....	.....do.....	Do.
Iroquois.....	July 2	Sick and wounded.....	Key West.
Morgan.....	July 3	Civilian employees, sick and discharged soldiers.	Port Tampa.
Olivette.....	July 10	Sick and wounded.....	Fort Monroe.
Stillwater.....	July 3	.....do.....	Port Tampa.
Whitney.....	June 30	Civilian employees, sick and discharged soldiers.	Do.

LAND TRANSPORTATION OF THE COMMAND DURING THE SANTIAGO CAMPAIGN.

Owing to the lack of necessary transports, the means of land transportation during the Santiago campaign was painfully deficient.

The testimony shows that the entire number of animals, wagons, and ambulances shipped with the expedition from Tampa and Mobile was as follows:

Government horses.....	578
Private horses.....	381
Pack and draft mules.....	1,336
Wagons from Tampa.....	114
Ambulances from Tampa and Mobile.....	7
Wagons from Mobile.....	84

General Shafter testifies that he could carry no more on his transports from Tampa; that he realized that he would have very few ambulances, but that wagons could be used for transportation both of the wounded and of supplies, while ambulances could be employed only for one purpose. General Humphrey testifies that no more land transportation was taken simply because the vessels were fully loaded. Lieut. J. M. Kennedy, assistant surgeon, appeared at the front near Santiago July 2 with ten ambulances, which had been brought over on the *Louisiana*.

There were eight pack trains, consisting in all of 580 mules, and the value of their services in carrying provisions and ammunition to the front was simply inestimable.

The testimony shows that the transports arrived off the south coast of Cuba near Santiago on June 21; that the pack trains were landed on June 22; that the first wagons were landed on June 25, and that the landing of the latter was continued more rapidly than they could be set up on shore, and that in fact some of those that were landed were never set up at all.

General Chaffee testifies that on July 1, at the battle of El Caney, ten days after the arrival of the fleet, there were no ambulances or

wagons available, and that the roads were so horrible that they could not reach the front. He adds that only litters could have been used for the wounded, but even these were not on hand, as owing to oversight none had been landed.

It is plainly evident that this army of 17,000 men disembarked in the face of an enemy in a hostile country, and, rapidly thrown forward against a well-armed force, was painfully deficient in land transportation, but in spite of the absence of this almost absolutely necessary portion of the equipment of a well-trained command, it drove the enemy before it, captured their outposts, pushed them behind their main defenses, drove their fleet from Santiago Bay to absolute destruction as it faced the Navy of our country, and finally, after most gallant fighting under a tropical sun, amidst most adverse conditions, captured a strongly fortified city, and received as prisoners of war over 23,000 Spanish soldiers.

In addition to its military operations, it performed a work which neither its commander nor others ever imagined would devolve upon it—that of feeding, at least to a limited degree, the vast host of men, women, and children who fled from Santiago on account of the fear of its bombardment, and, passing through our lines, sought refuge in El Caney; for days nearly as many rations were issued to these refugees as to the army itself, thus taxing the land transportation to its utmost limit.

The conclusions drawn from the foregoing are as follows:

1. The Quartermaster's Department, a month before war was declared, was neither physically nor financially prepared for the tremendous labor of suddenly equipping and transporting an army over ten times the size of the Regular Army of the United States.

2. That the department devoted the ability, zeal, and industry of its officers to accomplish the herculean task before it so soon as funds were made available and war was declared.

3. That it deserves credit for the great work accomplished, for the immense quantity of materials obtained and issued within so short a period, and for its earnest efforts in reference to railroad transportation and in protecting the great interests of the General Government committed to its charge. Its officers, especially those at the headquarters of the department and at its depots, worked earnestly and laboriously day and night, sparing themselves in no possible way.

4. There appears to have been a lack of system, whereby, even as late as October, troops in camps and in the field were lacking in some articles of clothing, camp and garrison equipage; and hospitals, at least at two important localities in the South—Fort Monroe, Va., and Huntsville, Ala.—lacked stoves, while at Huntsville fuel was wanting.

5. There appears to have been lack of executive or administrative ability, either on the part of the Quartermaster's Department or the railroad officials, in preventing the great congestion of cars at Tampa

and Chickamauga when these camps were first established, which congestion caused delay, annoyance, and discomfort to the large bodies of troops concentrating at those places.

6. There appears to have been a lack of foresight in preparing and promptly having available at some central locality on the seacoast the necessary fleet of transports which it seemed evident would be required for the movement of troops to a foreign shore, and, finally, when the call came suddenly and the emergency was supreme, the department appears not to have fully comprehended the capacity of the fleet under its command; not to have supplied it with a complete outfit of lighters for the immediate disembarkation of troops and supplies; to have accepted without full investigation the statement that the vessels were capable of transporting 25,000 men, while really they could not and did not transport more than 17,000 with their artillery, equipments, ammunition, and supplies, and lacked sufficient storage room for the necessary amount of wagon transportation—that very important element in the movement of an army in the face of an enemy.

7. The Quartermaster's Department should maintain on hand at all times a complete supply for at least four months for an army of 100,000 men of all articles of clothing, camp and garrison equipage, and other quartermaster's supplies which will not deteriorate by storage or which can not at once be obtained in open market.

Finally. In the opinion of this commission, there should be a division of the labor now devolving upon the Quartermaster's Department.

Whether there should be one great department of supply, covering the Quartermaster's Department except transportation, the Subsistence Department, and the Pay Department, and another covering the important problem of transportation, including the movement of armies by land and by sea and the supply of animals, wagons, ambulances, and harness, is a subject for the serious consideration of a board of officers whose experience in peace and war, at home and in an enemy's country, would render them most competent to make an exhaustive investigation and to present a complete report upon this important subject.

SUBSISTENCE DEPARTMENT.

BRIG. GEN. CHARLES P. EAGAN, COMMISSARY-GENERAL U. S. A., IN CHARGE.

The Subsistence Department is charged with the purchasing, issuing, and preservation of subsistence supplies; also, with the distribution, selling, and accountability therefor. During the past thirty-five years the number of officers of the Subsistence Department has been so reduced that when war with Spain was declared it had only 22 officers, viz, the Commissary-General, 2 colonels, 3 lieutenant-colonels, 8 majors, and 8 captains. This number was barely sufficient to perform subsistence duties for the Army of about 26,000 officers and enlisted men. The number was not large enough to allow officers of

the department to serve with troops in the field. Soon after the first call 5 officers of the Subsistence Department were appointed commissaries of volunteers, with the rank of lieutenant-colonel. Four of these were assigned as chief commissaries of corps. The remaining officers of the department were engaged in purchasing supplies and in caring for various State camps at which the volunteers were first concentrated for muster.

The subsistence officers with the troops in the field were, with the exception of the 4 above noted, either volunteers or line officers detailed for subsistence duties, many of whom, however zealous, lacked the knowledge which only experience can give.

GENERAL ADMINISTRATION.

Prior to the war with Spain each geographical department had a chief commissary. To him the post commissaries submitted requisitions for needed subsistence supplies; in turn he requested purchasing commissaries stationed in the large centers of trade to have shipped the articles called for. It was the duty of the purchasing commissaries to examine, test, and inspect the supplies and to determine whether or not they were pure and up to the required standard. Owing to the small number of officers, purchasing commissaries were given, in some cases, more than one geographical department to supply.

During the war, instead of supplying 26,000 men, they supplied approximately 275,000. As soon as the volunteers were concentrated in the large camps, most of the chief commissaries were assigned to depot and other duty.

The depots were under the immediate control of the Commissary-General, and from them there was a report of rations on hand. The greatest latitude was given commissaries with troops to enable them to avoid difficulties that arose from unforeseen conditions. Supplies were available, and it was the duty of the commissaries to see that they were issued, although they had no control over them from the time they were shipped from the depots until delivered to the troops.

THE RATION.

The ration is fixed by law. Additions have been made to it from time to time, so that at the beginning of the war with Spain it was liberal and capable of giving great variety. Its proportions were such that the proper percentages of proteids and carbohydrates could be obtained, giving the variety in diet necessary to a well-balanced ration.

We give below tables showing the several rations issued by the Subsistence Department.

TABLE I.—The "garrison" ration, with the usual proportions of fresh and salt meats and vegetables.

1,000 complete rations.	Net weight.	Approximate gross weight.
Meat:	<i>Pounds.</i>	<i>Pounds.</i>
Pork, one tenth.....	75	125
Bacon, two-tenths.....	150	177
Fresh beef, seven-tenths, 875 pounds, or fresh beef, 750 pounds, and canned salmon, 100 pounds.....	875	885
Flour.....	1,125	1,507
Vegetables:		
Dry beans or pease.....	75	81
Or rice or hominy.....	50	54
Fresh potatoes, 800 pounds, onions, 200 pounds, or potatoes, 700 pounds, canned tomatoes, 300 pounds.....	800	808
	300	350
Coffee, green.....	100	122
Sugar.....	150	161
Vinegar.....	80	97
Candles.....	15	17
Soap.....	40	44
Salt.....	40	44
Pepper, black.....	2.5	3
1,000 rations.....	3,877.5	4,475
1 ration.....	3.88	4.88

TABLE II.—The "field" ration.

1,000 complete rations.	Net weight.	Approximate gross weight.
	<i>Pounds.</i>	<i>Pounds.</i>
Bacon.....	750	883
Hard bread.....	1,000	1,125
Beans.....	150	162
Potatoes, onions, and canned tomatoes, when possible.....	1,000	1,158
Coffee, roasted.....	80	92
Sugar.....	150	161
Vinegar.....	80	97
Candles.....	15	17
Soap.....	40	44
Salt.....	40	44
Pepper, black.....	2.5	3
1,000 rations.....	3,307.5	3,786
1 ration.....	3.31	3.79

When flour is issued instead of hard bread, 40 pounds of baking powder or dry yeast.

TABLE III.—The "travel" ration used on journeys by railroads, stages, or steamboats.

1,000 complete rations.	Net weight.	Approximate gross weight.
(For first four days.)	<i>Pounds.</i>	<i>Pounds.</i>
Hard bread.....	1,000	1,125
Beef, canned.....	750	875
Beans, baked, 3-lb. cans.....	450	520
Coffee, roasted.....	80	92
Sugar.....	150	161
1,000 rations.....	2,430	2,773
1 ration.....	2.43	2.77
(After fourth day add)		
Tomatoes (gallon cans).....	1,000	1,360
1,000 rations.....	3,430	4,133
1 ration.....	3.43	4.13

TABLE IV.—The "travel" ration for journeys when liquid coffee is furnished.

1,000 complete rations.	Net weight.	Approximate gross weight.
	Pounds.	Pounds.
Hard bread	1,000	1,125
Beef, canned	750	875
Beans, baked, 3-lb. cans	450	520
1,000 rations	2,200	2,520
1 ration	2.2	2.52

Twenty-one cents per ration are allowed for purchase of liquid coffee.

TABLE V.—The "emergency" ration, as authorized by General Orders, No. 49, Headquarters of the Army, A. G. O., series of 1896.

1,000 complete rations.	Net weight.	Approximate gross weight.
	Pounds.	Pounds.
Hard bread	1,000	1,000
Bacon	625	625
Pea meal	250	250
Coffee, roasted and ground	125	125
Saccharin .....	.58	.58
Salt	40	40
Pepper, black	2.5	2.5
Tobacco, plug	31.25	31.25
Bags, wrappers, etc		100
1,000 rations	2,074.33	2,174.33
1 ration	2.07	2.17

Our investigation showed that rations as above indicated were issued, and always on hand in abundance. The department exercised great vigilance in the inspection of all articles, and obtained, as far as we can ascertain, the best quality for the price paid.

In addition to the regular ration, the Subsistence Department had for sale to officers and enlisted men many articles in the nature of personal convenience and food delicacies. The troops not using all the ration had what is known as "company savings." These the department purchased, or they could be disposed of anywhere, money thus obtained being added to the company fund. From this fund, which is administered by the company commander under regulations of the War Department, purchases for the exclusive benefit of the enlisted men are made, thus giving a greater variety to the ration. From reports received from officers serving in the tropics, it is thought that the ration would be improved by adding more sugar and rice and some dried fruits. With these additions it is believed that it in all respects will be suitable for any climate. The cost of the garrison ration, based on New York prices, during the winter preceding the breaking out of the Spanish war, was 13.68 cents, and the cost toward the end of the war was 15.17 cents.

There were sent to Cuba when the Fifth Corps sailed, on June 14, approximately 2,000,000 rations, being about four months' supplies for 16,000 men. When reinforcements were sent on June 22 about 500,000

additional rations were shipped, seventy-five days' supplies for 6,400 men, and in addition, a large supply of sales articles, all from Tampa. During June and July large quantities of the various components of the ration, as also sales articles, were shipped from New York and Chicago.

A cargo of refrigerated beef was sent to Santiago and arrived on July 21, 1898, the day after the port was opened.

Approximately 2,000,000 rations (together with refrigerated beef) were sent to Porto Rico, being about four months' supplies for 16,000 troops.

The Hawaiian and Philippine islands were kept fully supplied. In the Hawaiian Islands beef was purchased from the native butchers. This, judging from reports, was not as satisfactory as the American refrigerated beef which the various transports carried. The troops in the Philippines were furnished frozen beef from Australia. The Navy had a refrigerator ship laden with it, and an arrangement was made whereby the troops were to purchase from the Navy until its supply was exhausted, at which time the Subsistence Department expected a cargo of frozen beef to be in Manila and the Navy was then to obtain supply therefrom.

The Commission has carefully investigated the subject of the condition, quality, and quantity of the food supplied to the Army. Almost without exception it has been shown by the testimony taken that wherever the troops were ordered, whether to the various camps in the United States, or in Porto Rico, Cuba, and Manila, the rations prescribed by law were on the transports and at the camps with the soldiers.

So far as we have been able to ascertain there was but one occasion, that of a day, in front of Santiago, when the troops were seriously short of rations; these had been supplied but thrown aside when the men went into action; the condition of roads and lack of transportation prevented prompt reissue. At times the vegetable ration was not of good quality, the potatoes and onions being spoiled. Condemned by a board of survey such vegetables were destroyed and an equivalent part of the ration issued. Some trouble occurred because such vegetables and other damaged food were disposed of by the company without the warrant of a board of survey. This was done through ignorance, their officers not knowing what was necessary to be done.

All the inspectors of the Army, who were examined touching the quantity and quality of food, testified that it was not only abundant but of unusually good quality, one of them stating that "the troops at Chickamauga were constantly kept supplied with vegetables, fresh bread, and fresh meat. Each company and each command was supplied with ample cooking arrangements, the Buzzacott stove being used. There was no lack of fuel for cooking, and if deficiency or irregularity obtained in properly rationing or feeding the soldiers it was due to the ignorance and inefficiency of company and regimental officers." This language was also embodied in the annual report made by the Inspector-General

to the General of the Army, bearing date of November 1, 1898. The inspection reports quoted in this annual report state in substance the same thing about the meat and other food furnished, and the Inspector-General, on page 47, says: "The Commissary Department has conducted its business, so far as I have been able to observe, in a most satisfactory manner in this war;" and, on page 56, "The quality of the food furnished is generally reported excellent and there has been no complaint as to the quantity."

The Commission investigated personally the quality of the food issued at Jacksonville, Anniston, Huntsville, Knoxville, Lexington, and Camp Meade, interrogating large numbers of soldiers, and hearing few complaints as to the quality or quantity of rations issued. Some complaint was made about the manner of preparing the rations, but no one testified that the rations prescribed by law were not issued regularly, and if any part thereof was spoiled they stated that the same was supplied on application to the subsistence department, provided proper condemnation of the decayed food was made, as prescribed by law. Officers and enlisted men testified that when camps were moved the proper ration was issued.

RECOMMENDATIONS.

At each State camp of instruction an officer of the Subsistence Department should be detailed for the purpose of instructing officers and men in the method of making requisitions, the use of the ration, and the care of subsistence supplies. Instead of a caterer furnishing meals, the men should do their own cooking, using the regular ration and such articles as are for sale by the commissary. Each regiment should have an officer to act as regimental commissary, and also a regimental commissary-sergeant.

All cooking and eating utensils should be furnished by the Subsistence Department. Under the present system utensils are furnished by each of three departments, thereby producing confusion. So important to the welfare of a company is a good cook that it is of the utmost importance that some method be devised whereby he may be obtained. Probably the best method would be to increase the pay to \$25 a month and establish cooking schools, where on enlistment men could be sent and taught the best methods of army cooking. Company cooks should in turn instruct each member of the company. The army cookbook contains in detail description of the methods of garrison and field cooking. It was liberally distributed, but the troops did not, as a rule, avail themselves of the information to be found in it.

REFRIGERATED BEEF.

This commission was organized the 24th day of September last. Up to the 21st day of December its members had taken testimony in seventeen different towns and cities and nine camps. It had also received many hundred letters, communications, and newspaper clip-

pings from persons living in all parts of the country. Examination of numerous officers and enlisted men had been made as to the quality and condition of the meat issued to the troops. The testimony, with some exceptions, showed that the refrigerated beef issued was pure, sound, and wholesome.

The question now is not whether, under all circumstances and conditions, this beef can be kept sound. It is liable to decay if kept too long or exposed for a time to the effects of heat and moisture. The question is whether chemically treated meat has been issued to the soldier.

The subject of such meat seems to have been first called to the attention of officers of the Army by Mr. Alex B. Powell, in a letter dated May 25, 1898, copies of which were sent to General Miles, General Eagan, and Hon. Amos Cummings, in which he incloses the following statement:

In conversation with Mr. H. O. Armour, of the Kansas City Packing Company, he tells me the Government anticipates shipping fresh beef, pork, mutton, etc., to Cuba. As I have had long experience in shipping meats to Florida at all times of the year by my process, I beg to suggest that in the climate of Cuba meats exposed after being taken from the ice boxes will only stand up a very short time. I have a process which I have been using for several years shipping meats to Florida. It so purifies the meats that they will stand any climate for from four to ten days after leaving the ice house.

I shipped all the meats used at the Ponce de Leon and the Alcazar, of St. Augustine, Fla., from the time they opened up to 1894, under the management of Mr. O. D. Seavey, at present manager of the Hotel Champlain, Clinton County, N. Y., who knows all about my process, if you will kindly inquire of him the results. I also shipped all the meats used by the Tampa Bay Hotel during the management of J. H. King; also the St. James Hotel, Jacksonville, Fla., and many others up to the time the Chicago people commenced to ship refrigerator cars to their agency there. In fact, I shipped one-half the meat that went into Florida via the Clyde Steamship Line previous to their having broad-gauge railroads running into the State. Of this the agents of the Clyde Line will bear me evidence.

My mode of shipping was in common barrels, with a simple bag covering. In many cases it was ten days on the trip, and I never lost 100 pounds by spoiling. I also will refer you to Count De Barry, agent for Mumm's Champagne, New York, who has a residence in central Florida, who has for the past ten years up to the present time used no meats that did not come from me by my process.

My proposition to the Government would be to process all their fresh meats in the cars at Tampa, or any other place where the cars could reach. I can process 10 car-loads, or 100,000 pounds, in four hours, at my own expense, and put the meats in a condition to be hung up in any part of the ship, which will keep in perfect condition for from four to ten days. I simply so purify the germs of the meats that they will stand the destroying elements of any climate. My price for doing it would be one-half cent per pound. Kindly send this to the proper party and have them investigate. I shall be pleased to go to Washington to confer with any party you suggest.

May 27 this communication was referred by the Major-General commanding the Army to the Commissary-General of Subsistence. The copy of Mr. Powell's letter sent had evidently been previously referred to General Eagan, for on the 26th of May he wrote him as follows:

Your letter of the 20th instant to the President of the United States upon the subject of preservation and shipment of fresh beef, pork, mutton, etc., to Cuba has

been referred to this office. In reply have to say that the subject of furnishing fresh beef in Cuba is now being considered. This department is not engaging any one with methods to cure meats. If it purchases meat it will be from someone who will furnish meat and guarantee its good condition on arrival and for seventy-two hours thereafter, or who will slaughter and deliver as required, wherever the troops may be.

This correspondence shows doubtless how the idea that processed or treated meats were being used in the Army originated, and also that the Commissary-General of Subsistence did not entertain the proposition of Mr. Powell.

On the 21st day of December last Maj. Gen. Nelson A. Miles, upon the written request of the president of this commission, appeared before it. He refused to be sworn, as all other witnesses had been except one, who affirmed, stating that he would make his statements without being sworn, and was responsible for what he said. He proceeded, and for the first time in the history of this investigation the allegation was made that refrigerated beef issued to the troops had been chemically treated.

In the statement, revised by himself, General Miles said:

There was sent to Porto Rico 337 tons of what is known as so-called refrigerated beef, which you might call embalmed beef. * * *

He proceeded to read a communication from Dr. W. H. Daly, major and chief surgeon, United States Volunteers, on his staff, bearing date of September 21, 1898, wherein Dr. Daly stated that—

In the several inspections I made in the various camps and troopships at Tampa, Jacksonville, Chickamauga, and Porto Rico I found the fresh beef to be apparently preserved with secret chemicals which destroy its natural flavor, and which I also believe to be detrimental to the health of the troops.

The entire report is as follows:

WASHINGTON, D. C., *September 21, 1898.*

The ASSISTANT ADJUTANT-GENERAL,

Headquarters of the Army, Washington, D. C.:

SIR: I have the honor to report, in the interest of the service, that in the several inspections I made in the various camps and troopships at Tampa, Jacksonville, Chickamauga, and Porto Rico, that I found the fresh beef to be apparently preserved with secret chemicals, which destroys its natural flavor, and which I also believe to be detrimental to the health of the troops.

While on duty at headquarters of the army at Tampa at the time of the embarkation of the "Shafter expedition," Colonel Weston, the efficient chief commissary, showed me a quarter of beef that had already, as a test, been sixty hours in the sun without being perceptibly tainted, so far as the sense of smell could detect.

It is impossible to keep fresh beef so long untainted in the sun in that climate without the use of deleterious preservatives, such as boric acid, salicylic acid, or nitrate potash, injected into it in quantities liable to be hurtful to the health of the consumer.

At Ponce, Porto Rico, much of the beef I examined arriving on the transports from the United States was also of the same character, being apparently preserved by injecting chemicals to aid deficient cold storage.

"Where efficient cold storage is impossible transporting beef alive is the method that should receive the fullest consideration by the Government as being

safest for the health of the consumer. When detailed to take charge of the transport *Panama*, for conveying convalescents to the United States, I obtained 2,000 pounds of fresh beef from the commissary at Ponce. It looked well, but had an odor similar to that of a dead human body after being injected with preservatives, and it tasted when first cooked like decomposed boric acid, while after standing a day for further inspection it became so bitter, nauseous, and unpalatable as to be quite impossible for use. I was therefore obliged, owing to its condition, and the just complaints of the sick about it, and the disgustingly sickening odor it emitted when being cooked, and its mawkish, flat taste when served, and the safety of my patients—255 convalescent soldiers on board—to organize a board of survey, condemn and throw 1,500 pounds, all we had, overboard; consequently the convalescents were entirely without much-needed fresh beef, making the duty of bringing the men to the United States in an improved condition a very difficult matter.

In my inspection of the Fourth United States Volunteer Infantry at Jacksonville recently I observed the same odor and taste upon the fresh beef, but not so marked, and at camp of Sixth United States Volunteer Infantry at Chickamauga I also, at severally inspections, observed it markedly. I there inspected a lot of beef just issued to that regiment, and, while it looked well, was of a sickening odor, like a human body dead of disease and injected with preservatives, and when cooked was quite unpalatable, consequently likely to prove an efficient cause of ill health. The men complained of its insipid and mawkish flavor that high seasoning could not conceal.

Believing that the Commissary Department has been imposed upon by the misdirected commercial spirit of persons furnishing beef, I respectfully recommend that the matter be investigated by experts making a quantitative and qualitative chemical analysis of the several preservatives suspected to be used by getting samples of beef furnished for export to Cuba and Porto Rico.

If the question arises that a report should have been made by me earlier, I beg to say that I have endeavored, with all my opportunities, to first inform myself, by observation, of the conditions above noted sufficiently to warrant my drawing the attention of the Adjutant-General at Headquarters of the Army to the matter.

Very respectfully,

W. H. DALY,

Major and Chief Surgeon, U. S. Volunteers.

General Miles further said:

I do not think that beef such as was sent to Cuba or Porto Rico would be good in any country in the stomach of any man.

* * * * *

If I was furnished for any expedition in this country, or any other, with such stuff, I would prohibit the men from taking it.

* * * * *

I do not know what may have been injected into it.

* * * * *

The understanding is that this is a secret process of preserving beef.

This last was in answer to a question whether Dr. Daly made a chemical analysis of refrigerated beef. He further said: "It may be that they are still sending the stuff down there," meaning Porto Rico. From these quotations it is apparent that General Miles distinctly and unqualifiedly stated that the refrigerated beef furnished to the troops had been chemically treated, or was "embalmed beef."

Of the witnesses examined by this commission, General Miles and Dr. Daly are the only ones who make this charge.

General Miles did not state that he personally inspected any refrigerated meat. He did not refer us to any witness who would testify that the beef issued to the troops was embalmed beef, unless his reading of the report made by Dr. Daly to him, the true date of which Dr. Daly stated should have been October 21, 1898, may be considered such a reference.

Although Dr. Daly swears that he informed General Miles about the 1st of August, 1898, that he suspected that the refrigerated beef was chemically treated, it does not appear that the General informed you or the War Department that an officer of his staff had made this discovery, nor does it appear that he at the time ordered any of the officers under his command to probe to the bottom an allegation which, if true, concerned the health of 275,000 soldiers of the United States. It appears from the report of Dr. Daly, which he handed to General Miles October 21 last, that he then specifically stated that the refrigerated beef furnished to the troops was "apparently" chemically treated. It does not appear that when this charge was made, October 21, it having been already made to him in August, 1898, that General Miles communicated to you, or the Secretary of War, or to the Commissary-General, the belief or suspicion entertained by him that refrigerated meat, dangerous to health, was issued every day to the troops, in failure to do which there was dereliction of duty. It is true that on September 20 he had directed that an order should be issued asking for reports relative to meats issued, but the order specifically mentions "canned fresh roast beef" and nothing else, and it was the reports received in answer to this that were presented in abstract by the General at the time of his appearance before the commission and since.

In his report Dr. Daly does not make the all-important statement that he had already chemically analyzed any meat, although he suggests that such analysis should be made. He does state that in the several inspections made by him at Tampa, Jacksonville, Chickamauga, and Porto Rico he "found the fresh beef to be apparently preserved with secret chemicals." He says that at Ponce the beef he examined "was also of the same character, being apparently preserved by injected chemicals."

For months, as it appears, Dr. Daly concealed the knowledge of the commission of a crime affecting men under his charge, whom, as an officer and a physician, he was bound to protect.

On the 20th day of January he appeared as a witness. He was duly sworn, and testified that he commanded the steam transport *Panama* on her voyage from Ponce, Porto Rico, to Fort Monroe, Va. She sailed about September 4 last with 150 convalescent soldiers on board. The day previous she received about 1,500 pounds of refrigerated beef. There was no refrigerator aboard, but there was a quantity of ice, and the beef was put on it. The meat did not keep. It was used until September 7, and on that day, what remained, 963 pounds,

was thrown overboard, being decayed, and putrid. A board of survey had condemned it, but neither the board, nor any member thereof, nor Dr. Daly, at that time suggested or intimated that this beef had been chemically treated. Dr. Daly testified that previous to the condemnation of the beef he took from a kettle, in which some of it was being boiled, two bottles of the broth, and having corked but not sealed the bottles, placed them in his portmanteau for safe-keeping. One of the bottles was broken and the contents lost. He preserved the fluid contained in the other bottle and on or about September 15, at his home in Pittsburg, analyzed it, obtaining a residuum which exhibited the characteristics of boric and salicylic acid.

Dr. Daly when he testified had in his possession a brownish powder, which he said was the residuum from the broth above mentioned. He consented that Professor Clarke, chief chemist of the United States Geological Survey, should analyze the substance. It was so analyzed, and Professor Clarke testified that traces of boric and salicylic acid were found.

The meat sent aboard the *Panama* had been kept ashore some time out of a refrigerator. It was handled by several persons and exposed to deterioration at Ponce and aboard the *Panama*.

It is to be further noted that Dr. Daly afterwards saw other beef at Chickamauga and Jacksonville which he suspected to have been chemically treated, but he did not take samples of the beef, nor analyze it, nor did he at the time report his suspicions to any person, so far as is known to the commission.

Dr. Daly states that the injected meat "tasted when first cooked like decomposed boric acid." The proof before us is that boric acid in meat does not decompose and that it has no taste. He speaks of the odor emitted by the meat, but the proof is that boric acid has no odor.

After being delivered from the refrigerator ship this meat was on shore under a shed. The commissary received it as good meat and issued it as such, but there was no refrigerator at Ponce. The meat was exposed to the elements and to the handling of many persons.

Little attention need be paid to the statement made by Dr. Daly touching the question of beef shown him by Colonel (now General) Weston that had already, as a test, been sixty hours in the sun without being perceptibly tainted, so far as the sense of smell could detect, for Dr. Daly says that he has implicit confidence in General Weston, and that whatever the latter may say about it is true.

We insert here a copy of General Weston's testimony, which absolutely disposes of the charge that the beef seen by Dr. Daly at Tampa was beef that was furnished by the contractors, or issued to the troops.

Question 1. As stated (in testimony of Colonel Osgood), four quarters of beef, said to have been prepared by meat process, were allowed to be hung up on the deck of a transport sailing from Tampa that the preservation power of the process might be tested. Please state fully all you know about this matter.

Reply. About June 8, 1898, the *Comal*, on which I sailed to Cuba, lay at Port Tampa, where I received from Mr. Edwards and Mr. Powell a few cattle to test by exposure to the sun, the object being to find out how long the beef would last before decomposition would set in. The beeves were cut up, and some, if not all, covered with burlap. Mr. Edwards said that the beef had been treated in a closed car at Port Tampa, by a Mr. Powell of New York city. Mr. Powell was present. I talked to him as to the manner of treatment; asked him if it was gaseous or liquid. He said it was a simple and harmless process, and if the beef stood the test and his bid was accepted that he would submit the process to us, and if not satisfactory, we needn't take it.

I took the beef to test it, and asked Mr. Edwards to send some of it to a few regiments. I know some was sent to Colonel Wood's regiment (Rough Riders), and to some other ships where the Third and Sixth Regiments of Cavalry were, and to explain that we wanted the beef tested by exposure to the sun.

At this time the troops were subsisting on the travel ration, the meat portion of which was canned beef, so that there appeared no probability of the few regiments I sent the quarters to, to get it mixed up with fresh beef for issue, nor could it be taken for an issue, as all of the three beeves I had received, the bulk of which I kept on the *Comal*, wouldn't have been more than enough for one day's ration for one regiment of 1,200 men.

The test aboard the *Comal* was certainly satisfactory, as the beef, covered with burlap, held out eighty hours, and I so informed the Commissary-General of Subsistence under date of June 11, 1898; also Mr. Powell, who was present.

This beef was at no time the property of the United States, nor was any of it issued to United States troops. During the process I examined the beef frequently, sometimes every two or three hours, accompanied by the surgeon-general of the Swedish or Norwegian army, by the doctor on board the ship, and others; indeed, I was so enthusiastic over my work I showed the beef to almost every passer-by. Among others to whom I showed the beef, was Major Daly, surgeon, whom I had observed with General Miles standing on the bridge of the ship, to whom I explained everything I knew about it, namely, that it was beef treated by Mr. Powell, and that we were experimenting with it, Mr. Edwards and Mr. Powell having furnished it for that purpose.

Question 2. Was any specially prepared, i. e., chemically treated beef received by you, and if any such was received, was any issued to troops; and if so, to what extent, at what place, and to what troops?

Reply. No. No specially prepared beef was received by me in an official sense. The beef referred to in reply to question No. 1 was received by me for the purpose of testing it after the manner indicated in the same reply.

Question 3. Did you ever know of any beef being supplied to the Army which had been treated by any process intended to delay decomposition through the action of any chemical substance other than salt and saltpeter?

Reply. No.

Question 4. Were you at any time, either before or during the war with Spain, asked or ordered to receive, for issue to troops, any so-called fresh beef which had been treated chemically for preservation reasons?

Reply. No.

Question 5. If you were so asked or ordered, state when, where, and by whom you were so asked or ordered.

Reply. No.

It may be well briefly to describe the inspection of the beef by the officers of the Government of the United States. Inspection of refrigerated beef is provided for by the act of Congress approved March 3, 1891.

By the third section of this act the Secretary of Agriculture shall cause to be inspected, prior to their slaughter, all cattle which are subjects of interstate commerce, and which are about to be slaughtered at slaughterhouses in any State or Territory or the District of Columbia, the carcasses of which are to be transported to, or sold in, any other State or Territory or the District of Columbia, and he may also make a post-mortem examination of the carcasses of such cattle. The examination is to be made according to rules adopted by the Secretary of Agriculture, and after such examination the carcasses which are found to be free of disease, and wholesome, sound, and fit for human food, shall be marked, stamped, or labeled for identification, as may be provided by said rules and regulations of the Secretary of Agriculture.

It is made a criminal offense to forge, counterfeit, or knowingly and wrongfully alter, deface, or destroy any of the marks, stamps, or other devices provided for in the regulations of the Secretary of Agriculture of any such carcasses. It is unlawful to transport from one State or Territory or the District of Columbia into another State or Territory or the District of Columbia, or for any person to deliver to another for transportation, as above stated, the carcasses which have been examined in accordance with the provisions of sections 3 and 4 of the act, and which on said examination have been declared by the inspector making the same to be unsound or diseased. Inspectors are authorized to give official certificates of the sound and wholesome condition of the cattle, their carcasses, and products, and one copy of every certificate shall be filed in the Department of Agriculture, another copy shall be delivered to the owner or shipper, and when the cattle or their carcasses and products are sent abroad a third copy shall be delivered to the chief officer of the vessel on which the shipment shall be made.

Under this act rules and regulations have been enacted by the Bureau of Animal Industry, and will be found in Bulletin No. 9, issued by that bureau. Dr. D. E. Salmon is chief of the Bureau of Animal Industry.

We can not quote in full the complete regulations adopted by the Bureau of Animal Industry. It is sufficient to say that proprietors of slaughterhouses must make application to the Secretary of Agriculture for inspection of cattle and their products. This application must be in writing, and the applicant must agree to conform strictly with all lawful regulations or orders that may be made by the Secretary of Agriculture. An official number is given to every slaughtering establishment.

The Secretary of Agriculture designates an inspector to take charge of the examination and inspection of animals and their products for each establishment which has been officially numbered, and details to such inspector such assistants or other employees as may be necessary to carry on the work of inspection. The inspector and all employees under his direction have full and free access to all parts of the building used in the slaughtering of animals and the conversion of their carcasses into food products. Each employee must wear a badge. An

antemortem examination of all animals arriving at the stock yard for slaughter shall be made when they are weighed. Any animal found to be diseased or unfit for human food is marked by placing in the ear a metal tag bearing "U. S. Condemned" and a serial number. Such animals are placed in pens and removed by a numbered permit, signed by the inspector, to the abattoir or rendering works, designated by the said inspector, where they shall be killed under the supervision of an employee of the Bureau of Animal Industry, and rendered in such manner that their products will be unfit for human food. All animals must be inspected before they are slaughtered, and no animal shall be allowed to pass the slaughtering room until it has been inspected.

After the animal is slaughtered each carcass is inspected. The head of each animal shall be held until the inspection of the carcass is completed, in order that it may be identified in case of condemnation of the carcass. Should any carcass on the postmortem examination be found to be diseased and unfit for human food, it shall be marked with a metal condemnation tag, and shall be removed to tanks on the premises and deposited therein, and rendered in such a manner as to prevent its withdrawal as a food product. Any person who removes any tags may be prosecuted under the acts of Congress of March 3, 1891, and March 2, 1895. Carcasses designed for interstate or export trade will be tagged by the inspector or an employee designated by him with a numbered tag issued by the Department of Agriculture, and a record of the same is sent to the Department at Washington.

This reference to the rules and regulations of the Bureau of Animal Industry will sufficiently show how perfect and complete is the supervision of the Government over the meat products of the country. It is of course barely possible that in spite of this active and thorough supervision the meat may be tampered with, but it is improbable that any chemical substances can be applied to it while it is still in the packing establishment. When this inspected and tagged meat leaves the establishment of the packer for its destination it is put in a car which is prepared for refrigerating purposes, and this car is sealed with two seals, one affixed by the packer and one by the railroad company. If intended for exportation, the meat is delivered from the car to the ship, on board of which there is a refrigerator under the charge of men employed by the packers. It can not be said that it is impossible that the meat while on a car or ship may be tampered with, but it is highly improbable that such a thing would happen. The system of cold storage has been for many years largely used in all parts of the world, and without the use of chemicals it has been found sufficient to preserve slaughtered meats.

In the contracts made by the Commissary-General of Subsistence for the furnishing of meat at points on the seacoast of the island of Porto Rico occupied by the army of the United States it is provided that refrigerators are to be supplied to all ships on which such meat is to be transported. It is also provided that the contractors shall have

and operate refrigerating buildings at such points in the island of Porto Rico occupied by the army of the United States as may be necessary for carrying out the purpose of their contract. The beef to be furnished by the contractors is to be of uniform good quality, from fat steers, United States Government inspected, weighing not less than 600 pounds dressed weight per carcass, and shall be refrigerated, chilled, or frozen in quantities according as it shall be called for by the Commissary-General of Subsistence of the United States Army.

A copy of this contract is attached to the testimony of Brigadier-General Eagan, and a reference to it will show that the beef was to be of the best quality. By the terms of the contract it was to be perfectly good and fit for use seventy-two hours after being issued from the ship's refrigerator, or twenty-four after being issued from the refrigerator buildings to the proper officer of the Government.

This commission has made earnest efforts to arrive at the truth of the charge that the meat furnished by the contractors to the troops was chemically treated. We have hereinbefore detailed at length the testimony of the single witness who, from his own declared knowledge, advances the charge. On the other side there is a mass of proof that there is no truth in the charge. We have taken the testimony of many witnesses who, from their opportunities to know the truth, were able to testify as to the character and condition of the meat issued to the troops. The Navy uses when practicable refrigerator beef; some of its officers have testified to its soundness and excellence. Many officers, Government inspectors, noncommissioned officers, cooks, and privates, have given similar testimony.

It is an established fact that beef kept for a long time in cold storage gathers upon its exterior a mold known as the "beard" or "whiskers," which gradually affects the meat to a depth varying with the length of time the growth has been forming. Removal of the affected outer portion usually shows the meat below to be sound and fit for consumption. By the evidence presented to the commission the meat has been traced from the animal on the hoof to the commissaries, who received it from the contractors and issued it to the troops, all of which seems to negative the idea that it had been chemically treated.

The commission has not confined itself to merely verbal or written proof. Immediately upon hearing the testimony of Dr. Daly, on the 20th of January telegrams were sent to all issuing commissaries in Cuba, Porto Rico, and at the various home camps occupied by troops, asking that samples of refrigerated beef be at once taken, placed in glass jars, securely sealed, and forwarded to the commission. These samples were to be of 1 pound weight from the outside and 1 pound weight from the inside of a quarter. In response to this request many samples have been received and later sent to the chemists of the Agricultural and Interior Departments for careful chemical examination. The result of analysis has been reported to us in 29 cases, and,

as will be seen by the reports appended, in no specimen examined has either boric or salicylic acid or other deleterious chemicals been found.

In view of the facts above set forth, the commission is of the opinion that no refrigerated beef furnished by contractors and issued to the troops during the war with Spain was subjected to or treated with any chemicals by the contractors or those in their employ.

CANNED MEATS.

In considering questions concerning canned meats it is not the duty of the commission to inquire into the character, kind, or condition of all the canned meats that may be in use in this country. Our specific duty is to give an opinion as to the quality of those furnished the soldiers during the recent war with Spain. There has been neither allegation nor proof before us that boric, or salicylic, or any other acid has been used in the canned meats furnished to the troops, but such meats have nevertheless been greatly criticised, and they have, for that reason, been tested by us and have been analyzed under our direction, and we have taken a great deal of testimony as to the mode of their preparation. The canned meat is ordinarily taken from the forequarters of beeves.

Under the regulations of the Agricultural Department, each article of food product made from inspected carcasses must bear a label containing the official number of the establishment from which said product came and also contain a statement that the same has been inspected under the provisions of the act of March 3, 1891. A copy of said label must be filed at the Department of Agriculture, Washington, D. C., and, after filing, said label will become the mark of identification, showing that the products to which it has been attached have been inspected, as provided by these rules and regulations; and any person who shall forge, counterfeit, alter, or deface said label will be prosecuted under the penalty clause of section 4 of the act of March 3, 1891, as amended in the act of March 2, 1895. Each package to be shipped from said establishment to any foreign country must have printed or stenciled on the side or on the top by the packer or exporter the following:

FOR EXPORT.

- (a) Official number of establishment.
- (b) Number of pieces or pounds.
- (c) Trade-mark.

In case said package is for transportation to some other State or Territory or to the District of Columbia, in place of the words "for export" the words "Interstate trade" shall be substituted.

The inspector of the Department of Agriculture in charge of the establishment at which the meat was prepared being satisfied that the articles in said packages came from animals inspected by him, and that they are wholesome, sound, and fit for human food, shall paste upon such packages meat-inspection stamps bearing serial numbers.

In order that the stamps may be protected and to insure uniformity in affixing, inspectors will require of the proprietors of abattoirs and packing establishments the adoption of cases suitable for one of the two methods mentioned below. The stamp may be affixed in a grooved space let into the box of sufficient size to admit it, similar to that required by the Internal-Revenue Bureau for the stamping of packages of plug tobacco. Stamps may be placed on either end of the package, provided that the sides are made to project at least half an inch to afford the necessary protection from abrasion.

The stamp having been affixed, it must be immediately canceled.

Great care is taken in the securing of these stamps. They are not allowed to remain loose about the office or the abattoir and stringent rules in this regard are made for the government of the inspector. Whenever any package of meat products bearing the inspection stamp shall have been opened and its contents removed for sale, the stamp on said package must be obliterated. Reports of the work of inspection carried on in every establishment shall be daily forwarded to the Department by the inspector in charge on such blank forms and in such manner as are specified by the Department.

We take the following description of the preparation of this meat from a paper issued by the Agricultural Department:

In preparing the meat for canning, large pieces are put in vats of boiling water and thus cooked. This softens the meat, makes it more tender, and facilitates the separation of bone and gristle. After these are removed, the meat is cut into pieces of proper size for the can. The top is then soldered on the can, but a small hole is left, through which air and steam escape in the heating of the can which follows. This heating also kills the bacteria. The hole is then closed by a drop of melted solder, and the can is hermetically sealed. The cans are then tested to see whether this handling has been done so as to protect the meat from deterioration. To this end they are kept in a warm room for a number of days. If the bacteria have not been killed, the meat will decompose, gases will be produced, and the cans will swell. The number of cans that swell and thus indicate imperfect handling is said to average about one-fourth of 1 per cent. The meat in them is thrown into the waste heap with the intestines and other refuse and made into fertilizers.

This statement corresponds with oral testimony taken by us. As appears from the testimony of Dr. W. O. Atwater, professor of chemistry at Wesleyan University at Middletown, Conn., it is impossible, by the process described, to remove from the meat which goes into the cans any considerable part of the actual nutriment. The difference between the meat as prepared in this way and that ordinarily cooked in the household is that the canned meat does not contain the bone and gristle, which are not edible. According to analyses the percentage of protein in boiled beef is 24 per cent, and canned 26 per cent. The proportion of fat in the canned meats analyzed was relatively smaller, doubtless because leaner meat was used for canning. The value of meat, as of other foods for nourishment, depends upon its digestibility; that is, upon the proportion of nutritive material that is absorbed from the digestive tract during its passage through the body. Numerous tests have been made of the digestibility of fresh meats as

ordinarily cooked for eating. The number of experiments made with canned meats is smaller, but there is no reason to assume any considerable difference between the two.

Nearly all the protein of beef, as it is ordinarily eaten, is digested and assimilated by the system. The high nutritive value of properly cooked canned meat is therefore well settled by accurate experiment. In the great stock yards in Chicago, Kansas City, and elsewhere, where nearly all of the canned meat is put up, all the meat is inspected on the hoof and at the time of slaughtering by Government experts, who are on the ground all the time, and without whose examination not an animal is killed; and no shipment of meat can be made without inspection without violation of Government regulations. This furnishes a guaranty for the quality of the canned meat. In treating of refrigerated beef we have minutely explained the process of inspection as to refrigerated meats, and the same applies as to canned meat.

Dr. Atwater has been conducting an extended investigation of the nutritive value of food. The food problem has also been very carefully studied in Europe. Distinguished scientists in France, Germany, Russia, and other European countries have been engaged in this investigation. The value of different foods for men engaged in ordinary occupations, for soldiers in time of peace and war, and persons in various other conditions of life has been studied. In treating of these questions Dr. Atwater has said that in the cooking and canning, which is in the nature of boiling rather than roasting, water is expelled, but the amount of nutritive material removed is very small indeed, so that a pound of ordinary canned meat has, on the average, much more nutriment than the same weight of the fresh meat from which it is prepared. The removal of the bone and part of the water, while so little nutriment is taken away, leaves the meat in a less bulky and more concentrated form, so that pound for pound the canned meat has a higher nutritive value than the fresh meat.

In a large number of analyses of fresh and canned meats, collected at Chicago during the World's Fair, and in other parts of the country before and since that time, and analyzed under the direction of Dr. Atwater, these proportions of the nutritive ingredients in the canned meats have been found to be larger than in the ordinary fresh meats. This is especially true of the protein compounds, which are used by the body to build up its nitrogenous materials, as blood, muscle, and bone. Among the analyses made by him some of the largest proportions of protein were found in the boiled meats. He greatly commends such prepared meats.

The use of canned meats, according to the proof before us, is very general. It has been a part of the ration in our military service since August 1, 1878, as appears by order hereinafter quoted, confirmed by General Order, No. 8, February 8, 1888, also quoted. It is issued as a ration every ten days in our Navy. We have had before us a number of abstracts of reports made by officers, reciting that the tinned meat

issued to the troops is unpalatable, that it is stringy, that it is coarse, flat, and tasteless. On the other hand, other officers and enlisted men and citizens with equal opportunities for having knowledge have testified before us that the tinned roast beef is pure, sound, and palatable. This difference of opinion must to some extent be accounted for by diversity in taste. We ourselves have tasted the contents of several cans of the meat, some of which had been issued to troops in Porto Rico and brought back by them, some of which were furnished to us by the Commanding General; three cases bearing the brand of different packers were sent at our request by Captain Groome, of the First city troop of Philadelphia, and some we purchased at random. Specimens of all these samples were furnished to expert chemists in Washington for analysis. The reports of these analyses are appended hereto, marked Exhibit P. In connection with them will be found a report from Capt. A. E. Hunt, of the Pennsylvania Artillery, in which he transmits the result of an analysis of a can of fresh roast beef, taken by him from a case which had been issued to his battery in Porto Rico, and brought home.

There is no doubt that when issued to soldiers in Cuba and Porto Rico, where it was exposed to the heat, and where they did not have the proper means of treating the cans, as directed on the labels, and could not properly cook it, the meat was unpalatable, especially to those suffering from malaria, or convalescent.

The result of our own testing and of all the analyses made at our instance, as also the analysis made by Mr. James O. Handy, chief chemist, Pittsburg testing laboratory (specimen referred to by Captain Hunt), is that the canned meat which has been brought to our attention is pure, sound, and nutritive. It has not been found to contain any acids or any deleterious substance, but to be unadulterated meat. The testimony before us is that the canned meat is not, in general, intended to be issued to troops except as an emergency ration. The preponderance of the proof is that meat on the hoof and the refrigerated beef are more acceptable. A number of officers and others have testified that the meat is unpalatable. Its palatability greatly depends upon the mode in which it is cooked.

In a tropical climate, carried on the march, exposed to heat, the meat so changes in appearance as to become repulsive. In the Navy, where the meat is properly cared for, there has been no complaint, so far as has appeared in evidence before us.

After careful consideration we find that canned meat, as issued to the troops, was generally of good quality, was properly prepared, and contained no deleterious substance. At times probably material of poor quality is issued; in one of the cans sent to us and examined by the chemist a large amount of gristle was found.

That it was not issued "under pretense of an experiment" is indicated by the fact that it has been in use in the Army for more than

twenty years, as shown by the following extract from general orders from the Headquarters of the Army of the United States:

GENERAL ORDERS, } No. 59. }	HEADQUARTERS OF THE ARMY, ADJUTANT-GENERAL'S OFFICE, <i>Washington, August 1, 1878.</i>
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By direction of the Secretary of War the following order is published to the Army:

I. The following issues may be made to troops traveling upon cars or transports, or in the field, when it is impracticable to cook their rations, viz: Seventy-five pounds of canned fresh or corned beef, and sixteen 3-pound cans or six 1-gallon cans of baked beans, or 15 pounds of cheese per hundred rations—the issues of canned beef to be in lieu of the meat, and the beans and cheese in lieu of the vegetable ration authorized by existing regulations and orders. None of the above-mentioned articles will be sold by companies or detachments as savings.

By command of General Sherman:

E. D. TOWNSEND, *Adjutant-General.*

General Orders, } No. 8. }	HEADQUARTERS OF THE ARMY, ADJUTANT-GENERAL'S OFFICE, <i>Washington, February 8, 1888.</i>
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By direction of the Secretary of War, paragraph 2150 of the regulations is amended to read as follows:

2150. A ration is the established daily allowance of food for one person. For the United States Army it is now composed as follows: 12 ounces of pork or bacon or canned beef (fresh or corned), or 1 pound and 4 ounces of fresh beef, or 22 ounces of salt beef; 18 ounces of soft bread or flour, or 16 ounces of hard bread, or 1 pound and 4 ounces of corn meal. To every 100 rations, 15 pounds of beans or peas, or 10 pounds of rice or hominy, 10 pounds of green coffee, or 8 pounds of roasted (or roasted and ground) coffee or 2 pounds of tea, 15 pounds of sugar; 4 quarts of vinegar, 1 pound and 8 ounces of adamantine or star candles, 4 pounds of soap, 4 pounds of salt, 4 ounces of pepper; and to troops in the field, when necessary, 4 pounds of yeast-powder to the 100 rations of flour.

By command of Lieutenant-General Sheridan:

R. C. DRUM, *Adjutant-General.*

Official.

ASSISTANT ADJUTANT-GENERAL.

As respects the quality of canned meats in general as used in the Army, the following communication is indicative of what the opinion has been of those best informed charged with the duty of examining and reporting in relation thereto:

WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE,
Washington, October 19, 1897.

Mr. W. CLARKE MARSHALL,

Produce Exchange, 6646 Wentworth avenue, Chicago, Ill.

SIR: I have the honor to acknowledge the receipt of your communication of the 19th ultimo, to the Secretary of War, giving information regarding the proper food to be taken to the sufferers in Alaska, and also for the subsistence of the troops there, and ascribing the sickness in that locality to the use of salt meats, and in reply thereto the Secretary of War desires me to call attention to the following remarks of the Medical Department of the Army, in which the Major-General Commanding the Army concurs:

"Canned meats put up by reputable firms are wholesome and have the full nutritive value of the meat contents, and in the absence of fresh meat are to be preferred

to any of the three substitutes suggested by the writer. Meat when salted loses a certain proportion of its albuminoids and extractives, but what remains is valuable as food and has no specific influence in the production of scurvy. With hard bread, bacon, pea meal, and an occasional issue of fresh beef, or in its absence canned meat, a dietary of a satisfactory force value can be provided. To these there should be added, for the prevention of scurvy, occasional issues of potatoes, onions, or canned vegetables, or in their unavoidable absence desiccated vegetables and dried fruit."

Very respectfully,
(Signed)

W. H. CARTER,
Assistant Adjutant-General.

Mailed October 19, 1897.

All the above in quotation is the indorsement upon the letter of Mr. Marshall, signed by C. Smart, Deputy Surgeon-General, U. S. A. The indorsement of the major-general commanding is in the following words:

HEADQUARTERS OF THE ARMY,
Washington, D. C., October 18, 1897.

The major-general commanding concurs in the remarks of the deputy surgeon-general, 4th indorsement.

(Signed)

J. C. GILMORE,
Assistant Adjutant-General.

Reference has been made to reports received from Army officers and transmitted to the commission by the Major-General Commanding the Army. These reports were made in compliance with the following general order, issued in accordance with memorandum * submitted by him:

ADJUTANT-GENERAL'S OFFICE,
Washington, D. C., September 20, 1898.

COMMANDING GENERAL, DEPARTMENT OF THE EAST,
Governor's Island, New York:

Major-General Commanding directs that each regiment of regular troops in active service in Cuba and Porto Rico be called upon for report as to results obtained from use of canned fresh roast beef during campaigns in those countries.

(Signed)

H. C. CORBIN, *Adjutant-General.*

(Signed)

H. O. S. H.

(Same to commanding general, Department of Santiago, Santiago, Cuba; commanding general, U. S. Troops, Porto Rico; commanding general, Camp Wikoff, Montauk Point, N. Y.; commanding general, Department of Gulf, Atlanta, Ga.; commanding general, Department Lakes, Chicago, Ill.; commanding general, Department of California, San Francisco, Cal.; commanding general, Department Colorado, Denver, Colo.; commanding general, Department Missouri, Fort Omaha, Nebr.; commanding general, Department Dakota, Fort Snelling, Minn.)

* HEADQUARTERS OF THE ARMY,
Washington, D. C., September 20, 1898.

MEMORANDUM FOR THE ADJUTANT-GENERAL.

The Major-General Commanding directs that the commanding officer of each regiment of regular troops that were in active service in Cuba and Porto Rico be called upon for a report as to the results obtained from the use of canned fresh roast beef during the campaigns in those two countries.

* When all these regiments have been heard from the reports will be sent to these headquarters for the necessary action.

(Signed)

J. C. GILMORE,
Brigadier-General, U. S. Volunteers.

MEDICAL DEPARTMENT.

BRIG. GEN. GEORGE M. STERNBERG, SURGEON-GENERAL, U. S. A., IN CHARGE.

By paragraph 1392 of the Regulations of the Army, "the Medical Department, under the direction of the Secretary of War, is charged with the duty of investigating the sanitary condition of the Army, and making recommendations in reference thereto, with the duty of caring for the sick and wounded, making physical examinations of officers and enlisted men, and furnishing all medical and hospital supplies, except for public animals."

Prior to the declaration of war (April 21) no preparation for the approaching conflict had been made by the Medical Department. The number of officers was as it had been in time of peace. Many of the older surgeons were on bureau and administrative duty; several of the corps were not in physical condition to take the field. Under the Revised Statutes of the United States (Sec. 1259) retired officers could not be called upon for active service, and for want of appropriations by Congress it became impossible, after July 15, 1892, to employ civilian physicians under contract.

Seven hundred and ninety-one men were in the Hospital Corps on the 1st of May, only 74 more than on the 1st of January preceding, and of these, under existing laws, not to exceed 100 could be hospital stewards. The privates had become more or less skilled in litter bearing and first aid work, but had received only a limited amount of training as nurses.

The medical supplies on hand were only what remained at the posts of the semiannual issue of the preceding January, the several purveying depots at New York, St. Louis, and San Francisco not having as yet received any of the medicines and stores contracted for in anticipation of the regular issue of the coming July. Models of improved medical and hospital chests had been determined upon, but no contracts for such chests had been given out, nor was it thought that bids for them could be legally asked for.

The need of a hospital ship had been made known to the Secretary of War, but no steps had been taken to secure such vessel. Only \$20,000 had been given to the Department out of the \$50,000,000 emergency fund, and the Secretary of War had directed the Surgeon-General to make no purchases until the question of whether or not there was to be war had been definitely settled.

More than a week before the President's proclamation of April 23 was issued the regular regiments were moving or under orders to move. By that proclamation the National Guard to the number of 125,000 was called out, and thirty days later there was a call for 75,000 more.

MEDICAL OFFICERS.

Each regular regiment had a medical officer and each volunteer regiment a surgeon and two assistants. These medical officers of the

volunteer force were, with few exceptions, unacquainted with the military duties that would necessarily devolve upon them in the field, however well fitted they might be to care for the sick and wounded. The act of Congress of April 22 directed that a chief surgeon should be on the staff of a commander of a corps, on that of a division commander, and on that of the brigade commander. A liberal construction of this provision of the act led to the appointment by the President during the war of seventy-seven surgeons from civil life, and he also commissioned a surgeon and two assistant surgeons for each of the regiments of United States volunteer infantry, cavalry, and engineers, as it was organized. By act of May 12 fifteen additional assistant surgeons of the United States Army were authorized, as also the employment under contract of civilian physicians, the total number thus employed being between 600 and 700.

None of the medical men from civil life commissioned by the President underwent any examination, nor did any of the contract surgeons until after October 21. No rank and but very moderate pay being given to the contract doctors, few men of wide experience and matured judgment were found among them; though among the civilians commissioned by the President as corps, division, and brigade surgeons, were some of the ablest men in the medical profession of our country. The testimony shows that, as a rule having few exceptions, the medical officers of the Army were faithful, earnest workers, and to their unremitting efforts to properly and skillfully care for the sick and wounded, often in the midst of adverse conditions, is in large measure due the unusually low mortality rate indicated in the returns.

At Camp Thomas after the 1st of July, in some degree at Montauk, and especially in Cuba, there was a scarcity of medical officers, due to the unexpectedly large number of sick and of wounded, and the breaking down of those on duty. It is to be regretted that due provision by law was not made for the commissioning of surgeons and assistant surgeons, United States Volunteers, on the general staff of the army as are the medical officers of the regular establishment. There would have been thus obtained competent men in full number and the best interests of the sick beyond question subserved.

NURSES AND NURSING.

As already stated, there were in the Hospital Corps of the Regular Army on the 1st of May a little less than 800 men—99 hospital stewards, 100 acting stewards, and 592 privates. By the act of Congress of June 2, permission was granted to increase the number of hospital stewards to 200, and such increase was rapidly made. In the act establishing the volunteer force (passed April 26), a hospital steward was authorized for each battalion, but no provision was made for a hospital corps, though such corps to number 25 privates for each regiment and 50 additional for each division had been asked for. The failure to

provide for a volunteer hospital corps on the part of Congress is much to be regretted, since it necessitated the disbanding of the Hospital Corps in connection with the regiments of the National Guard. Not a few of these had been fairly well organized and some were quite thoroughly trained. Many of the men of these corps enlisted as privates in the regiments, but many did not, and of those so enlisting only a limited number, some by transfer to the Hospital Corps of the Regular Army, and still fewer by detail, were later of service as hospital orderlies and nurses.

In many cases it was found that former members of the Hospital Corps of regiments of the National Guard, while willing to care for the regimental sick, would not enter the regular service for a term of years, and of those who did so enter, among whom were a few physicians, some druggists, and quite a large number of medical students and former hospital attendants, much discontent prevailed as soon as the peace protocol was signed and applications for discharge became numerous. The great majority of the Hospital Corps men secured by enlistment and transfer had little or no proper training as nurses, and as a consequence were largely inefficient. As hospitals were established and the sick became numerous, attendants had to be secured by detail from regiments, some of the men assigned to such duty being of good character and anxious to serve, but the large proportion in every respect unfit for nurses. As the regiments were moved the men belonging to them who had been detailed for hospital duty were called in, with resulting derangement of hospital organization and greater or less interference with the proper care of the sick. The system of securing so-called nurses by detail is a bad one and should be abolished. If the nursing in semipermanent camps and hospitals other than regimental is to be done by men, there should be maintained in time of peace a hospital corps of size proportionate to any reasonably to be expected emergency demand; a corps trained to properly care for the sick as well as to dress and remove the wounded.

In the last twenty years the value, the efficiency, and the availability of well-trained women nurses has been demonstrated, and it is much to be regretted that this fact was not fully realized by the medical officers of the Army when the war commenced. It is to be remembered though that in military hospitals in the field women had been employed as nurses, if at all, only to a very limited extent, and there was good reason for questioning whether a field hospital, with a moving army, was any place for a woman. Our recent experience may justly be held to have shown that female nurses, properly trained and properly selected, can be duly cared for and are of the greatest value. Those who have been serving under contract in our military hospitals, and there have been about 1,500 of them, have with scarcely an exception done excellent work, and it is to the high credit of the American soldier that not a single complaint has been made by any nurse of personal discourtesy.

These women nurses, with the exception of those belonging to the religious orders, and certain immunes, chiefly colored women sent to Santiago about the middle of July, were selected by the Daughters of the American Revolution, under the official direction of Mrs. Dr. McGee, of Washington, for several months past an acting assistant surgeon, United States Army, on duty in the Surgeon-General's Office. Of the members of religious orders, a few over 200 were Sisters of Charity, 12 Sisters of Mercy, 14 Sisters of the Holy Cross, 12 Sisters of St. Joseph, 5 Congregated American Sisters (Indian women from South Dakota), quite a number of St. Barnabas Guild, and 2 Sisters of St. Margaret, the two organizations last mentioned being Protestant. No nurses were furnished by the Red Cross Society proper, except the few taken by Miss Barton to Cuba. Of the female nurses it is reported that they were much overworked, especially at Montauk, and 13 of them died.

As early as the 27th of April Mrs. Dr. McGee officially asked the Surgeon-General if he would accept the services of female nurses, at which time the Daughters of the American Revolution had several hundred applications from women duly trained. On the 13th of May four nurses were sent to the general hospital at Key West, but as the Surgeon-General was unwilling to send women nurses, except when they were asked for by surgeons in charge of hospitals, few were placed under contract before the 1st of July—less than 50—and not more than 100 before the 15th of July, at which date between 2,000 and 3,000 had been examined and approved by the Daughters of the American Revolution and were subject to contract.

MEDICAL SUPPLIES.

At the commencement of hostilities the Medical Department had few medicines and practically no hospital furniture. The economy with which it had for years been administered, due to lack of appropriations by Congress, except for annual needs of the Army, had prevented the accumulation of any reserve stores. No contracts, even provisional, had been made during the months of March and April to provide proper furniture and food stuffs, funds not being available.

If such contracts could have been made, if in open market supplies in large amounts could have been purchased and stored ready for prompt shipment as needed, much of the complaints and wants of the sick and the surgeons would have been prevented.

As the regular regiments were mobilized, the medical officers with them were ordered to take for immediate use such medicines and hospital stores as were at the various posts at which they had been stationed, an order not obeyed in all cases, some of the regiments as they arrived at the places of rendezvous being found to be practically unsupplied. The several supply depots having but little material on hand, the Surgeon-General on the 3d of May telegraphed the governors of the various States asking that their troops might take with them the

medical and hospital supplies belonging to them as national guard organizations. Sixteen of the States were found to be without such supplies and a large number of the others had them in but limited quantities, so that most of the volunteer regiments on arrival at Camp Thomas or Camp Alger had neither medicines nor hospital stores.

As no part of the national defense fund could be used prior to the declaration of war for purposes other than coast defense, to secure in advance meant direct violation of rules and regulations, the result of which might be, under the existing system of accountability, official or financial ruin or both.

By the 1st of May a contract had been made for the medical and surgical field chests, the patterns of which had been previously determined upon. Delivery of these chests was to begin in a couple of weeks, but in fact it was the last of the month before any were ready, the issue of the various articles to be packed in such cases being correspondingly delayed. To meet immediate wants, on May 12 a few medicines, stores, articles of hospital furniture, bedding, etc., were ordered to be placed in common chests and sent forward as an advance outfit for regiments, twenty-five of which were ready at the New York depot on the 16th of May and five at St. Louis on the 21st. Authority to purchase necessary medicines was promptly given to officers in the field, and such purchases were made in small quantities and at irregular intervals. To provide for the wants of the large number of regiments assembled at Camp Thomas, a special supply depot was established May 23 at Lytle, Ga., to which supplies were sent from the St. Louis depot, the first shipment in any amount not reaching its destination until late in May. Local depots were opened at Tampa, Jacksonville, and other places convenient to large camps; but, though there were these secondary distributing centers which received and issued in the aggregate a great amount of medicines and hospital supplies, there was very widespread and persistent complaints of lack of what was needed or was thought to be.

A large number of regimental officers and hospital surgeons have testified to existing deficiencies. Commanding officers, inspectors, and special boards called attention again and again to the needs of the sick. As a rule, with comparatively few exceptions, the most important and most necessary drugs were to be had, though at times in limited quantities, or could be secured by purchase at some place near by.

What were the reasons for the existence of these wants? In the first place, the almost absolute lack of any supplies in store when the war broke out. Medicines could be purchased in any quantity and without delay, as could bedding and certain articles of hospital furniture, but other articles of adopted pattern, as surgical instruments or cots of special design, could not. Time was lost in having manufactured standard chests of various kinds to contain drugs, stores, dressings, furniture, etc., and the making of these articles never kept up with the demand for them.

Next, the too restricted supply table, which might very properly have had upon it a number of drugs in common use in civil life, the issue of which had not been authorized by the Medical Department of the Army.

Next, the lack of knowledge on the part of untrained medical officers how to get what they needed when it was on hand and ready for issue.

Next, the unwise restrictions put upon medical officers by chief surgeons, notably at Camp Thomas, as respects the form of requisitions and the articles that might be called for.

Next, the taking away of regimental supplies to fit up division hospitals, and the issue of medicines to regiments only through such hospitals.

Next, the actual want of supplies at local depots or the difficulty of getting them out of such depots on approved requisitions.

Next, the necessary draining of scantily supplied depots to fit out troops about to move.

Many times the scarcity was apparent, not real, articles being wanted that could not readily and safely be transported, and therefore were not for issue, or were of questionable value, or were preparations the place of which could be supplied by articles already on hand of like or essentially the same therapeutic character.

The reasons stated are those which concern the Medical Department, for which it may properly be interrogated. But no small part of the troubles consequent upon lack of supplies was due to the slowness with which such supplies were transported and the failure to properly deliver them, the responsibility for which rests upon the Quartermaster's Department.

In the earlier weeks this department objected very strongly to shipping by express, because of the expense, and again and again transportation by so-called fast freight occupied many days, at times weeks, e. g., to cite but one out of the many cases stated in evidence, supplies sent from the St. Louis depot to Chickamauga May 17 were not received by the end of the month. The stores were often sent in comparatively small quantities, much less than a carload; the railway lines were blocked for miles with unloaded cars, and in the absence of cards on the outside indicating the kind of freight within, medical stores could be found only by the opening of many cars and the overhauling of what they held. In a number of instances medical supplies, once even to the extent of a complete outfit of a 200-bed hospital, were lost for weeks; in a few cases to be found only upon the cleaning out of abandoned warehouses.

Bad as the conditions were on land, they were worse when the transportation was across the sea. Medicines, stores, and hospital furniture were often put in the holds of transports for Cuba and Porto Rico under all sorts of freight. At Siboney and Daiquiri, because of the lack of proper landing facilities, and the difficulties of finding ships and getting at their contents, perhaps a full third of the supplies taken aboard at Tampa early in June were not put on shore until the middle of July, after the surrender of Santiago

and the opening of its harbor, and some of these stores were carried north to be later brought back undisturbed. On the transport *Grande Duchesse*, sailing from Charleston on the 20th of July, and on the *Mobile*, sailing from the same port on the 21st of July, were large quantities of medicines and hospital stores for the Fifth Corps in Cuba, which were carried to Porto Rico, where the vessels were detained for seven and ten days, respectively, and did not reach Santiago, the *Grande Duchesse* until August 2 and the *Mobile* August 10. Had these medicines and hospital stores for the troops in Cuba been sent direct instead of by way of Porto Rico they would have been received and in the hands of those requiring them days before the 4th of August, when General Shafter reported by telegram the extreme shortness existing and declared it to be a "chronic condition." The supplies on the *Concho* for the troops in Porto Rico were so stored in the hold that they were not gotten at until after the ship had gone to Arroyo, partially unloaded, and returned to Ponce a week later.

The loading, shipping, and unloading of medical stores are not done under the orders of the Medical but of the Quartermaster's Department, and the Medical Department is not responsible therefor. The blame for so much of the lack of medical supplies as was the result of slow transportation and failure to deliver, and it is no small portion thereof, must rest upon the Quartermaster's Department, the system it follows, and the officers belonging to it.

The lack of supplies in Cuba for six weeks after the landing of the expeditionary force was so great, and its results at times so threatening, that it should be noticed somewhat in detail. Just on the eve of embarkation at Tampa there was put upon the transports the outfit of one division hospital and a part of another, and an amount of medicines and dressings deemed sufficient for the needs of the force expected to be able to capture the city of Santiago without serious loss, open up the harbor, and get away to some other place, in Porto Rico or Cuba. Only seven ambulances were taken, and this by order of General Shafter, who has accepted the responsibility and frankly acknowledged that it would have been better had more been carried along. Even of these seven, only three were at the disposal of the medical officers on July 1. Arrived on the Cuban coast, the division hospital outfit was landed, but without tents, and as no transportation of any kind, save the horses of medical officers, was furnished for this hospital until after its establishment toward the front on the third day, only such supplies were carried forward as could be taken on the horses just mentioned and in the hands of the men of the Hospital Corps. The fragmentary outfit of the cavalry division was also landed and moved forward in much the same way.

Of the regimental outfits but few were unloaded, and those taken ashore were, for want of transportation, almost without exception left behind when the troops moved to the front. While there were

surgical dressings enough for a first treatment of the large number of wounded from the fights of July 1 and 2, there was no food for the men other than such soup as could be made out of the commissary canned meat and vegetables, supplemented, and largely so, by the more proper gruel, milk, cocoa, and rice furnished by the Red Cross organization, and prepared and distributed by Miss Barton and the nurses accompanying her. The base hospital at Siboney, in working order July 1, was quickly overcrowded with wounded, and had scarcely enough medicines and stores for immediate use. The hospital steamer *Olivette* was fairly equipped as a floating division hospital, but could only to a very limited extent furnish medicines to the troops on shore. By the end of the first week in July the medical supplies were almost entirely exhausted, but large amounts of medicines and stores were about this time brought by the *Relief* and later by the *Olivette*. These supplies, in turn, were so quickly expended that on the 4th of August the chief surgeon of the First Division reported that for eleven days the only medicines he had on hand for distribution were quinine, epsom salts, and castor oil. An emergency purchase in open market in Santiago was ordered and made.

Fortunately for the sick, at various times and in many places private charity came to the rescue and a large amount of milk and ice, of delicacies, of even lacking medicines, instruments, and articles of hospital furniture were supplied by the National Relief Commission, auxiliary Red Cross organizations, State and local aid societies, and individuals. Without doubt, at times undue advantage was taken of the opportunity thus afforded surgeons to get what they wanted; since no responsibility attached to the receipt and expenditure of articles thus obtained as there would have been had they been drawn on requisition from the Medical Department. It was a fact and one to be regretted, one that should not have existed, that again and again agents of private organizations had on hand and ready for issue an abundance of necessary and needed supplies, when officers of the Government, whose duty it was to furnish them, did not have them and therefore could not give them out.

From the very limited information furnished the commission, it would appear that the troops sent to Manila were fairly well supplied with medicines, dressings, and hospital stores for use en route and after arrival in the Philippines.

SICKNESS AND MORTALITY.

During the early weeks of the occupation of the various camps of instruction (Alger, Thomas, and Tampa being the large ones), notwithstanding the want of shelter, of proper sanitation, of well-trained regimental officers, of competent cooks, of any knowledge on the part of the men as to how to take care of themselves, there was very little sickness, except of a comparatively unimportant character, as intestinal troubles of moderate severity, venereal affections, the effects of recent

vaccination, a small amount of measles, etc. A few regiments had already had in their State camps some typhoid fever. In the Fifteenth Minnesota, at St. Paul and Fort Snelling, there were, in August, 260 cases out of a total strength of 1,323. A very few cases of the disease appeared in some of the regiments soon after arrival at Chickamauga and Camp Alger. Malarial diseases quickly began to prevail, but were controlled in ordinary degree. Of a little over 150,000 men, during the month of May, though about 6 $\frac{3}{4}$ per cent were reported sick, the deaths were only 70, i. e., less than 1 in 2,000 of the men enrolled.

In June sickness was twice as great, but the deaths were still few, hardly 1 in 1,500 of the main strength. In July the sick were one-third more numerous than in the preceding month, the death rate was three times as great. In August the sickness was nearly one-half greater than in July, with a mortality nearly double. In September the sickness had diminished nearly one-third and the death rate about 40 per cent. Sixty per cent of the sickness in July, August, and September was malarial, typhoid, and diarrheal; and 40 per cent of all deaths were from typhoid fever. The mortality from diseases of all kinds during five months would, from the returns received, appear to be less than 1 per cent of those taken up on sick report. Of the 60,969 volunteers at Camp Thomas, first and last, only 354 died before leaving Chickamauga (0.58 per cent), and only 995 (1.63 per cent) up to the 2d of December, as appears from the returns tabulated by Brigadier-General Boynton. The malarial fever, which so generally affected the troops in front of Santiago and produced such intense debility and prolonged ill health, can hardly be attributed to want of shelter, food, drugs, or medical attention, though there were all these wants, since, according to the statement made by Major-General Wood, himself a physician, it was as largely prevalent among the troops stationed in the locality after the return of the Fifth Army Corps, though they were properly sheltered and cared for, and many of them were supposed to be immune.

Of typhoid fever* at Camp Alger, Camp Thomas, Camp Meade, Camp Wikoff, Tampa, Jacksonville, Santiago, and Porto Rico, there were reported 13,770 cases, with 906 deaths, a trifle less than 7 per cent, an unusually low mortality rate.

* Statistics of typhoid fever in certain camps and districts.

Camp or district.	Regimental hospitals.		Field hospitals.		General hospitals.	
	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.
Camp Wikoff.....	85	1	24	.....	552	105
Camp Meade.....	956	43	1,347	31	.....	.....
Camp Alger.....	653	11	80	.....	450	57
Camp Thomas.....	1,380	79	1,094	74	952	113
Camp Tampa, Fla.....	55	1	212	18	1,193	65
Camp Jacksonville, Fla.....	1,742	13	1,825	237		
Camp Santiago, Cuba.....	58	2	116	3	68	.....
Porto Rico.....	204	4	343	25	381	34
Total.....	5,133	154	5,941	378	3,596	374

From testimony presented it is probable that the number of cases was decidedly greater than reported, since there is good reason for believing that at Camp Alger, and especially at Camp Thomas and in Florida, many cases diagnosticated and treated as malarial were really typhoid. The error of diagnosis was not made by all surgeons, but the opinions of those holding that the prevalent disease was not malarial were often received with scant favor by the medical officers highest in authority at the camps. In one instance, to which attention has been called, the surgeon in chief at Chickamauga, under a threat of court-martial, compelled a surgeon to retract his statement that typhoid fever was epidemic, though in point of fact it was epidemic.

The outbreak and prevalence of this disease may properly be attributed to the combined operation of many causes. Large bodies of men who are not soldiers, under officers who have had little or no military training, can not be brought together and held for many weeks in camp and remain healthy. If the water supply is not abundant or is not good; if the thoroughly well-established rules of sanitation are not observed; if the discipline of the camp puts little restriction on drunkenness and immorality; if the soldier does not know how to live and his officers do not watch him and teach him; if his food is poorly cared for and badly cooked, and he is permitted to eat and drink anything and everything that he can find, sickness certainly will prevail. If, as at Camp Thomas, a regiment can go for ten days without digging sinks; if the sinks dug are not used or they quickly overflow and pollute the ground; if practically no protection is afforded against the liquor sellers and prostitutes of neighboring places; if commands are crowded together and tents are seldom struck, or even never during the occupation of the camp; if no one is called to account for repeated violation of sanitary orders, it can not but be that typhoid fever once introduced will spread, rapidly, widely.

How much may be accomplished by intelligent and watchful supervision on the part of surgeons and regimental officers and the observance of the well-established rules of camp sanitation is shown by the record of the Eighth Massachusetts Volunteer Infantry at Camp Thomas. This regiment was for many weeks very healthy, while much sickness was occurring in regiments near by, though the conditions of camp site, of water, and of drill were practically the same.

The responsibility for the conditions at Chickamauga rests upon those who assembled over 60,000 raw levies and kept the great mass of them together for weeks, and upon those whose duty it was to inspect, advise, and order—officers, medical and military, regimental, brigade, division, corps, and of the camp, and the higher the authority the greater the responsibility.

Yellow fever, as it prevailed in Cuba, was of mild type and its mortality rate low. That its outbreak might have been prevented by the burning of all houses at Siboney, and by more complete isolation of the Cuban and Spanish refugees is a question, but certainly the chances of

avoiding the anticipated and much dreaded disease would have been increased had such measures been adopted. That it was kept out of our coast cities is due to the watchfulness of national and local quarantine officers and to the establishment and maintenance of a detention camp at Montauk.

The wounded were comparatively few—1,581. How many of these died has not as yet been ascertained, but all reports show that the percentage of recovery was extraordinarily high, due to the combined influences of small-caliber bullets, first-aid dressings, and skillful aseptic and antiseptic treatment. Major operations were seldom required, the whole number of amputations, excisions, ligations, laparotomies, and trephinations reported being but 51.* Praise should be given to

* *Major surgical operations, United States Army, May to December, 1898.*

[The correct number of gunshot and shell wound, incurred during the Spanish-American war is 1,581, as reported by the Adjutant-General of the Army.]

Total major operations.....	98
Amputations.....	34
Hip joint.....	3
Thigh.....	5
Leg.....	10
Foot.....	2
Arm.....	12
Arm (reamputated).....	1
Forearm.....	1
Hernia (Bassini's 17).....	18
Appendicitis.....	15
Laparotomy.....	9
Bullet wound.....	4
Intestinal obstruction.....	1
Abdominal drainage.....	1
Not stated.....	3
Urethrotomy.....	3
Trephining.....	7
Resection bones.....	3
Resection veins.....	1
Neurorrhaphy (tibial nerves).....	1
Ligation, femoral.....	1
Ligation, subclavian (aneurism).....	1
Floating cartilage.....	1
Skin grafting.....	1
Tracheotomy.....	1
Exsection, middle third of humerus.....	1
Bullet removed from wall of bladder.....	1

It must be noted that the number of operations reported as having been done during the advance against Santiago is undoubtedly considerably underestimated, since, in the press of work, record of the surgical work then being performed was often impracticable. While the report of the field hospital, Fifth Army Corps, shows that 516 men were received in that hospital direct from the firing line, only seven of the cases so received are noted as having required operative surgical interference. It would seem probable, therefore, that in several instances only such operations as were of special professional interest were made matters of record, although the necessity for active operative treatment was largely abrogated by the humane character of the wounds and the maintenance of careful antiseptics.

the well-trained, faithful, hard-working, and overworked surgeons, who, on the fighting line and in the hospitals, thoroughly discharged their duty, and who, as General Young has said, "deserve the thanks of the American people for their splendid work."

The charge of neglect of the wounded, based upon the infrequent dressing of their wounds, has had no good basis, as it is an established rule of modern treatment that inspection and redressing are to be postponed until there is observed either staining of the dressings or rise of temperature. Stated generally, the less it is disturbed the more quickly and kindly a wound heals.

HOSPITALS.

Each volunteer regiment as it came out had its hospital, as a rule, it is true, poorly equipped. By Circular No. 3, Surgeon-General's Office, May 18, such hospital was done away with, and in its place there was directed to be established one of maximum capacity of 200 beds for each division, to which should be sent all sick requiring treatment other than that which might be needed for slight injuries or such ailments as permitted of the continuance of full or at least partial duty. All regimental outfits were ordered turned in and used in the equipment of the hospital, medicines and dressings for minor affections treated in camp to be obtained from the hospital on requisition approved by the division surgeon. As a brigade or division moved, a corresponding part or the whole of the hospital was to go with it; and, to insure ready mobility, no case that was very serious or likely to require prolonged treatment was to be kept in a division hospital, but sent to a general hospital.

In theory the plan was a good one, as it permitted of more perfect classification of the sick, better attendance upon them with fewer doctors, and a more economical administration; as carried out it worked badly. Because of the scarcity of medical officers unconnected with regiments those so connected had to be detailed for hospital duty. Regimental pride was touched and strong opposition was at once made. Medical officers protested, commanding officers objected, and State authorities and the War Department were appealed to. The sick would not go to hospital as long as they could avoid it; the regimental surgeon would keep them as long as possible. The single medical officer on camp duty often found in the amount of work imposed reason for doing no more than was absolutely necessary. Field and company officers largely made the excuse for neglect of sanitation that it was the medical officer's business to look after that and two-thirds of their doctors had been taken away from them.

Brigade or regimental surgeons were put in charge of the hospitals as they were organized, who, as a rule, knew nothing of their duties at first and many could not or would not learn. Those assigned to ward duty often felt that such service was unbecoming the dignity of their

rank. Of trained hospital stewards there were very few; rarely did an attendant have any familiarity with the work of a nurse. Medicines, stores, tents, cots, and hospital furniture in general, were for a time obtained with difficulty and in insufficient quantities; in Camp Thomas this was largely true up to the last. Ultimately in most of the division hospitals a fair degree of order prevailed; a few were excellently administered. As the imperfections of the system became apparent and the hospitals overcrowded the reestablishment of regimental hospitals was permitted. That the division-hospital plan may succeed there must be enough well-trained surgeons to fill the positions of officers in charge and executive officers, and a full number of competent medical men to discharge ward duties, and this without depleting the regiments.

Nowhere else were the evils of the system and the unfortunate results of its application as strongly evidenced as at Camp Thomas, especially in the hospitals of the First Division of the First Corps and the Second Division of the Third Corps. These were almost always overcrowded; their officers in charge were frequently changed; their nurses were limited in number, and, generally, indifferent; their discipline was lax and their police bad. A large share of the responsibility for the existing conditions rested upon the chief surgeons of camp and corps and the general officers in command of the same. These officers, medical and military, knew or should have known of the state of affairs, and knowing should have compelled a change. In the case of the hospital of the First Division of the First Corps, General Brooke did order the chief surgeon of the camp to personally take charge and put it in proper running order. Had well-trained surgeons of the regular establishment been placed in charge of the Chickamauga hospitals, even but for the time required to organize and set them going, the after history would have been different. Unfortunately it was thought that such surgeons could not be spared for the duty, though they could not have been better employed during the months of June and July. Further, it would appear that for want of medical inspectors and of due reports from the corps surgeons, the Surgeon General was for a long time unaware of the prevailing confusion and distress.

General hospitals were established as became necessary at Key West, Fort McPherson, Fort Thomas, Fort Monroe, Chickamauga, and Washington, and the post hospitals in New York Harbor, at the Presidio at San Francisco, and at Vancouver Barracks were so enlarged as to become, practically, general ones. Organized and administered by regular officers, these hospitals were in large measure free from the troubles of the division hospitals. Comparatively few complaints were made of them, though some were for a time overcrowded, and up to the middle of July the nursing, mainly or wholly done by men of the hospital corps, was far from satisfactory.

Large numbers of sick, after July 15, were sent to civil hospitals, chiefly in New York and Philadelphia, with resulting relief of pres-

sure upon the army hospitals and advantage to the sick, though in many cases the condition of the patients transferred was such as should have prevented removal. The hospitals in New York also received many men on furlough from Montauk and elsewhere, who, on reaching that city, proved to be physically unable to travel farther.

So great was the number of furloughs granted in the earlier weeks after the signing of the protocol to sick and convalescents who were not fit to leave the hospitals, that orders were issued establishing boards of medical officers, whose duty it was to carefully examine each and every applicant for furlough. Even then the evil was but partially corrected, for frequently men who seemed to be strong enough to safely leave, quickly broke down on the way to their homes.

The sick at Montauk were so many, practically all the army that in August and September came back from Cuba, that the hospitals at that place must be specially considered. The establishment of a receiving camp, with necessary hospital accommodations, was determined upon late in July and the eastern end of Long Island was selected as its site, because of isolation and healthfulness. In the first week of August measures were taken to prepare the camp. Before a hospital tent was up troops began to come in from Tampa and other places in the South, bringing a few sick with them.

To send these men, over 4,000 in number, to a camp intended as one of recuperation for a large force almost completely broken down, was, medically considered, a mistake, as they would be unnecessarily exposed to any infectious diseases that might exist in camp. From an administrative point of view it was none the less so, since it increased the number of those who had to be provided with shelter and food. To make matters worse, several thousand horses and mules were sent at the same time, the supplying of which with forage added greatly to the transportation difficulties on the railroad and at the station. The transports from Cuba began coming in less than a week and the hospitals were not ready for the men. Though an enormous amount of work was done and the energies of all in charge strained to the utmost, it was for weeks a constant struggle to provide shelter for the sick, the number of whom was vastly in excess of that anticipated. Hospital tents were put up as fast as they were received from the Quartermaster's Department, and that department, by the 16th of August, had at Montauk 701 of them ready for issue, sufficient to shelter 4,000 men. Yet they did not actually reach the ground and were not put up fast enough, and many times it happened that the sick were at the hospital hours before tents were ready for them.

Supplies were on hand in large quantities, furnished by the Government, by charitable organizations, and by private individuals. Women nurses were present before any preparations had been made for their care, and they kept coming in rapidly. Doctors, commissioned and contract, were on duty, if not as early as they were needed, soon enough to prevent any serious neglect of the sick. The limited kitchen

facilities of the early days were by the 21st of August supplemented by the establishment of a diet kitchen by ladies of the Red Cross Auxiliary and representatives of the Massachusetts Volunteer Aid Association. No laundry was in operation for a month and large quantities of soiled bedding, sheets, etc., were piled up, to be later burned. The sanitation was not that of a well-managed city hospital, but with all its defects it was not bad. Ward work was much interfered with by the crowds of visitors that were daily at the camp. Discipline was lax and there was no proper and efficient hospital guard. Record keeping was imperfectly done and much trouble was caused both medical officers and friends of patients by the efforts, often fruitless, to find particular soldiers known to be, or supposed to be, in the hospital.

The time of the officer in charge and that of the executive officer was largely taken up in attending to those who were asking, begging, demanding furloughs or discharges, and in preparing the necessary papers. Much delay, in some cases actual suffering and positive risk to life, were consequent upon the methods adopted to put into the hand of the furloughed man his transportation order and ration money. Had these been furnished by a properly detailed line officer at the hospital, instead of at the railroad station, it would have been much better for those whose enfeebled condition made it hard for them to stand and wait.

The history of these Montauk hospitals is the history not of careful, thorough preparation and smooth administration, but of hurried adaptation to extraordinary demands. In less than sixty days after the time when the site of Camp Wikoff was a waste, over 10,000 sick had gone through the hospitals—general, detention, and division—over 4,000 more had been examined, if not treated, at their regimental hospitals, and neither typhoid nor yellow fever had become epidemic in the camp.

The hospitals established at a number of places after the middle of August were well supplied and properly administered, and, so far as has been seen and heard, there were no good grounds for any complaints respecting the care of the sick in them.

FEEDING THE SICK.

Under regulations in force up to the 10th of August, special food supply for the sick other than the condensed milk, beef extract, and tea, included among the hospital stores, could be secured only by purchase with the money of the hospital fund. As a consequence, as long as there was no fund, because of recent establishment of a hospital or fault in its management, very necessary articles of diet for the sick, including milk, as also ice, were obtained only by contribution or with money donated. Organized and individual charity furnished very liberally the articles required, but there were many complaints, and well-founded ones, too, that the sick were not receiving such food and in such quan-

tity as their condition demanded. Again and again it was charged that there was actual starvation, but all testimony given, and it is in abundance, proves the charge unfounded. Typhoid cases, even up to the time of almost complete recovery, were kept, and properly so, on restricted diet, largely fluid, and it was chiefly from these patients and non-medical persons seeing them that the complaints came. In a limited proportion of the severe malarial cases, food, if taken and retained, was imperfectly assimilated and emaciation necessarily followed. Men no longer under hospital treatment, but returned to their commands, who, though convalescent, were far from well (and this was the case with the vast majority of those brought north from Cuba), had to live on the army ration, except so far as company funds made possible the purchase of other supplies or they were furnished by those outside of the Army.

To remedy the well-recognized defects in number and variety of articles on the diet list for the sick, measures, at first local, then general, were adopted to create a fund for the purchase of what might be needed. The Key West general hospital was on the 17th of May allowed 60 cents a day per man; a like allowance was on the 16th of June made for those on the hospital train, and on the 2d of August for the sick at Pablo Beach, Fla. In the early part of August 75 cents a day was allowed at Santiago. On the 10th of August, by General Orders, No. 116, Adjutant-General's Office, it was directed that at Montauk, at Pablo Beach, Fla., and at general hospitals, as also on hospital trains and on hospital transports, up to 60 cents per patient should be allowed in commutation of ration, to constitute a special fund, from which should be purchased the entire diet of the enlisted men while undergoing medical treatment. By General Orders, No. 136, Adjutant-General's Office, of September 3, a similar allowance was made to those sick in post and field hospitals, and the letters and telegrams of the Commissary-General show that it was the intention that every sick man, wherever he might be, in hospital or in quarters, should have the money allowance of the ration.

There was some delay in putting the new plan in operation, consequent in part upon nonreceipt of orders, in part upon the reluctance with which some medical officers, chiefly regimental, assumed increased pecuniary responsibilities, with associated vouchers and returns. As soon as this delay was over there was no more trouble about supplying the sick with proper diet and in full quantity. Indeed the fund created by the commutation of rations at the maximum amount allowed—60 cents—was not seldom found to be unnecessarily large.

That the food supplied might be so prepared as to meet the wants of the various classes of sick, in addition to the regular kitchens, special diet ones were established in the general and later in the division hospitals, at Montauk even in the regiments, such kitchens being often under charge and supervision of ladies belonging to relief and aid societies in the vicinity.

TRANSPORTATION OF SICK AND WOUNDED.

Recognizing the fact that if there should be a war with Spain military operations would be carried on in Cuba, and consequently sick and wounded brought back by sea, the Surgeon-General, early in April, urged the fitting up of a hospital ship; but no action was taken at the time. Very soon after the declaration of war each of several vessels was inspected with reference to its fitness for use as a hospital transport. As no one could be secured under charter, the steamer *John Englis* was purchased on the 18th of May. Plans for her fitting up were submitted, but for ten days or more held under consideration by the Quartermaster-General, the estimated cost being considered too great.

It was not until the 4th of June that the work of preparing her was actually begun, under the supervision of Naval Constructor Bowles. Every effort was made to get the ship ready as quickly as possible, but it was the 2d of July before, as the hospital ship *Relief*, she was able to leave New York for Cuba, carrying the regular supplies for twenty regiments for a half year and in addition a quantity of the more important medicines, stores, dressings, etc.; in all, an equipment of a 750-bed hospital for six months. Her outfit was most complete, more than \$130,000 being spent upon it. Arriving at Siboney July 7, she discharged her cargo of over 700 tons weight, and on the 19th of July left with 135 wounded on board, who were in due time landed at New York. From this time on she has been in constant use, carrying sick and transporting medical supplies.

As during the time in July that she was at Siboney sick and convalescents were being shipped away on ordinary transports, not properly prepared for use as hospital vessels, and as when she left there was a large number of sick to be sent north as quickly as possible, much complaint has been made that, though she could properly carry and care for 250, scarcely more than half that number of men were taken. Apparently a just complaint, in fact it was not such. Yellow fever was prevailing, and had the *Relief* taken cases of this disease and become infected, as probably she would have been, her usefulness as a hospital ship, for a considerable time at least, would have been at an end. To prevent such a condition occurring the surgeon in charge decided, and wisely, too, that in view of an existing uncertainty of diagnosis he would not take any cases of fever of any kind, and therefore sailed with only a limited number of patients, all wounded. During the two months—July 15 to September 15—the *Relief* transported 1,234 sick, of whom 49 died, and 251 wounded, of whom 16 died.

When the Fifth Corps left Tampa for Cuba the transport *Olivette* was set apart as a floating hospital, being supplied with the outfit of a division hospital. Taking up the sick from the transports en route, after arrival at Siboney the wounded from the engagement of the 24th

of June, and later patients from the shore hospital, the *Olivette* sailed for New York on the 9th of July with 279 wounded. Returning to Santiago with a considerable quantity of medical supplies, she sailed again on the 15th of August with 203 sick and convalescents, who were carried to Boston. On the 31st of August she sank at the wharf at Fernandina, Fla.

A third steamer, the *Missouri*, tendered to the Government on the 1st of July by Mr. B. N. Baker, was properly fitted up and late in August sent to Cuba, returning to Montauk with 256 sick. She is still in service.

By the liberality of the citizens of Boston and its vicinity the Massachusetts Volunteer Aid Association was enabled to well equip a hospital ship, the *Bay State*, which proved to be of great value in transporting a large amount of medicines and stores furnished by the society, and in bringing back sick from Santiago and Porto Rico, 336 in number, of whom only 4 died. This vessel, for which the Massachusetts Volunteer Aid Association paid \$50,000 purchase price, and \$113,000 for outfit, was employed to the great advantage of the sick, as well as of the Medical Department of the Army, until November 15, when she was sold to the Government.

TRANSPORTS.

The unexpectedly large number of wounded, the severe sickness that rapidly developed, and the fear of and actual outbreak of yellow fever, made it necessary in Cuba to early and frequently send off hospital patients and convalescents, the large proportion of them on ordinary transports. Much and at times very serious complaint was made of the unfitness of the vessels, of their lack of cleanliness and sanitary provision, the bad quality of the water supplied, and the want of doctors, nurses, medicines, and hospital stores.

From evidence submitted, the conclusion must be reached that many of the complaints were well founded. Inspection of ships at Siboney and Santiago prior to the establishment of a board on August 4 was imperfectly made, if made at all. Overcrowding there was, at times not because of putting on board too large a number of sick, but because convalescents and supposedly well men while in transit fell sick in unexpectedly large proportion. On some of the ships numbers of civilians were either permitted to take passage or managed to get on board shortly before the sailing, their presence, unprovided for, adding largely to the difficulties of caring for the sick. Doctors and nurses were few, but there was only a small number of them that could be spared from service on shore. Much of the time in the earlier weeks there was great scarcity of medicines and stores with the troops; as a consequence little could be supplied to those on shipboard.

Further, and most important, it was believed by all in authority, military and medical, that in view of expected engagements, later of the

danger of yellow fever, and all the while of the extreme debility of the men, it was highly desirable that every sick or wounded soldier should be sent away as soon as possible, even at the cost of a few days' inconvenience, or it might be actual privation.

So far as related to the fitting up of the 24 transport vessels employed in this transfer of sick and wounded from Cuba, their cleanliness and water supply, the responsibility for any existing deficiencies rested upon the Quartermaster's Department; while upon the Medical Department was the responsibility for want of food supplies and medicines, for lack of doctors or nurses, and for any avoidable failures to properly care for the sick.

Both departments have found excuse in the conditions prevailing at Tampa and in Cuba. But these conditions could not excuse everything, e. g., the not having fresh sweet water, or sending men on board without proper clothing and without knives, forks, spoons, and plates.

To two transports in particular, the *Seneca* and the *Concho*, general attention was strongly drawn by reports published soon after the arrival of the vessels at New York. The facts were as stated—the ships had too many sick, and the sick had not enough doctors and nurses; medicines and supplies were in insufficient amount; beds and bedding neither in quantity nor quality were such as the sick should have had; the water supply was not pure and fresh. But it must be remembered that a large number of those on board were at the time of leaving Cuba thought to be able to care for themselves and not to need any medical attention, and all such men were by law entitled to only the ordinary ration. Again, it is in evidence that there were many more passengers on these vessels, officers, civilians, employees, etc., than were put on board by medical officers to be provided for by the Medical Department.

RAILROAD AMBULANCE TRAIN.

On the 16th of June a well-appointed hospital train of Pullman—later tourist—sleepers and service cars was put on the road, and remained in constant use thereafter. Its full carrying capacity was 270, and under careful management it proved of great value in transferring sick from camps and division hospitals to various general hospitals. In two and a half months it had carried nearly 2,000 patients, with but 4 deaths en route.

AMBULANCES.

As far as can be determined, full regulation supply of ambulances was not provided, certainly not for many weeks after the troops were assembled in camps. At most places no serious consequences resulted, as there were enough to answer the requirements.

At Montauk, where in time there were 48, only about half of them, perhaps, in good working order, more would have been of service and should have been on hand; but in Cuba, where they were really

needed, ambulances were almost wholly wanting. When the Fifth Corps was ready to leave Tampa, the Medical Department had a fully equipped train of 40. By command of Major-General Shafter it was left behind, and the expedition landed with only 3 ambulances, 10 more being received some days later, after the fights of the 1st and 2d of July. The result was that at first transportation was lacking for what supplies were gotten on shore, the medical wants of the troops were not as well satisfied as the material on hand would have permitted, and a large number of wounded were subjected to unnecessary hardship and suffering. It should be remembered, however, that the roads between the fighting line and the base hospitals were such that the moving of wounded in ambulances would have been hardly less trying and painful than it was in wagons.

GENERAL CONCLUSIONS AND RECOMMENDATIONS.

To sum up, in brief, the evidence submitted shows:

1. That at the outbreak of the war the Medical Department was, in men and materials, altogether unprepared to meet the necessities of the army called out.

2. That as a result of the action through a generation of contracted and contracting methods of administration, it was impossible for the Department to operate largely, freely, and without undue regard to cost.

3. That in the absence of a special corps of inspectors, and the apparent infrequency of inspections by chief surgeons, and of official reports of the state of things in camps and hospitals, there was not such investigation of the sanitary conditions of the army as is the first duty imposed upon the Department by the regulations.

4. That the nursing force during the months of May, June, and July was neither ample nor efficient, reasons for which may be found in the lack of a proper volunteer hospital corps, due to the failure of Congress to authorize its establishment, and to the nonrecognition in the beginning of the value of women nurses and the extent to which their services could be secured.

5. That the demand made upon the resources of the Department in the care of sick and wounded was very much greater than had been anticipated, and consequently, in like proportion, these demands were imperfectly met.

6. That powerless as the Department was to have supplies transferred from point to point, except through the intermediation of the Quartermaster's Department, it was seriously crippled in its efforts to fulfill the regulation duty of "furnishing all medical and hospital supplies."

7. That the shortcomings in administration and operation may justly be attributed, in large measure, to the hurry and confusion incident to the assembling of an army of untrained officers and men, ten times

larger than before, for which no preparations in advance had been or could be made because of existing rules and regulations.

8. That notwithstanding all the manifest errors, of omission rather than of commission, a vast deal of good work was done by medical officers, high and low, regular and volunteer, and there were unusually few deaths among the wounded and the sick.

What is needed by the medical department in the future is—

1. A larger force of commissioned medical officers.

2. Authority to establish in time of war a proper volunteer hospital corps.

3. A reserve corps of selected trained women nurses, ready to serve when necessity shall arise, but, under ordinary circumstances, owing no duty to the War Department, except to report residence at determined intervals.

4. A year's supply for an army of at least four times the actual strength, of all such medicines, hospital furniture, and stores as are not materially damaged by keeping, to be held constantly on hand in the medical supply depots.

5. The charge of transportation to such extent as will secure prompt shipment and ready delivery of all medical supplies.

6. The simplification of administrative "paper work," so that medical officers may be able to more thoroughly discharge their sanitary and strictly medical duties.

7. The securing of such legislation as will authorize all surgeons in medical charge of troops, hospitals, transports, trains, and independent commands to draw from the Subsistence Department funds for the purchase of such articles of diet as may be necessary to the proper treatment of soldiers too sick to use the army ration. This to take the place of all commutation of rations of the sick now authorized.

Convalescent soldiers traveling on furlough should be furnished transportation, sleeping berths or staterooms, and \$1.50 per diem for subsistence in lieu of rations, the soldier not to be held accountable or chargeable for this amount.

PAY DEPARTMENT.

BRIG. GEN. T. H. STANTON, PAYMASTER-GENERAL, U. S. A., IN CHARGE.

The Pay Department has charge of the supply and distribution of and accounting for funds for the payment of the Army, and such other financial duties as are especially assigned to it.

Previous to the declaration of war, payments were made to the Army by check and in currency sent by express. After the organization of the volunteer force it was not found practicable to pay by this method, consequently all payments in the field were made by paymasters in person, in cash, which has required an immense amount of work, as the troops have been scattered over two hemispheres.

The corps of paymasters was increased by seventy-two, and these

officers and their clerks entered the service with little or no knowledge of army accounts. A school of instruction was organized, in which each was made familiar with the necessary forms to be used in payments, and the principles of making and rendering accounts; and as a result each officer entered upon his duties with a fair knowledge of the business before him. This preparation has enabled the troops to be paid promptly and intelligently, resulting in fewer errors than would otherwise have occurred.

The principal delay in the payment of troops was in Cuba and Porto Rico. In Cuba the colonels of some of the regiments did not desire their regiments paid there, and Major-General Shafter, commanding the army there, approved their requests. The Pay Department had in Cuba 11 paymasters and \$1,500,000, and paid about one-third of the United States forces on that island, the other two-thirds being paid after their arrival at Montauk. There has been complaint made as to the payment of the army in Porto Rico. Ten paymasters, with \$1,500,000, were sent there. They were stopped at Santiago, and Major-General Miles, Commanding the Army, telegraphed not to have them sent to Porto Rico, as the money might be infected, although it had never been landed from the vessels.

In view of this request it was decided not to send these funds to Porto Rico, and new paymasters and new money were sent from New York to make the payments to troops there; this caused the delay of which complaint was made. Except as above, there have been no complaints presented to the commission against this department, and it is evident that for the nonpayment of troops it was not in any instance primarily responsible. The Paymaster-General testified that there was no time during the continuance of the war at which he did not have the money and the officers ready and willing to pay in accordance with law and the customs of the service. So far as the commission can ascertain, all the officers of the Pay Department have performed their duties promptly and efficiently.

THE ENGINEER DEPARTMENT, AND CORPS OF ENGINEERS.

BRIG. GEN. JOHN M. WILSON, CHIEF OF ENGINEERS U. S. A., IN CHARGE.

The Corps of Engineers is charged with the improvement of rivers and harbors; construction, care, and operation of canals; construction and maintenance of works of defense, including the operation of submarine mines; the construction and repair of light-houses, and numerous other special and minor duties.

At the outbreak of the war the Corps of Engineers consisted of 109 officers and a battalion of engineer soldiers organized into four companies, with a maximum authorized strength of 500 enlisted men, although the maximum legal strength was 752, organized into five companies.

GUN AND MORTAR BATTERIES.

The possibility of war impressed itself so fully upon the chief of this corps that on January 25, 1898, all officers having charge of the construction of seacoast defenses were directed to mount, as rapidly as possible, all guns and carriages then on hand or received later, even if it should be at the disadvantage of incomplete work, the object being to have the guns available for service. The carrying out of these instructions entailed considerable hardships and inconveniences in the North Atlantic forts, where snow to a great depth covered the ground. Every effort was made during the ensuing two months to get in place every possible piece of ordnance that could be obtained for the batteries at that time under construction.

The first allotment for coast-defense purposes from the appropriation for national defense was made March 17, 1898, and amounted to \$2,975,000, of which all but \$250,000 was devoted to the construction of additional gun batteries. Telegraphic orders for the construction of these works were issued the same day, and in several instances ground was broken the day following. Additional allotments were made from time to time from the appropriation for national defense for the construction of additional gun batteries, both permanent and temporary.

A summary of the work accomplished in the construction of gun and mortar batteries during the period of the war is as follows, the first table giving the condition of the permanent seacoast armament prior to the outbreak of hostilities, the second the condition August 1, 1898:

I.

	12-inch.	10-inch.	8-inch.	Mortars.	Rapid-fire.
Armament in place.....	10	44	9	88	0
Ready for armament.....	5	32	22	72	5
Under construction.....	9	6	2	72	4
Total.....	24	82	33	232	9

II.

	12-inch.	10-inch.	8-inch.	Mortars.	Rapid-fire.
Armament in place.....	16	70	35	144	26
Ready for armament.....	27	28	7	64	16
Under construction.....	37	19	22	104	37
Total.....	80	117	64	312	79

In addition to the permanent armament, temporary batteries for old-type rifled and smoothbore seacoast guns and for modern siege guns and for modern 8-inch B. L. rifles on improvised carriages were erected at various points either wholly defenseless or deficient in armament. Seventy-five emplacements of this character were built and armed during the war at 21 different harbors.

SUBMARINE-MINE DEFENSES.

On March 28 the following instructions to all officers of the Corps of Engineers in charge of torpedo defenses were issued:

OFFICE OF THE CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, March 28, 1898.

SIR: I have the honor to request that you will endeavor to organize a corps of about 120, more or less, patriotic citizens, *who, without promise of pay, will be ready to give you their services in case of a sudden emergency under which immediate action may be demanded.*

These citizens should consist of expert electricians, civil engineers, machinists, telegraph and telephone experts, steam fitters, cable men, in fact men who are willing to aid in an emergency, and whose youth, brains, and mechanical ingenuity will be of great help to you in a crisis.

This corps should be organized into convenient divisions, according to the class of work to be performed, such as land telegraph or telephone work, submarine-mine work, expert electrical work, etc.

The divisions should be further organized into convenient squads with regard to further classification of work.

The divisions and squads should be assigned to the charge of the most expert and capable men as commanders.

A scheme of this kind already put in operation covers four divisions of four squads, each classified according to the nature of the work, and embracing all branches of electrical and steam engineering work and of signal work.

You are also requested to endeavor to have this organization, at its own expense, equip itself with tools ready for an emergency, everything boxed for a sudden movement, and you are also requested to find out just where you can place your hands upon all materials necessary for equipping and working the mines now under your control, and assisting in the defense of the various harbors in the engineering district under your charge.

Arrangements of this character have been made for one or two of the most important districts, and it is hoped that you may be able to accomplish something of the same character.

Far more is now expected of the Corps of Engineers than ever before, and even with the very limited funds and materials at its command I am satisfied that it will be able to accomplish important results when the crisis comes.

Upon receipt of a telegram from me to go ahead, you will be authorized to make purchases of materials required and to employ such persons as are necessary, and I will endeavor to get an allotment for payments.

Your rolls should fully cover the name, character of employment, rate of pay, and time of all persons who may aid you when called upon.

Very respectfully,

JOHN M. WILSON,
Brigadier-General, Chief of Engineers, U. S. Army.

At the outbreak of the war there was on hand at various harbors a fairly sufficient number of mine cases and of operating casemates, but practically no cable, explosives, operating apparatus, search lights, or any of the multitude of minor articles necessary for successfully planting and operating the mines. An allotment of \$250,000 from the appropriation for national defense, made March 17, 1898, was applied at once, under telegraphic orders, to the purchase and distribution

of the most necessary articles of torpedo material, especially cable. Pending the acquisition of sufficient standard material, the following instructions, under date of April 3, were issued for torpedo harbor defenses.

HEADQUARTERS CORPS OF ENGINEERS, UNITED STATES ARMY,
Washington, April 3, 1898.

SIR: The emergency which has been anticipated appears to be almost upon us.

I received yesterday an allotment of funds for torpedo service, and at once ordered by telegraph the purchase of materials; it will probably take three months to obtain what will be needed for one-fourth of our coast line.

In the meantime you must make the best possible torpedo defense for the harbors in your charge, with the materials in hand and such temporary expedients as you can devise.

You can telegraph Major Knight * asking when he can furnish what is absolutely necessary to complete the system, so far as the mines you have available are concerned; and if his reply does not indicate that you can get them in a week or ten days then you are authorized to purchase whatever is absolutely necessary in open market wherever you can obtain it, reporting purchases and cost to this office.

You are requested to commence, on receipt of this letter, preparations for planting mines and to go as far as possible in your work without interfering immediately with main channels; you are authorized to employ all necessary help, to adopt temporary expedients of any kind deemed proper by you, and to understand that all necessary power and responsibility, so far as law and regulations will admit, are now committed to you.

Be as economical as possible, and remember that there are numerous harbors besides those in your charge, in regard to which similar orders will be sent.

It is not the fault of the Corps of Engineers that we are not fully prepared, but it will be its fault and that of each district officer in case we do not at once take advantage of the limited means now at our command.

I requested yesterday that orders be sent to Willets Point to send to you noncommissioned officer and privates to aid you in your torpedo work. I would gladly send more, but already over one-third of the battalion has been named for these details.

Use every effort in this emergency; arrange for boats; set up operating apparatus in casemates; arrange mooring anchors; lay your cables and junction boxes; prepare your compound plugs; get your mines ready; purchase what is absolutely necessary for the mines you now have that you can not procure at once from Major Knight; extemporize temporary mines, employ all the help you want, but go ahead and show what the Corps of Engineers can do when an emergency arises for which our country is unprepared.

Very respectfully,

JOHN M. WILSON,
Chief of Engineers, U. S. Army.

It was the foresight indicated by these letters that enabled the corps so promptly to protect our principal harbors with proper torpedo defense, which had great effect in satisfying the commercial interests of the country that they were safe from successful attack.

April 21 the order to plant mines was given, and by the close of the month practically nearly every harbor of importance was defended by at least a preliminary line of mines, the material of which, in part, had to be improvised from local sources.

The purchase and shipment of standard submarine-mine apparatus

* The officer in charge of the torpedo depot at Willets Point, N. Y.

of all kinds were pushed with the greatest possible energy, and the torpedo lines at each harbor were constantly extended, improved, and maintained. The conditions under which some of this work was carried on, particularly in the early stages, were most trying, unusually stormy and cold weather prevailing and rendering work on the water disagreeable and hazardous. In connection with the submarine-mine defenses it was necessary to prescribe special regulations for the navigation of friendly vessels and to maintain a fleet of patrol boats to enforce them. Owing to the deficiency in a trained personnel, it was practicable to assign only a few engineer soldiers to each harbor, the total number distributed to some 25 harbors being 156. Reliance was largely placed upon civilian electricians, mechanics, and laborers. This civilian force was organized in part from volunteers prior to the time when funds became available.

Among the principal items of torpedo material purchased during the war may be named 44 search lights, 150 tons explosives, 400 miles cable, 1,650 mine cases, 1,500 compound plugs, 17 sets operating apparatus, besides a vast multitude of minor miscellaneous articles, weighing in the aggregate many hundred tons.

In consequence of the destruction of the Spanish fleet under Admiral Cervera and the signing of the protocol, the work of clearing harbors and channels of the mines was commenced early in August and restrictions upon commerce removed as rapidly as possible.

EQUIPMENT OF ENGINEER TROOPS.

On April 16 orders were sent to prepare all available pontoon material for a sudden call, and on April 29 the entire available equipment at Willets Point and West Point embarked for Florida with Company E, battalion of engineers. All available intrenching tools were sent at the same time. For many years, for want of funds, the pontoons and intrenching material at the engineer depot had been steadily deteriorating, so that the amount available on the first call was barely equal to the demand. Allotments of \$10,000 and \$3,000 from appropriation for national defense were made April 20 and May 4 and at once applied to increasing the stock of pontoon material and intrenching tools. The various deficiency acts subsequently passed rendered available additional funds for equipment of engineer troops, and the Department was at all times able to respond promptly to every requisition for supplies. An additional bridge train was sent to Tampa for use of the expeditionary force, and a large assortment of intrenching tools, special tools, drawing and surveying instruments and materials were issued during the period of the war.

ENGINEER BATTALION.

As stated above, the authorized enlisted strength of the Engineer Battalion prior to hostilities was 500 men, organized into four com-

panies. Owing to the diplomatic situation it was deemed prudent to represent the advisability of increasing the strength of the battalion to its maximum legal strength, viz, 750, and application was accordingly made March 21. Under date of April 4 the Secretary of War authorized the enlistment of 202 additional men and one additional company, making the strength of the battalion 702. Subsequently the act of Congress for increasing the Regular Army in time of war brought the strength of the battalion to 752. Two companies, of 100 men each, accompanied the expedition to Cuba and rendered valuable service with the Army. One company of about 125 men was dispatched to Manila, P. I. The remainder were employed on the torpedo defenses and at the engineer depot, Willets Point, assisting in the shipment of the torpedo material and material for equipment of engineer troops.

Wherever officers of this corps have been assigned to duty the testimony shows that they have acted with great promptness and to the great benefit of the service. The testimony of commanding officers of campaigns, troops, and camps has been in high praise of the services of the Corps of Engineers. This commendation has been because of the efficient preparations made before the beginning of the war with Spain for any emergency, the energy displayed by the officers of the Department and the esprit de corps that permeates the entire force.

ORDNANCE DEPARTMENT.

BRIG. GEN. D. W. FLAGLER, CHIEF OF ORDNANCE, U. S. A., IN CHARGE.

The duties of the Ordnance Department are, procuring, by purchase or manufacture, and distributing the necessary ordnance and ordnance supplies for the Government, and the establishment and maintenance of arsenals and depots for their manufacture and safe-keeping.

At the beginning of the war the Ordnance Corps consisted of 1 brigadier general, 3 colonels, 4 lieutenant-colonels, 10 majors, 22 captains, 14 first lieutenants, 1 ordnance storekeeper with rank of major, 1 ordnance storekeeper with rank of captain, 104 ordnance sergeants and 488 enlisted men. The act of Congress approved July 8, 1898, added to the regular establishment 1 colonel, 1 lieutenant-colonel, 2 majors, 2 captains, and 6 first lieutenants, and authorized the appointment of a chief ordnance officer with the rank of lieutenant-colonel for each army corps, and a chief ordnance officer with the rank of major for each division organized.

This increase was not large enough to furnish the officers needed by the Department for the discharge of the greatly increased duties. It must be borne in mind that the efficient ordnance officer is a specialist who must be trained by experience and can not be improvised.

The work of the department was, of course, greatly increased by the war with Spain. When it was seen that war was probable the necessity of a rapid completion of the system of coast defenses was at

once appreciated. The Ordnance Department, in connection with the Engineer Department, made strenuous efforts to provide for defenses needed, the first steps being taken in February before any appropriation was available. From the 9th of March the work of completing the armament for the coast defenses was pushed with all possible dispatch, night shifts being employed, the force increased at the gun factory, and the completion of guns and forgings hastened.

Not much could be done to hasten the deliveries of the larger seacoast guns, the time required for manufacturing the forgings and the finishing and assembling of the guns being too great. Attempts were made to induce the manufacturers who had contracts for mortars to expedite their work. Five additional 10-inch guns were obtained from the Bethlehem Iron Company under their contract.

The manufacture of carriages could be hastened and proper steps were taken to complete those necessary for the guns on hand and in process of manufacture. With rapid-fire guns it was possible to accomplish more, and they were purchased as fast as satisfactory offers to furnish them could be obtained from American and foreign manufacturers.

When war seemed imminent the supply of powder and projectiles on hand for coast defense was inadequate. Manufacturers of these were conferred with and the necessities of the nation explained to them, the result being that they increased their plants, and in some cases employed outside establishments, thus multiplying their capacity.

The results of all these attempts to rush the completion of the coast defenses, in its various ordnance branches, was, as had been foreseen, inadequate. The making of heavy guns, mortars, carriages for the same, and the projectiles necessary for their use requires plants whose installation is a matter of time. These once installed and in working order, the time required for the necessary work is so long and the difficulties inherent in the manufacture so great that a large increase in the output can not suddenly be made.

The experience of the late war supports what has been so often said by the ordnance specialists, that the coast defense of the country must be provided for before an emergency arises.

The details as to the supplies of ordnance and ordnance stores on hand at the beginning of the war are given in the replies of the Chief of Ordnance to the inquiries of the commission.

SMALL ARMS.

On April 1, 1898, the small arms with which the Army was provided was the rifle and carbine, caliber .30, and revolver, caliber .38.

There were on hand April 1:

Rifles, caliber .30	53,508
Carbines, caliber .30	14,875
Revolvers, caliber .38	4,517

There were received up to September 1:

Rifles, caliber .30	26,728
Carbines, caliber .30	1,140
Revolvers, caliber .38	5,850

And there were issued to troops up to September 1:

Rifles, caliber .30	53,571
Remaining on hand	27,665
Carbines, caliber .30	11,715
Remaining on hand	4,300
Revolvers, caliber .38	9,515
Remaining on hand	852

The National Guard was armed largely with the S. B. L. rifle and carbine, caliber .45, and revolver, caliber .45. Of these there were on hand, received, and issued up to September 1 as follows:

	On hand Apr. 1.	Received.	Issued.	On hand Sept. 1.
Rifles, caliber .45	265,897	3,526	84,391	185,030
Carbines, caliber .45	7,983		3,276	4,705
Revolvers, caliber .45	1,645	16,300	13,363	4,582

The volunteers were, with few exceptions, provided with the Springfield B. L. rifle and carbine, caliber .45, and the caliber .45 revolver, as the Department did not have on hand enough caliber .30 arms for the purpose; nor could it manufacture them fast enough to supply the demand. The manufacture was hastened, and as the arms were furnished the volunteers were supplied with them, there being put in their hands up to December 8, 110,000 rifles and carbines, caliber .30.

The putting of the caliber .45 rifle in the hands of troops has been much criticised during and since the war. It was done because there was need of immediately arming them, and as the country did not possess the requisite number of the caliber .30 rifles the weapons on hand had to be used. Further, in the opinion of certain general officers, the caliber .45 rifle, with smokeless powder, was more destructive than the caliber .30 arm, and was a simpler, less complicated weapon.

At the beginning of the war the Regular Army was furnished with small-arms ammunition in which the smokeless powder was used, all the caliber .30 ammunition being of this character. The Ordnance Department had been for two or three years experimenting on powder for the caliber .45 cartridge and had succeeded in finding what it wanted, but as the capacity for making such powder in this country is limited, the first efforts were directed toward supplying a sufficient amount of it for the ammunition for the caliber .30 arm. The Chief of Ordnance testifies that in about two months he was able to get it for the .45-caliber cartridge from private manufacturers, and after this time it was used in the making of nearly all the caliber .45 ammunition.

The troops armed with the caliber .45 rifle at the time of the engagements at Santiago had black powder, as also had those in Porto Rico and the Philippine Islands. In the fights about Santiago the use of black powder was severely condemned by the officers in command. The smoke located the position of the troops. The men armed with the caliber .45 rifle and using the black powder were withdrawn from the actions on the 1st and 2d of July. The light batteries at Santiago also had black powder at the engagements of July 1 and 2, and it was found that the smoke of the discharges made an excellent mark for the enemy's artillery fire.

The advantages of smokeless powder were fully understood by the Ordnance Department, and the initial steps were taken for its use with both small arms and artillery. The ammunition for field guns in the hands of troops and in store at the beginning of the war was black powder, because it was on hand and economy required that it should be used for peace purposes. When the war came the Department was unable to at once furnish smokeless powder for the field guns, but the manufacture of it was promptly begun, and in a short time a supply of it was available.

For the troops armed with the caliber .45 rifle—and these were, as has been stated, practically all the volunteers—so little ammunition was supplied up to the middle of July that not even ten black-powder cartridges per man could be issued for target practice.

EQUIPMENT.

The Department did not have on hand at the beginning of the war any large supply of infantry, cavalry, artillery, and horse equipments. The buildings for a plant for their manufacture had been erected at Rock Island Arsenal, but the plant itself had not been installed through failure to obtain the necessary appropriation.

In the first issues of equipments to troops there was some delay caused by the lack of proper plant for their manufacture, and as they were not on the market as articles of commerce they could not be purchased at once. Steps were immediately taken to correct the evil; the plant was installed at Rock Island Arsenal, and the number of employees there increased from 400 on April 13 to 2,900 on August 31. At this latter date the Department was turning out 6,000 sets of infantry equipments per day.

An element in the production of delay at first in issuing equipment to the volunteer troops was the fact that many sets of such equipments had been issued to the National Guard of the several States. These were reported as serviceable, and when the National Guard was called out as volunteers it was presumed they would be properly equipped from the stores in the hands of the State authorities. It was found, however, that a large proportion of these stores were not in fit condi-

tion for field service, and they had to be replaced, thus making an unexpected call upon the resources of the Department.

The greatest difficulty and confusion in the supply of equipment to the troops was experienced at Camp Thomas. The chief of ordnance had recommended the establishment of a depot at that place, but his recommendation was not complied with, the general commanding the camp not concurring because of the proximity of the arsenal at Columbia, Tenn., which arsenal, however, was soon used for other purposes. Had such depot been established the confusion and delays in the matter of equipment of the troops there would undoubtedly have been much lessened.

SUMMARY.

The testimony before the commission shows that the Ordnance Department was untiring in its work both before and during the war, and that every effort was made by its officers to properly arm and equip the troops. The delays that occurred were none of them of serious import, and it was beyond the power of the Department to prevent them.

The great work of this department must be done in times of peace before war comes. Guns, mortars, carriages, small arms, ammunition, and equipments must be decided upon in advance, the plants for their production established, and a supply accumulated sufficient for the probable needs of the country. There is no time after war is declared in which to make this provision. It is a great work, requiring careful study and investigation on the part of the officers, a wide comprehension as to the probable needs of the country, and the disbursing of large sums of money. The work of preparing for war can be done no faster than appropriations will permit, and a very important duty of the Chief of Ordnance is submitting to Congress the proper recommendations and estimates for appropriations to carry on the work of his department in the best manner.

The testimony before the commission shows that the Ordnance Department had in the past fully appreciated the situation; that it had so far as lay in its power provided for the contingency of war; that its chief had placed before Congress the necessary data to enable that body to judge knowingly of the needs of the department to do its appointed work; that he had in his recommendations as to the distribution of money appropriated anticipated the conditions which war would bring, had urged that the making of guns and carriages might take precedence of that of other articles which require less time to manufacture, and that the necessary plants might be established to meet the demands that would immediately follow a declaration of war.

RECOMMENDATIONS.

The commission would urge that—

1. An amount of arms, ammunition, and equipments should be kept

constantly in store to secure the prompt outfitting of any force that may reasonably be expected to be suddenly called out.

2. That the shops at the various arsenals, especially those at Rock Island, should be thoroughly equipped for any work that they may be required to do, and maintained in a condition of complete preparation.

THE SIGNAL CORPS.

BRIG. GEN. A. W. GREELY, CHIEF SIGNAL OFFICER, U. S. A., IN CHARGE.

The Chief Signal Officer is charged, under the Secretary of War, with the direction of the Signal Bureau; with the control of the officers, enlisted men, and employees attached thereto; with the construction, repair, and operation of military telegraph lines; with the supervision of such instruction in military signaling and telegraphy as may be prescribed in orders from the War Department; with the procurement, preservation, and distribution of the necessary supplies for the corps. He has charge of all military signal duties, and of books, papers, and devices connected therewith, including telegraph and telephone apparatus and the necessary instruments for target ranges and other military uses; of collecting and transmitting information for the Army, by telegraph or otherwise, and all other duties pertaining to military signaling.

On account of the very meager appropriation to this branch of the service prior to the commencement of hostilities, this corps was not in condition for war. General Greely says that "the approach of the war found eight available officers and fifty men of the Signal Corps widely scattered—from Oregon to Texas on the south and New York on the east. There were not more than two men at any station, and only \$800 was available for war expenses."

For the amount of work to be done, and done promptly, there was no department in the Army so utterly helpless as the Signal Corps. This condition of affairs was not its fault. The facts stated in the last annual report of the Chief Signal Officer will show that he did all that he could to have the corps in better shape, and urged that much of the work be done in peace that was required in an emergency. The long line of Atlantic coast, the Gulf coast, and the Pacific coast, with their many harbors and harbor defenses, were not supplied with proper telegraph cables for electrical interconnection between adjacent fortifications.

General Greely says:

These harbor defenses, save two or three experimental stations, had no electrical installation for the fire-control system, an absolutely necessary adjunct of disappearing guns. Under this system the range officers, located a long distance from the batteries, determine every minute or less the position of the enemy's ships and communicate this information to the officer who controls the firing. The control officer plots the positions and at a suitable instant causes, through the firing officers, the mortars to be discharged or one or all the guns to rise, deliver their fire, and then disappear in their pits.

All our modern fortifications were, with the exceptions named, without this connection between the range, the control, and the firing officers. To establish this communication was the work to be done, and to be done at once.

In addition to this the volunteer and regular troops that had been called out and mobilized had to have their camps equipped with telegraph or telephone lines, connecting the brigade, division, and corps headquarters. The permanent military telegraph lines along the Mexican frontier, or running to the heart of the great Indian reservations, aggregating 900 miles, had to be regularly operated by the corps. These duties confronted the Signal Corps before there was a gun fired. The chief signal officer and the officers and men under his command were equal to every emergency, and the work was so quickly and successfully done that there has not been a complaint filed from any source before this commission. The officers who have testified before us about the workings of this corps have, without a single exception, complimented in the highest terms the skill, efficiency, energy, and courage of the corps.

What the corps did we will briefly state. It is due these gallant men that we should go into more extended detail, but we refer those who want to examine this work more fully to the testimony and to the various reports of the officers of the Signal Corps. On April 5 the Secretary of War allotted from the national-defense fund \$23,700 for New York Harbor. Other important harbors were subsequently provided for from the same fund. Cables were immediately laid to connect adjacent fortifications in many of the most important harbors. Electrical installation was provided for all the important modern batteries. Skilled men to operate these various appliances were provided. The force was supplemented by the addition of 45 trained sergeants and about 50 detailed men, partly instructed. The Volunteer Signal Corps was organized under acts of Congress approved May 18 and July 7. There were mustered into service under these acts 115 officers and about 1,000 men.

One provision of the acts of Congress was of great advantage in securing the best men for this service, to wit, that two-thirds of the officers and enlisted men should be skilled electricians or telegraphers. Highly trained officers in the prime of life were secured, and the remarkable fact is reported that not one of them was either invalidated or obliged to quit his duties during the war, though they served at Santiago, in Porto Rico, and at Manila. This Volunteer Signal Corps built and equipped over 250 miles of telephone and telegraph lines in the different camps in the United States, bringing all the various headquarters in close communication.

When war commenced and the fleets started for Cuba and the transports to Manila, the Signal Corps was on hand. The men of this corps

cut the cables, often displaying great courage in doing their work under the enemy's guns. At Santiago they located Cervera and the Spanish lines. They landed with the troops, laid their telegraph lines, following the line of battle as it advanced, kept up communication with the base of operation almost from the firing line, and when the two days' fighting that resulted in the capture of Santiago occurred General Shafter said he had telegraphic communication with all his division commanders from his headquarters to the firing line. After the capture of Santiago and before the news of the surrender had reached all parts of the United States this corps had coupled the broken cable, and the President of the United States was able to learn promptly the details of the surrender at Santiago. The same successful work was accomplished at Porto Rico, and also at Manila, except the cable. The total amount of money available for the Signal Corps for eighteen months, ending December 31, 1898, aggregated \$609,000.

In addition this corps was charged with the censorship of all dispatches passing over the cable lines, the delicate and responsible duties connected with which were faithfully discharged.

During the past twenty-five years, owing to the rapid development of artillery and small arms, great changes have taken place in modern warfare, whereby lines of battle of opposing forces are formed at such great distances apart, the movements of assaulting columns have become so much more dangerous, the determinations by scouts or armed reconnoissances of the position and strength of an enemy have been rendered so difficult, that the services of the Signal Corps during time of war have become of inestimable value.

The work accomplished by the Signal Corps was of great aid to the army in the field and very efficient in maintaining communication in all of the camps.

CAMPS AND THEIR SANITATION.

CAMP GEORGE H. THOMAS.

On April 15, 1898, by direction of the Secretary of War, a part of the Regular Army was ordered to rendezvous at Chickamauga Park, selected by the Commanding General of the Army as a place for the assembling of a portion of the troops intended for use in the anticipated war with Spain. On the 23d of the same month the encampment was designated as Camp George H. Thomas.

Chickamauga Park, as is well known, is situated about 9 miles from the city of Chattanooga, Tenn., in the State of Georgia, and is the property of the United States. When this property was purchased as a reservation to commemorate the great three days' battle of 1863, fought thereon, it was contemplated that it might be used as a place for assembling troops in case of war. The means of communication

between Chattanooga and the park were and are a good macadam turn-pike and the Chattanooga, Rome and Southern Railway Company, which has a single track only. The Southern Railway runs along near the western boundary of the park, and some troops were unloaded and loaded at Rossville, a station about 3 miles distant. Other troops were brought upon the Atlantic and Western Railway to Ringgold, about 6 miles away.

The park contains about 7,000 acres, two-thirds of which is wooded largely with oak trees, the balance being cleared or open land. The wooded portion had been thoroughly cleaned of underbrush, and the trees are a sufficient distance apart and the surface is sufficiently smooth so that loaded wagons can be driven over nearly every part of it, and is so open that the sun can shine upon the ground almost everywhere at some hour of the day. The surface of the park is gently rolling and is effectively drained in nearly every part. The height of the different portions above the sea level varies from 720 to 940 feet. It has no very rough or precipitous places, and the ground occupied by the troops was easy of access and sufficiently level for comfort and convenience. It is traversed in various directions by about 24 miles of good macadam roads, making transportation unusually easy. The soil is of a clay loam upon a foundation of limestone, which comes near the surface in most places and quite so over a large part of the wooded portion. The strata of this limestone rock run at all angles from perpendicular to horizontal and are loosely connected with each other.

The climate was reputed to be dry and not excessively or uncomfortably hot in summer, and the locality free from typhoid fever and other infectious diseases and generally healthful. As soon as it was decided to use the park, preparations were commenced for the reception and care of the troops. Storehouses for quartermaster's and commissary's stores and corrals for animals were rapidly constructed. The terminal facilities at Battlefield Station, which is situated at Lytle, on the southern border of the park, at that time were very limited; but the railroad people showed commendable activity in putting in additional sidings for the largely increased traffic which was to come. The railroad facilities, although in time fairly sufficient, were never as ample as was desirable. This lack was not so great as to be serious or to materially affect the desirability of the park for a camp site. Ten storehouses, 20 by 100 feet, for the commissary stores and a sufficient number for quartermaster's supplies were rapidly constructed.

The park commissioners immediately commenced the sinking of wells, and the work was rapidly pushed forward until forty-five in all were ready for use. The needs of the coming forces appeared to be apprehended by all the departments to which were committed the duty of preparation.

Enough tentage for the troops was furnished except to the hospitals, where the supply was sometimes very inadequate. Transportation was usually sufficient.

Rations were good in quality and abundant in quantity.

Medicines and medical supplies were at times deficient. Laundry work for the hospital was done at Chattanooga. An adequate and satisfactory refrigerating plant for the reception and preservation of fresh beef was erected by the beef contractors. A large bakery with a capacity of 60,000 loaves per day was built, and in a reasonable time after the establishment of the camp it was in operation and furnished excellent bread.

Most of the regular troops were encamped on the open ground and most of the volunteers in the woods heretofore described. Regiments and brigades were usually placed quite close together—closer than was desirable or necessary, as there was ample space. The reasons assigned for placing the troops in the woods were that in hot weather the shade would be grateful and the open ground would be left for drilling and tactical maneuvers.

MOVEMENT OF TROOPS.

The first regiment of the Regular Army arrived about the middle of April and the others followed in rapid succession until 7,283 officers and men were in the park. The first volunteer troops arrived about the middle of May and were quickly followed by others, until by May 31 there were 44,227 present. Some days as many as five or six regiments arrived, taxing the railroads and camp transportation to the utmost. When the Chattanooga, Rome and Southern Railway was unable to handle all the troops arriving they were unloaded at Rossville and some of the artillery and cavalry at Chattanooga and all marched into camp.

On June 30 there were 58,548 troops in camp; on July 31 43,823 troops; on August 31 there were 13,161 troops; total number of troops that arrived at Camp Thomas was 69,459 volunteers and 7,283 regulars.

The average number in camp during May, June, and July was 46,947.

On May 7 the First Army Corps was constituted and May 16 Maj. Gen. John R. Brooke was placed in command of it, being already in command of the camp. The Third Army Corps was constituted the same date, and May 16 placed under the command of Maj. Gen. James F. Wade. All the regular troops left for Tampa in the early part of May.

Ernst's Brigade, of Wilson's Division, left Camp Thomas July 8 for Porto Rico; the balance of the First Division, First Corps, with General Brooke in command, left July 23 for the same place.

During the latter part of August quite a large number of troops were ordered to their several States and subsequently mustered out. Those remaining were disposed of as follows, viz, on August 21 and 22, the Second and Third Divisions of the First Corps were sent to Lexington, Ky., and Knoxville, Tenn., respectively.

Early in September what was left of the Third Corps was transferred to Anniston, Ala., and subsequently made part of the Fourth Corps. At the end of September there was but a small detachment of troops left in camp.

Maj. Gen. John R. Brooke commanded the camp from April 20 to July 23; Maj. Gen. James F. Wade from July 23 to August 2, and Maj. Gen. J. C. Breckinridge from August 2 until its practical abandonment.

WATER SUPPLY.

At the time the first troops arrived at the park there were nine deep-drilled wells, besides several wells at farmhouses and a number of cold springs which had been considered pure. These springs and wells were cleaned out and the wells provided with pumps by the park commissioners before the water was used. These wells and those subsequently sunk were piped to the bottom with six-inch iron tubing, which projected two or three feet above the surface of the ground. The pipes above the ground were protected by stone laid in cement for the purpose of preventing surface drainage getting into the wells.

The principal springs outside the park are Crawfish Springs, capacity, say, 15,000,000 gallons per day, distance $1\frac{1}{2}$ miles; Blue Springs, distance, 3 miles; Ellis Springs, distance, 4 miles. All furnished good and abundant water. The water supplied the camp was obtained from the springs above mentioned, hauled in barrels furnished by the Quartermaster's Department to the different regimental organizations from the nine wells in existence in the park before the arrival of the troops, and thirty-six more that were rapidly sunk in convenient localities, and from Chickamauga Creek. The wells furnished one barrel per minute by vigorous pumping. The use of Crawfish Springs was discontinued about July 1 on account of disagreement with the owner as to compensation, and the direct supply from that source was cut off.

The park commissioners put in a water system at Chickamauga Creek, where it touches the park on its northern and eastern corner. An intake was constructed at that point, a power house erected and furnished with steam pumping machinery, with a capacity of 1,800,000 gallons per day, and a reservoir with a capacity of 17,000 gallons was erected some distance from the pump house upon an elevation sufficiently high so that the water could be distributed through the various portions of the park by gravity. The water-pipe line was about 10 miles in length and extended to the camps of numerous regiments. Chickamauga Creek has its source some 20 miles distant from the park, in the highlands, and is fed by numerous springs, the most important of which are Pond, Gowdy, Owen, Lee, and Crawfish. The anxiety to furnish the water to the troops at the earliest possible

moment prevented putting the pipes into the ground at first, but as soon as possible and as far as practicable this was done.

In the meantime the heating of the pipes by the sun's rays made the water very warm and unpalatable. The water supply was a cause of much anxiety and comment by officers and men during the entire occupancy of the camp, and much testimony has been taken respecting it. We visited the park October 28 and examined the source of supply at Chickamauga Creek; also the wells and some of the springs. The banks of the Creek are composed of a reddish loam, readily soluble, which makes its waters always usually more or less roily, and after heavy rains quite muddy. Cave Creek, which drains a large portion of the camp occupied by the troops, naturally ran into Chickamauga Creek at a point near the intake pipe of the water system. Before any water was pumped a ditch was cut from Cave Creek at a point about 60 feet above where it entered Chickamauga Creek to a point in said creek 60 feet below where the intake pipe was placed. A dam was constructed across the natural channel of Cave Creek, thus diverting its water into the ditch.

It appears from the testimony that the top of the dam washed off once or twice during the heavy rains, but that no water was pumped at those times. We do not think that the water supply was contaminated by the drainage through Cave Creek. A careful examination of the camp sites and general formation of the ground leads to the conclusion that the waters of Chickamauga Creek at the intake were not contaminated from the park.

All the chemical and bacteriological examinations made of this water of which we have knowledge show that it was not a source of infection and might have been used with safety. The fact remains, however, that the water was quite unsatisfactory and repugnant to most of the troops. Many of them refused to drink it, and at last its use was interdicted unless boiled. Boiling as a rule was found to be impracticable, or, at least, was not generally adopted and soon ceased almost entirely. The hot weather made the water very warm and the heavy rains made it muddy and unpalatable. Filters were used to a limited extent, but their use amounted to but little, as they soon clogged with the large amount of solid substances which were held in suspension in the water.

At first all the wells in the camp furnished cool and pure water, but later some of them became contaminated and their use was discontinued. Whether any of those which were not discontinued were contaminated may be a mooted question, but the evidence before us does not warrant the statement that such was the fact. A very considerable quantity of the water used for drinking during July and August was drawn from the springs above mentioned, which were located outside of the park, the procuring of which was at times a serious inconvenience. There were but few bathing houses, soldiers generally bathing below the intake in Chickamauga Creek. The troops washed their clothing in

water obtained from the pipe system, from the wells and springs, and in Chickamauga Creek.

The water supply at Camp Thomas was at times insufficient for comfort, especially when the largest number of troops were there. At these times of shortness of water considerable inconvenience and discomfort were caused, but it did not amount to distress. It is very difficult to determine from the evidence to what extent impure water contributed to the production of sickness, but it is probable that it did to a considerable degree. The men would drink any clear water without much thought as to its source, and it appears that they used water which was known to be impure and which was forbidden. In some cases this practice was induced no doubt by disinclination to drink the roily water from Chickamauga Creek.

SANITATION.

Many causes conspired to make the sanitary condition of Camp Thomas very imperfect and at times decidedly bad. In the woods where most of the troops were located the soil was very shallow, so that sinks could not generally be dug on an average of more than 3 or 4 feet, which was not over one-half of the regulation depth, before rock would be struck. When the heavy rains came in July the sinks, owing to the character of the soil, which would not allow seepage of liquids through it and the rock underneath, filled with water and overflowed, carrying the fecal matter over the surface of the ground to a greater or less distance. The earth was only slightly absorbent, and when thrown into the sinks, as some was supposed to be many times during the day, it would absorb but little of the liquid contents and do but little if any good.

At first but a small quantity of disinfectants were used in or about the sinks, as the regulations prescribed that they should not be furnished, and the necessity for their use did not seem to be fully appreciated. Even after their use became urgent great difficulty in procuring them was experienced, and it was not until August that lime and other disinfectants were furnished in sufficient quantities. It is much to be regretted that so much delay occurred in this important matter. Another potent cause of the insanitary condition of the camp was furnished by the men defecating in the woods in close proximity to their tents. The pollution varied in different localities, but was at first quite general, and, with the sinks, was no doubt a prolific source of infection. Vigorous efforts were made to put a stop to such an unsoldierly and dangerous practice, but, although materially lessened, it was never wholly suppressed.

The camping places proper of the various regiments were, with few exceptions, well policed and kept in good sanitary condition, excepting the sinks, which were very often too near the quarters of the men, and

were not inclosed for some time after the establishment of the camp. Much of the refuse of the camps and corrals was drawn to various places more or less remote and burned, and it does not appear that any neglect to do this was a serious cause of unhealthfulness of the troops. Some of the regiments burned their kitchen refuse in their kitchen fires.

During the existence of the camp as many as 600 licenses to hucksters were granted. A system of inspection of what they had for sale was adopted, and all articles supposed to be deleterious to the men were excluded; but there can not be much doubt that the large quantities of pies, cakes, fruits, etc., eaten were the cause of much sickness, especially intestinal disorders. Many of the regiments maintained canteens, from which were sold large quantities of beer, quantities so large that the health of the men must necessarily have been injuriously affected. Passes to Chattanooga were allowed to from two to six men per day per company. That place offered full facilities for indulgence of appetite in many directions, and the dissipation of the men who visited that city, with or without permission, worked much injury to the command.

The weather was extremely hot up to July 1, and after that very rainy, which was unexpected and unprecedented, and caused great discomfort to all and suffering and sickness to some. The rapid decomposition of kitchen and other refuse contributed materially to the development of disease.

When the insanitary condition of the camps became known, the troops should have been moved into the open ground, and if necessary the places for drilling and tactical manœuvres sacrificed. In not doing this the various commanders of the camp were in error. In excuse it may be said that it was daily expected by the various commanders up to August 15 that a large portion of the troops would be ordered away from the Park to Cuba or Porto Rico. The evidence shows that the various commanding officers of the camp promulgated proper orders for sanitation, and that daily inspections were made, and it is equally in evidence that these orders were not obeyed, and that these inspections failed of securing their proper result, and the insanitary conditions continued to an unusual extent. One of the great causes of insanitation was the inexperience of the men, who, not regarding the restrictions imposed upon them as reasonable or necessary, paid little attention to the sanitary orders issued.

Making due allowance for the stated causes of insanitation, the responsibility for the failure to materially lessen the evils which existed must rest upon the several commanders and chief medical officers of the camp and corps.

Myriads of flies, rapidly propagated by the favorable conditions of heat, moisture, kitchen and other garbage and the excreta of men and animals, infested the camp in all its parts and caused great annoyance

and discomfort to man and beast, and was one of the assigned causes of the spread of typhoid fever.

The instruction in company and regimental drill and brigade and division movements was carried on as the weather and the health of the command permitted.

On the whole, the camp was unsatisfactory by reason of the existence of conditions which we have enumerated. In August, when it was apparent that no more troops would be needed for active service, the men became discontented, and the order for breaking it up was hailed with great satisfaction.

The better condition of the camps that succeeded Camp Thomas and the other early ones was the result of dearly bought and consequently appreciated experience.

Considering the area of the open spaces and the rocky formation of the ground in the wooded portions, and considering the water supply, we are of opinion that Chickamauga Park can not comfortably accommodate more than 20,000 troops at once for any great length of time.

As bearing upon the healthfulness of this locality, it may be stated that Surgeon Hepburn, of the Eighth United States Volunteer Infantry, at present post surgeon at Camp Thomas, under date of January 28, 1899, reports that, from October 8, 1898, to January 20, 1899, there were 1,150 troops there; that there had been during that time 111 separate cases treated in the hospital and not a death had occurred from disease, nor a case of typhoid fever developed.

CAMP ALGER.

Camp Alger was established May 18, after a report to the Quartermaster-General dated May 8, as to its suitability, by Capt. M. C. Martin, assistant quartermaster, United States Army, concurred in by Captain Seyburn, on duty at the headquarters of the Army. The report says:

I have the honor to report that a tract of land, containing upward of 1,400 acres—meadow, pasture, and woodland—can be obtained for camping purposes at a distance of about 2 miles from Falls Church, Va. This tract is owned by Mr. C. L. Campbell, is well watered, and, I think, contains enough cleared land for the camping of an army corps. It is about 300 feet higher than Washington and is the only large tract which I have been able to find in one body and within reasonable distance of this city. It lies between 1 and 3 miles of three different stations on a branch of the Southern Railway, which will put in the necessary sidings and provide free of cost the necessary land on its right of way for storehouses, etc.

On May 8 the recommendations were approved by the Quartermaster-General and by the Secretary of War.

Camp Alger was about $1\frac{1}{2}$ miles from Dunn Loring, a station on a branch of the Southern Railway, as above stated, and 7 miles from Washington, and about 5 miles distant from Fort Myer. The surface of this tract is rolling, partly wooded, with cultivated clearings and

with good drainage. The soil is of clay and sand and nearly impervious to water. Immediately after the selection of this camp preparations were made for the reception of troops by the erection of storehouses at Dunn Loring, where the Southern Railway put in extra sidings to accommodate the increased traffic. The Second Army Corps was constituted May 7, and May 16 Maj. Gen. W. M. Graham was assigned to the command, and the troops which were to compose the corps were ordered to this camp. General Graham arrived May 19 and assumed command, which he exercised during the existence of the camp. This corps was composed wholly of volunteers. The troops commenced arriving the 18th of May, and by the last of that month there were 18,309 officers and men in camp. On the last day of June there were 23,511 officers and men, on the last day of July there were 22,180, on the last day of August the troops present at this camp and Camp Meade were 21,456.

Total number of troops that went to Camp Alger 31,195.

August 2 one division of the corps marched to Thoroughfare Gap, 80 miles distant, and remained in camp there for about one month.

Duffield's brigade left camp June 15 and Garretson's brigade July 5, both for Santiago.

Early in September the remainder of the corps was transferred to Camp Meade, near Middletown, Pa.

The supply of transportation for this corps was somewhat limited at first but subsequently was abundant. The water supply was also quite limited and never was sufficient for other uses than cooking and drinking, and not that until about the 25th of June, when about forty wells had been sunk. There were no adequate bathing facilities nearer than the Potomac River, which was 7 miles distant. The troops were encamped both in the open and wooded portions. Those in the latter did not seem to suffer on account of their position. The sinks were generally properly policed, of the regulation depth, and were very soon inclosed.

The woods were quite badly polluted by the excreta of the men; but the commanding officer issued stringent sanitary regulations and used great efforts to see that they were obeyed. His efforts were fairly successful. The troops were well supplied with tentage. The camps of the different regiments were well policed, and the refuse properly disposed of by burning. The rations were abundant in quantity and good in quality. Field bakeries were established in the camp and at Dunn Loring on August 2, from which the corps was supplied with excellent bread. As heretofore stated, on the 1st of August it was decided to reduce the number of troops, one division being sent to Thoroughfare Gap, and about two weeks later it was decided to move the whole corps. Early in September that was accomplished. During the existence of this camp the weather was exceedingly hot and some portion of the time very rainy, both of which conditions, with myriads of

flies which infested the camp, were the causes of much discomfort to the men. The health of this locality is reputed to be as good as any in the section of country about Washington.

The number of deaths from May 18 to October 11 was 71, and at Thoroughfare Gap 34. This death rate is not abnormal, and, judging from it, the locality can not be considered unhealthful. The Seventh Illinois Regiment, which was encamped there during the whole time, lost but one man up to the 14th day of December, a record probably not equaled by any other regiment in the service. The establishment of Camp Alger is justifiable upon the report as to the suitability of the site, but considering the scarcity of water and the want of facilities for bathing, we are of opinion that it was very undesirable, and was not abandoned too soon.

CAMP CUBA LIBRE, JACKSONVILLE, FLA.

Maj. Gen. Fitzhugh Lee selected this camp and established it May 29. Its abandonment was begun October 23, the corps being transferred to Savannah, Ga. This camp was located from 2 to 4 miles from the business portion of Jacksonville, near the banks of the St. Johns River, upon a sandy plain, sparsely covered with pine trees. The ground is generally level and the soil of such a character that sinks could be dug to the required depth and the liquid portion of the contents absorbed. There was one division of about 10,000 men encamped immediately upon the banks of the St. Johns River, the balance of the command being in the interior. This division constructed a system of troughs for sinks, through which water was pumped and the excrement carried into the river and thence by the tide to the sea, an admirable and convenient sanitary arrangement.

One division of the Seventh Corps, formerly Schwan's division, Fourth Corps, was for a time at Miami, but was brought to Jacksonville as soon as the unhealthful situation of Miami was definitely ascertained.

The strength of the Seventh Corps, June 30, was 19,156 officers and enlisted men; July 31, 24,102; August 31, 28,842.

The total number of troops which went to Camp Cuba Libre was 28,842, all volunteers.

Number of deaths from May 26 to September 30, 246.

This camp and Jacksonville were visited October 17 to 20 and carefully inspected. The camp was clean and the officers and men mostly cheerful and well contented, although anxious to move either to Cuba or home. Many of the regiments made low houses of boards from 4 to 6 feet in height, upon which were mounted their tents, making practically a two-story tent. The lower story was very convenient for storage, and added much to the comfort and health of the men. The water supply, which was abundant and good, was furnished from the city waterworks of Jacksonville, and was carried by pipes to the camps of the various regiments. Bathing houses were

erected, and their use contributed much to the comfort and healthfulness of the men. The sanitary arrangements were excellent, and were so from nearly the first establishment of the camp. The hospital arrangements were ample and good, the rations good in quality and sufficient in quantity. The discomfort from heat during the months of August and September was considerable.

It was wise to move the corps to Savannah at the time it was done, for reasons hereinbefore stated in regard to camping troops too long in one place, and also for the morale and contentment of the men.

A camp for convalescents was established at Pablo Beach, about 12 miles from Jacksonville, where about 1,400 men were treated.

While there are many favorable things that may be said about the camp at Jacksonville, that it would be much better not to encamp troops in the State of Florida during the summer months, except as a military necessity to do so.

CAMP AT FERNANDINA, FLA.

Two members of the commission were detailed to examine the abandoned camp site at Fernandina and report what facts they could ascertain in regard to it. Charges of corruption in connection with the selection of the site of this camp had been made; investigation proved them to be unfounded. This camp was occupied by the Third Division of the Fourth Corps, under command of Brig. Gen. L. H. Carpenter, from July 3 to about the middle of August, when this division was moved to Huntsville, Ala.

The report, which expresses our views of this camp, is as follows:

In compliance with the instructions of the commission, we have the honor to report that we visited Fernandina, Fla., on the 18th instant, and made a careful and critical inspection of the site occupied as a camp by the troops lately stationed at that town, and found the conditions to be as follows:

The Florida Central and Peninsular Railroad, leading into Fernandina, is a well-equipped one-track road, with sidings at the town amounting in all to about two miles. Its facilities for receiving and delivering troops appear to be very good.

The facilities for embarking and disembarking troops by water are also very good, there being a dock front over a half mile long, with a minimum low-water depth over the bar at the mouth of the harbor of not less than 17 feet and a rise of tide of 6 feet.

The location of the camp is excellent, probably quite equal to any site for the purpose that could have been selected on the Florida coast. The ground is rolling, its maximum elevation about 60 feet above the level of the sea, with no swamp except a tidal salt marsh beyond the highest ground. The sea-bathing facilities are excellent.

We visited and walked over a large portion of the area occupied by the troops, and although there had been a severe storm the night before our arrival, the ground was practically dry.

We carefully examined the site of the camp of the Third Pennsylvania Volunteers, which it has been reported was a tropical jungle, worthless land until cleared, and upon which the troops worked like slaves to clear it until it was fit for camping. While your committee can not state the condition of this land when the troops arrived, it found no appearance of a tropical jungle here or in the vicinity. There were no evidences of there having been serious work in preparing the camps,

although, as is usual, there were small bushes, vines, low palms, etc., scattered here and there over the camp site and the adjacent land. Altogether the committee was most favorably impressed with the character of the site selected.

We were informed that it had been occupied by about 16,000 troops.

We visited and obtained from the county clerk of Nassau County, Fla., Mr. George E. Wolff, a map showing the lands occupied by the troops, and his official certificate as to the ownership of the land. This certificate states that the greater part of the lands occupied reverted to the State of Florida in June, 1897, by reason of unpaid taxes, and that no one by the name of Alger ever controlled any lands in the county of Nassau, as shown by the records, and that the land occupied by the Third Pennsylvania Volunteers at Fernandina as a camp was at the time the property of the State of Florida.

The distance of the site of the camp from town is from 1 to 1½ miles. The water was piped without expenditure to the camp from Fernandina, being from an artesian well about 600 feet deep. The supply was unlimited. The water had a slight sulphur taste, which it is said some of the troops disliked, and occasionally used surface water.

The locations of the hospitals as pointed out to us were on high ground, well drained, and apparently well selected.

The time the site was occupied by the troops was from July 21 to August 15, in all about three weeks.

The mayor of Fernandina informed us that Major Hendley, the surgeon in charge of the camp, had stated to him just before the troops left that the number of sick was 540. Your committee therefore has the honor to report that, in its opinion, the camp was well selected; that probably the site was equal in all respects to any other that could have been found on the Florida coast; that from the information they obtained and what they saw it was far from being a tropical jungle, and that the certificate of the county clerk indicates that no Government official was interested in the land; that the amount of work done in clearing the underbrush was no greater than might have been expected at almost any locality in the South selected for camping purposes; that the site was well drained, the water for drinking and cooking purposes good, and the bathing facilities at the sea beach excellent.

Appended to the report was the certificate in footnote below:

STATE OF FLORIDA, *County of Nassau*:

I, George E. Wolff, clerk circuit court and custodian of public records in and for Nassau County, Fla., hereby certify that I have carefully searched the public records of said county, and find that R. A. Alger does not own or control, directly or indirectly, any land on the island of Amelia, Nassau County, Fla. I further certify that the records show that fee simple title to the lands lately occupied by the military camps at Fernandina, as indicated by maps hereto attached and made a part of this certificate (red lines of said map indicating water pipes of said camp), are vested in the several persons and corporations as follows:

Fernandina Development Company, Florida Town Improvement Company, S. A. Swann, S. D. Swann, Fred. W. Haward, A. T. Williams, M. B. Self, W. H. Hendricks, Mrs. D. M. Hammond, W. C. Yulee, P. Edwards.

That I further certify that the greater part of said lands, as indicated by green coloring on said map, reverted to the State of Florida, June, 1897, by reason of unpaid State and county taxes for the years 1895, 1896.

I further certify that no one by the name of Alger ever owned or controlled any lands in said county of Nassau, and further that the lands occupied by the Third Pennsylvania Volunteer Regiment at Fernandina as camp was at the time property of the State of Florida, having reverted to the State for unpaid taxes previous to its occupation as such camp.

Witness my hand and official seal this 18th day of October, 1898.

GEORGE E. WOLFF,

Clerk Circuit Court, Nassau County, Fla.

CAMP AT MIAMI, FLA.

In the early part of June, Miami was selected for a camp by the Major-General Commanding the Army, upon the recommendation of a board of officers consisting of Assistant Surgeon-General Greenleaf, Maj. G. H. Hopkins, and Maj. Walter Reed, the first two of whom testified before us that they did not expect it to be used as a permanent camp, but only as a camp of isolation. On June 20 a division of the Fourth Corps under the command of General Schwan was sent there, and on June 28 was designated as the First Division of the Seventh Corps. July 31 this camp was abandoned and the troops transferred to Jacksonville, because it was found in all respects unsuitable.

This place has been severely criticised, but the Commanding General of the Army said of it in a communication to the Secretary of War, dated June 14, "It has been cleared for 5,000 troops, and additional ground will be cleared for any number. Its advantages are the cool ocean breezes, nearness to the Gulf Stream and Cuba, and perfect isolation from yellow fever, which is the principal objection to Savannah, Jacksonville, and Mobile," and, "I think it of the highest importance that the troops be placed in the three healthful camps of instruction—Chickamauga, Fernandina, and Miami."

CAMP AT TAMPA, FLA.

The Seventh Army Corps, Maj. Gen. Fitzhugh Lee commanding, was organized May 16 at Tampa. This corps was removed to Jacksonville May 31, with the exception of the First Division, which remained at Tampa. On the same date, May 16, the Fifth Army Corps, Maj. Gen. William R. Shafter commanding, was organized, with headquarters at Tampa. On the 30th day of May this corps comprised 16,426 men. On June 7 it embarked on transports for Santiago de Cuba, leaving in the camp parts of several organizations, with a large number of horses and mules. The camp was established May 2, and was not intended for a permanent one, but merely as a rendezvous for troops pending shipment from Port Tampa. Port Tampa had good facilities in the way of extensive wharfage, which would accommodate from fifteen to twenty vessels at a time, enabling troops and supplies to be loaded with reasonable dispatch.

This is more especially true of troops, as the narrowness of the wharves tended to confusion in handling stores, teams, and artillery. Most of the men were encamped in healthful locations, but some of them upon ground so low that when the rainy season commenced much discomfort was experienced. The water supply was ample and good, being obtained from the works of the Plant system, which was extended into the camps of the various organizations. The railroad transportation facilities were the Plant system and the Florida Central

and Peninsula Railway. The excessive heat of the summer caused considerable discomfort to the troops and live stock, and the order for transfer to Montauk Point the first part of August was very welcome. The whole number of troops that went to Tampa during the existence of the camp was 20,470 volunteers and 27,602 regulars, a total of 48,072.

There were present on June 20, 19,322 troops, and on July 20, 25,306.

The number of deaths from disease and accident from May 2 to September 30 was 56.

CAMPS MERRIAM AND MERRITT, SAN FRANCISCO, CAL.

These camps were instituted for the mobilization of troops intended for the Philippine Islands. Camp Merriam was first located on the Presidio reservation, near the Lombard street entrance. About 10,000 men were encamped there. The area of the camp was quite limited and the troops were somewhat crowded. The water supply was good. As soon as it was understood that the force was to be increased Camp Merritt was established near the northern boundary of the Golden Gate Park and the troops from Camp Merriam moved to that place. Eighteen thousand men were encamped in Camp Merritt, occupying it only until the fleet upon which they embarked was assembled and fitted for their reception. There was considerable sickness, especially measles. Some typhoid fever appeared. Camp Merriam was commanded by Maj. Gen. Henry C. Merriam, and Camp Merritt by Maj. Gen. Wesley Merritt.

The camps at New Orleans and Mobile were only temporary. The Fourth Corps was organized at Mobile the 1st of June and immediately commenced moving to Tampa. The whole number of troops at Mobile were 9,534, under command of Maj. Gen. John J. Coppinger.

CAMP WIKOFF.

Named in honor of the colonel of the Twenty-second United States Infantry, killed at San Juan July 1, Camp Wikoff was at Montauk Point, 125 miles distant from New York, 45 from Newport, R. I., and 28 from New London, Conn.

The "Point" is surrounded by water and has a good harbor on the Sound side which affords shelter from the Atlantic storms. It is a United States quarantine station, and has one good wharf, but the water is not of sufficient depth to allow heavy draft ocean steamers to lie alongside of it.

The surface of the ground is rolling, nearly bare of trees; the soil of loam, clay, and gravel, with a solid turf and good covering of grass. The place is healthful and during the summer cool and comfortable.

About 15,000 acres were available for camp purposes—ample space for 50,000 men.

The site had been favorably considered by a board of officers that had carefully examined it on the 3d of June preceding, which board, as

stated by a member, General Frank, was looking for a place "where we can take the troops from the Santiago campaign, rest them, recuperate them, and take them in the fall for the Havana campaign."

Provisional arrangements for the use of the land were made with the owners of the property through the president of the Long Island Railroad, Mr. Baldwin, he insisting upon one thing as a prerequisite to any contract, that at least two weeks' notice should be given before the ground was occupied by troops, so that the Montauk end of the railroad might be put in proper condition.

The surrender of the Spanish forces at Santiago and the subsequent rapid increase of sickness in the regiments of the Fifth Corps led the War Department to consider the advisability of withdrawal of the corps from Cuba, the absolute and immediate necessity for which was recognized on receipt (August 4) of a telegram from Major-General Shafter, transmitting the following letters of commanding officers and chief surgeons:

Maj. Gen. W. R. SHAFTER,

Commanding United States forces in Cuba:

We, the undersigned general officers commanding various brigades, divisions, etc., of the United States Army of occupation in Cuba, are of the unanimous opinion that this army must be at once taken out of the island of Cuba and sent to some point on the northern seacoast of the United States; that this can be done without danger to the people of the United States; that there is no epidemic of yellow fever in the army at present—only a few sporadic cases; that the army is disabled by malarial fever to such an extent that its efficiency is destroyed and it is in a condition to be practically entirely destroyed by the epidemic of yellow fever sure to come in the near future.

We know from reports from competent officers and from personal observations that the army is unable to move to the interior, and that there are no facilities for such move, if attempted, and will not be until too late. Moreover, the best medical authorities in the island say that with our present equipment we could not live in the interior during the rainy season without losses from malarial fever almost as bad as from yellow fever. This army must be moved at once or it will perish. As an army it can be safely moved now. Persons responsible for preventing such a move will be responsible for the unnecessary loss of many thousands of lives. Our opinions are the result of careful personal observations and are also based upon the unanimous opinion of our medical officers who are with the army and understand the situation absolutely.

(Signed) Jos. Wheeler, major-general volunteers; Samuel S. Sumner, commanding Cavalry Brigade; William Ludlow, brigadier-general United States Volunteers, commanding First Brigade, Second Division; Adelbert Ames, brigadier-general United States Volunteers, commanding Third Brigade, First Division; Leonard Wood, brigadier-general United States Volunteers, commanding city of Santiago; Theodore Roosevelt, colonel, commanding Second Cavalry Brigade; J. Ford Kent, major-general volunteers, commanding First Division, Fifth Corps; J. C. Bates, major-general volunteers, commanding Provisional Division, Fifth Corps; H. W. Lawton, major-general volunteers, commanding Second Division, Fifth Corps; C. McKibbin, brigadier-general United States Volunteers, commanding Second Brigade, Second Division.

The ADJUTANT-GENERAL FIFTH ARMY CORPS.

SIR: The chief surgeon of the Fifth Army Corps and the chief surgeons of divisions consider it to be their imperative duty, after mature deliberation, to express their unanimous opinion that this army is now in a very critical condition. They believe that the prevalent malarial fever will doubtless continue its ravages and that its mortality will soon increase; that there is imminent danger that the yellow fever, now sporadic and of a mild type, may any day assume a virulent type and become epidemic. They unanimously recommend that the only course to pursue to save the lives of thousands of our soldiers is to transport the whole army to the United States as quickly as possible. Such transport they consider practicable and reasonably free from danger. The proposed move to the plateau of San Luis they believe dangerous and impracticable.

Very respectfully,

V. HAVARD,

Major and Surgeon, U. S. Army, Chief Surgeon.

H. S. KILBOURNE,

Major and Surgeon, Chief Surgeon Second Division, Fifth Corps.

M. W. WOOD,

Major and Chief Surgeon First Division, Fifth Corps.

FRANK J. IVES,

Major and Surgeon, U. S. Volunteers, Chief Surgeon Provisional Division.

H. S. T. HARRIS,

Major and Surgeon, U. S. Volunteers, Chief Surgeon Cavalry Division.

Montauk Point had already been decided upon as the site for the proposed camp, it being accessible by water, thus obviating the necessity of transshipment from transports to cars, and so isolated as that the communication of yellow fever to places outside the camp could almost certainly be prevented.

On August 2 an agreement had been entered into by Colonel Gillis, U. S. A., representing the Government, and Mr. W. H. Baldwin, jr., representing the owners of the land, and on August 4 contracts were made by the Quartermaster's Department for lumber, pumps, piping, tanks, etc., which were at once shipped to Montauk. On the 6th the sinking of a well was started; lumber began to arrive the same day, and the building of commissary and quartermaster's storehouses was commenced.

Maj. Gen. S. B. M. Young having arrived August 5, with orders to establish the camp, great activity was shown in preparing for the troops expected from Santiago.

As rapidly as possible the railroad company put down about $4\frac{1}{2}$ miles of side tracks capable of holding 380 cars, but for a while there was difficulty in so getting at these tracks as to permit of quick unloading.

Work was pushed on the ordered five detention camps for 1,000 men each, with their hospital accommodations for 500, for through these camps had to pass all the men coming from Cuba. A general camp of new tents intended to shelter from 9,000 to 10,000 men was ready for occupancy before a transport came in. The general hospital was prepared for patients as fast as was permitted by the limited number of workmen and the delays in getting tents and lumber on the ground.

When the work of preparing the camp had hardly commenced, before a single tent was pitched on Montauk Point, on the 7th of August troops began to come in from Tampa and other places in the Southern States, and within forty-eight hours there were, of these recruits and men left behind when the Fifth Corps sailed for Cuba, a force numbering 4,293, and with it seven or eight thousand horses and mules. The first of these troops arrived without tents or equipment of any kind and with only travel rations, which General Young testified gave rise to "a great deal of scandal," though there was no occasion therefor, as the men did not suffer, and within twenty-four hours the baggage trains came in.

As Camp Wikoff was to be a place of rest and recuperation for the sick army expected from Cuba, and at the same time a quarantine station for the protection of the country, it would certainly, for every reason, have been better if these thousands of men and animals had not been ordered to Montauk. Their arrival and presence increased the confusion and added to the burdens of all officials, military and railroad.

It was about two weeks before the camp was in tolerable running order, and during this time troops kept coming in, all in a "pitiable condition."

Major-General Wheeler, who had arrived on August 15, was on the 18th placed in command, and remained so until the latter part of September.

Under orders from the President and the Secretary of War to have the men at Montauk cared for "without considering expense," General Wheeler, upon assuming command, ordered by telegraph a large quantity of supplies,* which were soon received and "given to the soldiers in addition to their regular rations."

In addition to the food stuffs furnished by the Government and those purchased under orders from the general in command of the camp, an immense quantity of necessaries and luxuries, of food and clothing, was distributed by representatives of various aid societies; and no small amounts were brought in by visitors, who in crowds daily came to the hospitals and regimental camps, doing much good, but adding largely to the prevailing confusion, and at times, by their indiscriminate generosity, increasing the ill health of many of those convalescing from fever, whose condition necessitated very careful attention to diet.

*Two thousand one hundred pounds of halibut, 47,900 (in round numbers 48,000) pounds of lima beans, about 400,000 pounds of ice, 21,000 pounds of evaporated apricots, 21,000 pounds of butter, 14,000 cans of green corn, 1,000 pounds of cocoa, 4,000 pounds of crackers, 21,000 pounds of sugar-cured hams, 29,000 cans of evaporated cream, 23,000 pounds of oatmeal, 15,000 pounds of peaches, 18,000 pounds of evaporated peaches, 12,000 pounds of canned pears, 14,000 pounds of canned pease, 10,000 pounds of prunes, 20,000 cans of soup, 5,000 cans of pickles, 300 boxes of oranges, 53,000 dozen eggs, 250 pounds of tea, 28,000 gallons of fresh milk.

Disinfection of men and clothing was duly effected at quarantine and in the detention camp.

The water supply seems to have been ample and of good quality, and there has not been presented any satisfactory evidence that the wells were polluted with surface drainage.

A large well 50 feet deep, with a capacity of 300,000 gallons per day, was early dug, and there were other wells from which perhaps 200,000 gallons more could be drawn. About 12 miles of pipe were laid from these wells, and the water carried to each regiment, where there was one faucet or more from which it could be drawn.

From one million and a half to two million feet of lumber were used in the camps for the construction of storehouses and other buildings, and for flooring the tents, which at the general hospital were all floored before being used, though those at the detention and general camps were not so for some time after the troops arrived.

Transportation at the camp was insufficient, and as a consequence supplies were not delivered as promptly as was desirable, and the transfer of sick and convalescents from the vessels to the detention camp was at times slower and more trying than it should have been. Much complaint was made, and justly so, of delays in getting furloughed men away, but the train service of the railway was enormously taxed. It was much to the credit of the Long Island Railroad Company, that, notwithstanding the great crowd of passengers carried to and from Montauk during the existence of Camp Wikoff, not a life was lost and not a person injured.

The sanitation of the camps and hospitals while far from perfect was perhaps as good as might reasonably have been expected. There should have been more general and free use of disinfectants in and about the sinks, the location and protection of which were according to rule. There was no epidemic of yellow or typhoid fever, though it was both feared and predicted that there would be.

A camp bakery was established August 27, of sufficient capacity to furnish all the troops with good wholesome bread, and a laundry was early contracted for, but it was not ready for use for a number of weeks. A morgue for the reception and preparation of the dead was constructed, but proper care of the bodies was not always taken. The Y. M. C. A. had large tents in the different camps, in which religious services were held, and conveniences for writing, etc., were furnished.

The total number of troops which arrived from Cuba was 17,577, with those from Tampa and other places, 21,870. The number in camp August 20 was 7,686; September 1, 14,863; September 10, 14,444; September 30, 3,187.

The number of deaths to September 30 was 257.

The camp was practically abandoned early in November and the general hospital closed November 16.

On the whole it may be said that Montauk Point was an ideal place

for the isolation of troops who had been exposed to or had yellow fever, and for the recuperation of those greatly debilitated by malarial attacks of marked severity. The time allotted for preparation was altogether too short, and as a consequence the camp was occupied long before it was ready. Because of this, and because of the great number of sick and convalescents and of those on the ground who were unconnected with the Army, there was much confusion, some lack of proper attention to matters of sanitation and to the sick, and without doubt cases of distress, it may be neglect. But after all there was much exaggeration in what was written and said about the conditions at Camp Wikoff, exaggeration at times intentional, generally the result of unfamiliarity with the life of the soldier and with the appearance of a large number of sick and broken-down men brought together in a limited space.

CAMP SHIPP, ANNISTON, ALA.

Camp Shipp was instituted September 3, and the remainder of the Third Corps was transferred from Camp Thomas to this place and placed under the command of Brig. Gen. Royal T. Frank. This camp was visited October 21-25, and the testimony of a large number of officers and men taken concerning their experience and observation during their term of service at the different camps where they had been stationed. An inspection was made of the camp and troops, and they were found in excellent condition and comfortably located upon spacious and suitable grounds. The sinks were of the regulation depth and at a proper distance from the quarters of the men, and were duly inclosed and disinfected.

The division and regimental hospitals were of sufficient capacity, and well equipped and conducted. Bathing houses for officers and men had been established and were in use. The command was supplied with pure and cool water from the city water system, which had been extended to every organization. This remnant of the Third Corps had been merged into the Second Division of the Fourth Corps, and was fully equipped and ready for service. The number of deaths to September 30 was 12.

CAMP WHEELER, HUNTSVILLE, ALA.

This camp was visited October 26 and 27 and much testimony taken. It was instituted August 23, and was under the command of Brig. Gen. L. H. Carpenter. The troops encamped were the First Division, Fourth Corps, and the First Cavalry Brigade and Light Artillery Battalion of the same corps. The headquarters of the corps were at this place. The same conditions as to water, hospitals, sanitation and equipment, camping space, etc., existed here as at Camp Shipp. These troops came largely from Camp Wikoff and from Tampa, Fla.

Number of deaths to September 30 was 35.

CAMP POLAND, KNOXVILLE, TENN.

This camp was visited October 30 and 31, and the troops and grounds inspected. The same conditions as to supply of water, space for troops, hospitals, sanitation, etc., existed here as in the last two camps. The testimony of a number of officers and men was taken. This camp was instituted August 21 and was the headquarters of the Second Division of the First Corps, and was commanded by Col. J. A. Keurt of the Second Ohio. Number of deaths to September 30 was 23.

These troops were transferred from Camp Thomas.

CAMP HAMILTON, LEXINGTON, KY.

This camp was instituted August 23, and was visited October 31 and November 1, and the camp and troops inspected and the testimony of many officers and men taken. It was the headquarters of the First Army Corps, Maj. Gen. J. H. Wilson commanding, the First Division of which was stationed there. As to situation, spaciousness, hospitals, water supply, sanitation, etc., it compared favorably with the other three camps heretofore described. The number of deaths to September 30 was 29.

These troops were transferred from Camp Thomas.

CAMP MEADE (NEAR MIDDLETOWN), PA.

This camp was instituted August 24, and soon thereafter was occupied by the Second Army Corps of about 22,000 men, under command of Maj. Gen. William M. Graham, which had been moved from Camp Alger. It was visited November 3 and 4, and found to be spacious and well laid out. The water supply was obtained from artesian wells, and was piped to every organization. It was both good and abundant. The hospitals were commodious, and well equipped and conducted. The bathing facilities for the men were ample. The sanitary and other conditions were of high order, and the camp as a whole was open to but little criticism. The testimony of a number of officers and men was taken, and the troops and camp inspected. In November this camp was discontinued and the troops—not mustered out—distributed to the various camps in the South. The number of deaths to October 11 was 64.

The condition of these five camps illustrates the value of the experience obtained in those in which the troops had formerly been. It shows conclusively that only time and experience, and both are essential, are needed to teach officers and men the best methods for caring for themselves.

In conclusion it may be said that it is impossible to bring together a regiment of 1,300 men whose lives and habits have all been different and place them in camp, subject them to its discipline, diet, and duties,

without much complaint. They must become acclimated and accustomed to camp life before sickness can be prevented; and until the individual soldier appreciates the necessity of complying fully with the regulations and confines himself to the regular food—and this the soldier never does until experience teaches him the necessity—he will drink polluted water, eat noxious food that disturbs his digestive organs, and will not take care of himself, and no discipline or watching will prevent it. The imprudent acts of the soldiers are the first and greatest cause of sickness in camps.

Another great cause of complaint was the inexperience of officers and surgeons as to proper sanitation, necessity of daily exercise, the camping too long in one place, lack of exercise by marches and other methods to take up the soldier's thoughts. This occurs to all volunteers. It has been much less so in this war than in others, and there has been far less sickness and fewer deaths. The troops are now acclimated, their health is excellent, their discipline and camp sanitation showing that officers and men have all made wonderful progress because of experience. It would seem that little can be added to the camps as now organized to make them healthier. They are models of arrangement and cleanliness, and it is greatly to the credit of officers and men that they have made such progress in so short a time. No complaints come from them, and the Army as now constituted, except as to marksmanship, is almost as well prepared to enter campaigns as the Regular Army was at the beginning of the war.

INDIVIDUAL CASES.

A large number of complaints of neglect affecting individuals have been brought to the attention of the commission, respecting which evidence has been taken either by affidavit or personal examination. These cases are submitted in abstract (appended), together with the facts and conclusions arrived at by the commission.

SANTIAGO CAMPAIGN.

In accordance with the written request of the Major-General Commanding the Army, Brig. Gen. (now Maj. Gen.) William R. Shafter was, on the 29th day of April, 1898, directed, upon his arrival at Tampa, Fla., to assume command of all troops there assembled. This assignment practically determined the command of the Fifth Corps and of the expedition to the southern part of Cuba, which resulted in driving Cervera's fleet to its destruction by the navy and the final capture of the city of Santiago, with all of the Spanish forces in the province of Santiago de Cuba.

The circumstance which determined the campaign was the reported presence of Cervera's fleet in the harbor of Santiago. At 2.30 a. m.

May 31, 1898, instructions were sent to General Shafter, by telegraph, as follows:

With the approval of the Secretary of War, you are directed to take your command on transports, proceed under convoy of the Navy to the vicinity of Santiago de Cuba, land your force at such place east or west of that point as your judgment may dictate, under the protection of the Navy, and move it onto the high grounds and bluffs overlooking the harbor or into the interior, as shall best enable you to capture or destroy the garrison there, and cover the Navy as it sends its men in small boats to remove torpedoes; or, with the aid of the Navy, capture or destroy the Spanish fleet now reported to be in Santiago harbor.

The Major-General Commanding the Army immediately repaired to Tampa, and telegraphed the Secretary of War June 1, 2.35 p. m.:

Everything is being pushed as rapidly as possible to embark troops at Tampa and Mobile, and a small number will be embarked at New Orleans on the *Orizabo*. Men are working day and night.

On the 7th of June, at 7.30 p. m., by direction of the President, information received from Admiral Sampson was telegraphed General Shafter as follows:

If 10,000 men were here the city and fleet would be ours within forty-eight hours. Every consideration demands immediate army movement. If delayed, city will be defended more strongly by guns taken from fleet.

On the same day, in a telegram received at the Executive Mansion at 10.15 p. m., General Shafter wired:

I expect to have 834 officers, 16,154 men, on transports by daylight, and will sail at that hour.

Before sailing, however, he was directed to wait for further orders, which were subsequently communicated, based upon the reported presence of a Spanish armed cruiser and torpedo-boat destroyer in St. Nicholas Channel. The alleged presence of these vessels delayed the departure of the expedition nearly a week, and it did not sail until June 13 and 14.

The transports furnished General Shafter for his expedition were supposed to have a capacity sufficient for 25,000 men, with quartermaster, subsistence, ordnance, and medical stores and supplies for several months. It was found on a careful inspection of the transports, however, that their capacity had been greatly overrated, and that General Shafter would be unable to embark the force at his command without uncomfortably crowding. He realized the necessity for sailing with all the troops available, and assumed the risk of the elements rather than land upon a hostile foreign shore with insufficient force. The dilemma which presented itself was clearly defined, and he deliberately assumed the risk and at the same time the responsibility therefor. The risk was undoubtedly well taken. The crowding of the transports could in any event result only in discomfort to the men and animals on board, or, at the worst, in the loss of a comparatively few by close confinement on crowded vessels. The effects of a failure of the campaign

by reason of an insufficient force would have been disastrous, if not fatal.

The Navy Department, on the 31st of May, 1898, sent the following communication to the honorable the Secretary of War:

This Department begs leave to inquire what means are to be employed by the War Department for landing the troops, artillery, horses, siege guns, mortars, and other heavy objects when the pending military expedition arrives on the Cuban coast near Santiago.

While the Navy will be prepared to furnish all the assistance that may be in its power, it is obvious that the crews of the armored ships and of such others as will be called upon to remove the Spanish mines and to meet the Spanish fleet in action can not be spared for other purposes, and ought not to be fatigued by the work incident to landing of the troops and stores, etc.

This information, so far as can be ascertained, was never communicated to either General Miles or General Shafter; the expedition therefore left Tampa with no facilities for landing other than were afforded by the boats of the several transports conveying the expedition, with the exception of several lighters and steam tugs of light draft, such as could be hastily secured. The Major-General Commanding the Army, who was present during the entire time in which the expedition was being loaded, and the commander of the expedition, both relied upon the hearty cooperation of the Navy, which had been promised them by its representative on the ground, with whom they were in communication.

The means for landing an expedition of 17,000 men on a foreign and hostile shore in the face of an enemy whose presence was to be expected were undoubtedly insufficient. Here, again, the commander of the expedition assumed the risks. His orders were peremptory. The exigency of the movement admitted of no delay. He would not have been justified in postponing the departure of the expedition even if no means of disembarkation had been available except the boats of the transports themselves. He assumed the risk of their sufficiency, and, as in the case of the crowding of the vessels, he was justified in assuming these risks, as the results show. War in the main is based upon risks assumed. If no army moved until everything was in perfect readiness for the movement and success was certain, few battles would be fought and fewer victories won. A commander who assumes risks not altogether unreasonable in themselves and succeeds is justified by his success, and is not to be held accountable for what might have been.

The expedition reached a point off Santiago about noon of the 20th of June. A conference between General Shafter, Admiral Sampson, and General Garcia was held at "General Rabi's place," at which the plan of campaign was outlined by General Shafter and approved by Admiral Sampson and General Garcia. A feint was to be made by 3,000 or 4,000 men at some point west of Santiago, and the expedition to be landed at Daiquiri to march on Santiago; General Castillo was to have 1,000 men at Daiquiri to capture the escaping Spaniards while the

Navy bombarded; the Navy to bombard on the morning of the 22d Daiquiri, Aguadores, Siboney, and Cabanas as a feint, and the whole expedition to land at the place first named. In accordance with this plan the Navy bombarded the places mentioned on the morning of the 22d, and the landing was made at Daiquiri.

The expedition as it arrived off the southern coast of Cuba consisted of the Fifth Army Corps, composed of two divisions of infantry, commanded by General Kent and General Lawton, respectively; a division of dismounted cavalry, commanded by General Wheeler; a battalion of light artillery, consisting of batteries E and K of the First and A and F of the Second United States Artillery, and a siege artillery train, consisting of batteries G and H of the Fourth United States Artillery. The entire corps disembarked on the 22d and 23d of June, practically unopposed by the enemy and in the same condition as to numbers as it had embarked at Tampa, less two men drowned during the landing. Later, about the 27th of June, a brigade of volunteer infantry, commanded by General Duffield, consisting of the Thirty-third and Thirty-fourth Michigan and Ninth Massachusetts regiments, about 2,500 strong, joined General Shafter's command.

The infantry division of General Lawton was first disembarked, followed by the cavalry division of General Wheeler. The Second Brigade of General Wheeler's division, commanded by General Young, disembarked on the evening of the 22d and on the morning of the 23d. During the afternoon of the 23d, in order to find good camping ground and water, a march of several miles was made, and finally Siboney, where General Wheeler had his headquarters, was reached. A slight skirmish had taken place on the evening of the 23d. The desirable camping ground in the neighborhood of Siboney was all occupied by other troops, and General Young requested permission of General Wheeler to move out in the morning and drive a force of Spaniards said to be in the neighborhood from elevated ground, which he regarded as desirable for camping purposes. Permission was given, and in this way the affair of Las Guasimas was brought on. It was widely heralded at the time as an ambushade, and has been later characterized as a disobedience of orders. It was neither. As to the former charge, it was absolutely foundationless, and the latter rests upon no sufficient evidence.

Although not part of the plan of campaign, and a mere incident in it, it was deliberately planned and authorized by General Wheeler, who undoubtedly had authority to do so. Notwithstanding the fact, as stated by himself, "I was especially and repeatedly enjoined not to make any forward movement which would bring on an engagement until the entire command reached the front," he was undoubtedly satisfied, as the result showed that this was a detached outpost, and that no general engagement would be brought on by attacking it.

A careful reconnoissance revealed the enemy in an entrenched position in line of battle on elevated ground. General Young's brigade

consisted of nine troops of the First United States Cavalry, eight troops of the Tenth United States Cavalry, and the First United States Volunteer Cavalry. The latter, under command of Colonel (now Major-General) Wood, advanced by one road, accompanied by two staff officers of General Young; the latter accompanied the other wing, composed of the First and Tenth United States Cavalry and three Hotchkiss guns by another road, the two wings being about equal in number. The plan of attack was discussed in advance and fully understood by Colonel Wood. A regular deployment was made of both wings, and the interval between the two was carefully guarded. The attack was opened by our own forces; there was no surprise, no ambuscade, no lack of definiteness as to plan, and no uncertainty as to purpose.

The Spaniards, as already remarked, were on elevated ground, in an intrenched position in line of battle. General Young's brigade had been carefully deployed, the position of the enemy was thoroughly understood, and the only uncertainty existing in the minds of the officers in command of the troops was as to whether or not the troops occupying the intrenched position were Spaniards or Cubans. General Wheeler says:

We did not attack immediately. I was afraid. There was some doubt about their being Spaniards, and I examined their line with my glasses for about twenty-five minutes before giving orders to fire. I realized it would have been a terrible thing to fire into our own Cuban friends; but after half an hour I became satisfied they were Spaniards, and I directed a shot from a Hotchkiss gun, and the Spaniards replied, opening fire from a line nearly a mile long. I ordered the line to advance, and no soldiers could have gone forward more handsomely than our regulars did. They advanced and fired with wonderful accuracy. The firing was very different from what I had seen years before. Thirty-three years ago we fought at short range; but here we commenced at seven or eight hundred yards. We could see no smoke of the enemy, and we could see the fire of our men was having its effect upon the enemy. The Spaniards fired in volley; but when our men reached the foot of the hill upon which the Spaniards were stationed, they retreated toward Santiago.

The result of this affair was a loss of 16 killed—8 in the volunteer regiment and an equal number among the regular troops—and 52 wounded. As a part of the campaign for the reduction of Santiago this skirmish was unimportant, but its incidental results were both important and, on the whole, beneficial. The volunteers were tried and were not found wanting; the enemy had been driven from an intrenched position with comparatively little loss; our own soldiers were elated and those of the enemy correspondingly depressed; and the moral effect was good. General Young secured the camping ground which he desired for his troops, who encamped at the point reached by them after an exciting chase of the Spaniards for several miles.

The objective points of the campaign were the city of Santiago, the troops garrisoning the same, and Cervera's fleet assembled in its harbor. In order to gain the desired results the complete investment of the city was necessary, and was the prime object to be attained. In order to

accomplish this it was considered necessary to reduce a small outlying fortified post at El Caney, 5 miles to the northeast of the city, which might have been flanked, but was an element of danger in the rear of the army.

The time intervening between the 24th and the 30th of June was occupied in landing supplies and in ascertaining the position of the enemy. On the 30th of June, General Shafter testifies, "we were against their pickets in front of Santiago." In the absence of topographical maps, careful observations as to roads and practicable trails and routes of march were made by engineers and other young intelligent officers, and reconnoissances made to ascertain the position and strength of the enemy and the practicability of the reduction of El Caney. As a result of the examination of the latter, General Lawton and General Chaffee reported that they could capture it before 9 o'clock in the morning. General Shafter, therefore, wisely planned a movement which, while if carried out, would place his troops in a favorable position around the city of Santiago, would at the same time reduce El Caney and eliminate that as a factor in the problem to be solved. The plan involved the division of the army into two distinct wings. To General Lawton was assigned the duty of reducing El Caney, and after its reduction joining the other two divisions of the corps to which had been assigned the duty of securing a position which would command the fortified lines of the enemy surrounding the city.

General Shafter had his headquarters at a point from which he could conveniently communicate with both wings of his army. He was in close touch with them by telegraphic and telephonic communication. During the battle which followed he was able to witness the movements of both wings from an elevated position which commanded the entire field of operations. To guard against any possible interruption of electrical communication, Colonel Miley, as chief of staff, who was thoroughly conversant with his plans, was sent to the left wing of the army, operating under Generals Wheeler and Kent, with a number of orderlies to be used in case of an emergency for carrying dispatches. Relying upon the ability of Lawton to reduce El Caney by 9 o'clock in the morning as he expected, Wheeler's and Kent's divisions were directed to advance across the San Juan River and capture the San Juan hill at 10 o'clock, the presumption being that Lawton by that time would join the right of Wheeler's division and would be able to move with the balance of the corps in its advance upon the enemy.

The plan of battle was followed by both wings of the army. General Lawton was occupied, however, until after 3 o'clock in capturing El Caney, and in moving to his assigned position in the line in front of Santiago encountered a force the strength of which he was unable to ascertain. In the meantime Generals Kent and Wheeler had advanced their positions, had carried the intrenchments occupied by the enemy upon San Juan hill, and were in plain sight of the city. Lawton was

directed by General Shafter, instead of moving directly forward, to return during the night by the road upon which he had advanced the day previous, and by moving in the rear of the divisions already in position to take his assigned place on the right of General Wheeler's division the next morning. This was successfully accomplished by the morning of the 2d of July, and by noon of that day "the last musketry firing was over." The plan of campaign had been successfully carried out, and the city of Santiago was practically invested.

While these movements were taking place on the east and northeast of Santiago General Garcia with a force of about 5,000 men was operating on the northwest of the city with a view of intercepting any reinforcements which might attempt to find their way into the city from the north, considerable bodies of Spanish troops being known to be at Holguin, Guantanamo, and other points. Although not entirely successful in his efforts to prevent the arrival of reinforcements, his force served to distract the enemy and aid in the complete investment of the city.

Following the movements of the army on the 1st and 2d of July, which resulted in the establishment of a continuous fortified line around the city, Admiral Cervera on the morning of the 3d of July, and as a result of the operations of the army, withdrew his entire fleet from the harbor of Santiago and met the crushing blow at the hands of our Navy which sealed the fate of every vessel composing his fleet.

By the 4th or 5th of July the city of Santiago was well surrounded and the avenues of escape by the Spanish army practically closed. From this time forward until the day of final surrender, on the 17th of July, the contest was one rather of diplomacy than of arms. On the 3d of July a demand for the surrender of the city was made and refused, and on the same day, at the request of the consular officers of foreign governments in the city, information was given to the Spanish commander that the bombardment of the city would be suspended until the 5th. The truce thus established was continued from time to time until the negotiations for surrender had resulted in the complete capitulation of the city and of all the Spanish forces within the province of Santiago de Cuba, numbering between 23,000 and 24,000.

The result of the campaign was the complete realization of the several objects contemplated: The capture of the city with its fortifications and munitions of war, together with immense supplies of food stuffs and ammunition (the former estimated by General Wood at 1,200,000 rations); the surrender of the entire province of Santiago de Cuba, with all the troops garrisoning the same (amounting, as already stated, to between 23,000 and 24,000); the destruction by the Navy of Admiral Cervera's fleet after its departure from the harbor, and the general demoralization of the Spanish forces and the discomfiture of the Spanish Government and people, leading almost immediately to overtures for peace by Spain. All this was accomplished without the

loss of a prisoner, a gun, or a color, and with a list of casualties aggregating in killed less than 250 and in wounded less than 1,400—losses which, in comparison with results, are less than have ever heretofore occurred in modern warfare.

The cooperation of officers and men in this campaign is to be noted. The commander of the expedition was as hearty and cordial in his commendation of all who were under his command as they were in their devotion to the service which was demanded of them; and, as was said by him in his testimony—

From the day that the Fifth Army Corps was organized until its disbandment there was never an unkind word between the general officers, not an officer was brought to trial, and, so far as I know, not a soldier was tried.

THE CAMPAIGN IN PORTO RICO.

During the time when the expedition intended for operations in Cuba was being fitted out at Tampa a second expedition was in contemplation, and, in a preliminary way, in preparation. It was intended for the assistance of the forces operating against Santiago in case reinforcement was needed, and for the capture of the island of Porto Rico in case such help was unnecessary or after the help was rendered. It was part of the plan also that the force under General Shafter should, after the accomplishment of its work at Santiago, reinforce or supplement this expedition. It was under the immediate command of the Major-General Commanding the Army, Gen. Nelson A. Miles, and consisted for the most part of volunteer troops, with artillery and cavalry from the Regular Army, drawn from the camp at Chickamauga and other points. Some of the troops composing the expedition were landed at Santiago before its surrender, and assisted in maintaining the lines around the city. Although subjected to very little fighting, the moral effect of their presence was wholesome and stimulating.

After the fall of Santiago yellow fever became epidemic among the troops operating there, and it was therefore considered undesirable to use any of the forces which originally composed the expedition commanded by General Shafter or those which had landed at Santiago to assist in its reduction. In consequence of this determination, wisely reached, General Miles left Santiago on the 21st of July with about 3,400 men who had not disembarked.

The original plan of campaign involved a landing at the northeast corner of the island, near a place called Point Fajardo, and a movement thence toward San Juan. Two considerations induced General Miles to abandon the intention of landing at Point Fajardo, and to land instead at the harbor of Guanica, on the southern coast of the island. The first consideration was the fact that the intention to land at Point Fajardo had in some way been made public, and was anticipated by the Spaniards; and the second, that the intended point of disembarkation was an open roadstead, and that he had inadequate

facilities for the purpose of landing there. The harbor of Guanica was protected, and had deep water so near the shore that by the construction of a pontoon bridge from one of the transports men and animals were easily and quickly disembarked.

From that point, after the disembarkation, the troops commenced a movement east and north, although the expeditionary force at that time numbered less than 3,300 officers and men fit for duty, and the island was supposed to contain in all about 17,000 Spanish troops.

Within three days after the first landing, Major-General Wilson, commanding a portion of the First Corps, arrived and disembarked at Ponce, to the east of Guanica. Major-General Brooke arrived later with other troops of the First Corps and disembarked farther east, at Arroyo, and thence moved to Guayama. The arrival of these reinforcements made the aggregate of the forces available for the expedition approximately 10,000 men, which were later further reinforced by additions making the entire force, officers and men, on the date of the cessation of hostilities, 14,365.

In moving from Guanica toward Ponce General Garrettson had a skirmish with the Spanish troops near that place and an engagement near Yauco, moving thence with General Henry's command to Ponce. General Wilson having in the meantime disembarked at the latter place, the force was regarded as sufficient for active operations.

Ponce is the principal city on the southern side of the island, and is connected by a good military road with San Juan, the island's capital, on the northern side. The Spaniards, supposing that General Miles would move his forces by this road, intrenched themselves at Coama and Aibonito. General Wilson, instead of moving directly upon Coama, flanked the position and coming in upon its rear captured the garrison. In the meantime, General Brooke moved to the east and north by a circuitous route, in order to turn the position of the Spaniards at Aibonito and reach their rear. General Schwan was sent to clear the western portion of the island of Spanish troops. He had a sharp engagement at Hormigueros and captured the town of Mayaguez, which contained a population of about 20,000. He then moved with his command north and east and had another engagement at Las Marias, and was in pursuit of the Spaniards, who were in retreat, when stopped by orders suspending hostilities.

The general plan of campaign was to avoid a direct attack upon Aibonito, which was a supposedly strong position in the mountains; and to move General Schwan around the mountains westward to the north of the island. While he was making this movement, a trail over the mountains between Ajuntas and Uchuado was discovered by Gen. Roy Stone, who repaired the road and made it available for the march of troops. Garrettson's brigade was moved over this trail, reaching the

northern side of the mountain before the Spaniards were aware of it, they having neglected to either fortify or guard the pass.

It was intended that this force should form a junction at Arecibo with General Schwan's brigade, forming a division which, under General Henry, was expected to move from Arecibo, which was to serve as a base, using the line of railroad running thence to San Juan for the transportation of stores. General Wilson threatening the Spanish troops in their front at Aibonito, arranged to move a brigade through the mountains so as to attack them in the rear. General Brooke also was expected to move to Cayey, which would block the line of retreat from Aibonito to San Juan. These dispositions, successfully made, completely flanked the position of the Spaniards at Aibonito, and must necessarily have resulted in its evacuation as soon as the movements of the forces under General Miles were discovered. Completely outmaneuvered, the Spaniards would have been compelled to abandon Aibonito. If the contemplated movements of our troops had been carried out their retreat to San Juan would have been cut off. At this juncture of affairs, however, notice of the signing of the protocol, and the consequent cessation of hostilities, was received, and hostile operations were suspended. Four days more would have concentrated General Miles's forces at or near San Juan, prepared for the investment of that place.

The suspension of hostilities occurred on the 13th of August, about twenty days after the advance guard of General Miles's expedition landed upon the island. In the different movements in this campaign about 6,000 of our troops were under fire. There were six different actions of greater or less severity, in all of which our forces were successful.

The total casualties of the campaign were 3 enlisted men killed and 4 officers and 36 enlisted men wounded.

THE EXPEDITION TO MANILA.

The forces intended for operations in the Philippine Islands left San Francisco, at various times during the months of May, June, and July, and when assembled around the city of Manila aggregated about 15,000, 13,000 of whom were volunteers and the remainder troops from the Regular Army. Maj. Gen. Wesley Merritt was in command of these troops. Having landed at Cavite, on the island of Luzon, July 25, 1898, he found the city already invested by the troops of the United States and the insurgent forces under General Aguinaldo. The insurgents occupied a line of intrenchments on the land side of the city, our troops, under General Greene, occupying another line in their rear.

After carefully reconnoitering the position General Merritt concluded that the attack must necessarily be made from the water side of the city. Preparations were made for this attack about the first week in August. The Spanish forces consisted of from 10,000 to 15,000 troops.

Negotiations for a surrender proved fruitless, and on the 13th of August an attack in force was made.

Waiting for low tide, the troops were deployed along the beach, and after a spirited engagement lasting for about two hours charged and captured the enemy's intrenchments and speedily reduced the city. The troops behaved with great gallantry and accomplished the result aimed at with comparatively little loss, the casualties aggregating 17 killed and 9 officers and 96 enlisted men wounded.

In this as in all the other campaigns of the war with Spain the Army had the active and efficient cooperation of the Navy.

The military expedition to Manila was made necessary by the destruction of the Spanish fleet and the capture of the harbor of Manila by Admiral Dewey in the early part of the war; and in all military operations around the city General Merritt and Admiral Dewey cooperated in the most hearty and cordial manner. In the engagement which resulted in the capture of Manila, the navy bombarded the city, some of its light-draft vessels going close to shore and shelling the intrenchments, preparatory to the charge made by the troops. The cordial relations which existed between the Army and the Navy in their joint operations against Manila are specially to be commended. Not only during active hostilities, but in the furnishing of supplies and in other ways, these arms of the service, owing allegiance to the same flag, cooperated in a way which is most gratifying to record.

The several campaigns herein very briefly and imperfectly sketched reflect great credit upon the soldierly qualities of the officers and men of the several commands engaged in them. They were conducted under new and trying conditions; they were carried on for the welfare and uplifting of peoples foreign to our blood, but bound to us by the ties of a common humanity; they brought honor to our flag, and in their remarkable results are the wonder of the world.

It is with profound regret that the commission reports that during its later sessions Col. James A. Sexton was prevented by sickness from being present, and on the 4th day of February our loved colleague closed an honored and active life.

In concluding its labors it is with much pleasure that the commission reports that notwithstanding the haste with which the nation entered upon the war with Spain, the resulting and almost inevitable confusion in bureau and camp, the many difficulties of arming, assembling, and transporting large bodies of hitherto untrained men, the carrying on of active operations in two hemispheres, the people of the United States should ever be proud of its soldiers, who, cooperating with its sailors, in less than three months put an end to Spanish colonial power, enfranchised oppressed people, and taught the world at large the strength and the nobility of a great Republic.

Respectfully submitted.

GRENVILLE M. DODGE.

CHARLES DENBY.

A. McD. McCook.

JOHN M. WILSON.

JAMES A. BEAVER.

URBAN A. WOODBURY.

PHINEAS S. CONNER.

EVAN P. HOWELL.

In conducting its labors it is with much pleasure that the commission reports that notwithstanding the haste with which the names entered upon the roll were written, the results of the investigation are of a character and value which justify the commission in recommending that the names of the persons mentioned in the report be placed on the list of persons entitled to the benefits of the United States land laws. It is also with much pleasure that the commission reports that the names of the persons mentioned in the report be placed on the list of persons entitled to the benefits of the United States land laws. It is also with much pleasure that the commission reports that the names of the persons mentioned in the report be placed on the list of persons entitled to the benefits of the United States land laws.

RESPECTFULLY SUBMITTED,
 SECRETARY OF THE COMMISSION,
 GEORGE W. BROWN,
 JOHN M. WATSON,
 JAMES M. HAYES,
 THOMAS A. HENRY,
 PHILIP W. HARRIS,
 EYAN T. HERRICK.



