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An Analysis of the U.S. Army Medical Standard Supply Tables used During the Civil War Period

Jack D. Key

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TABLES USED
DURING THE
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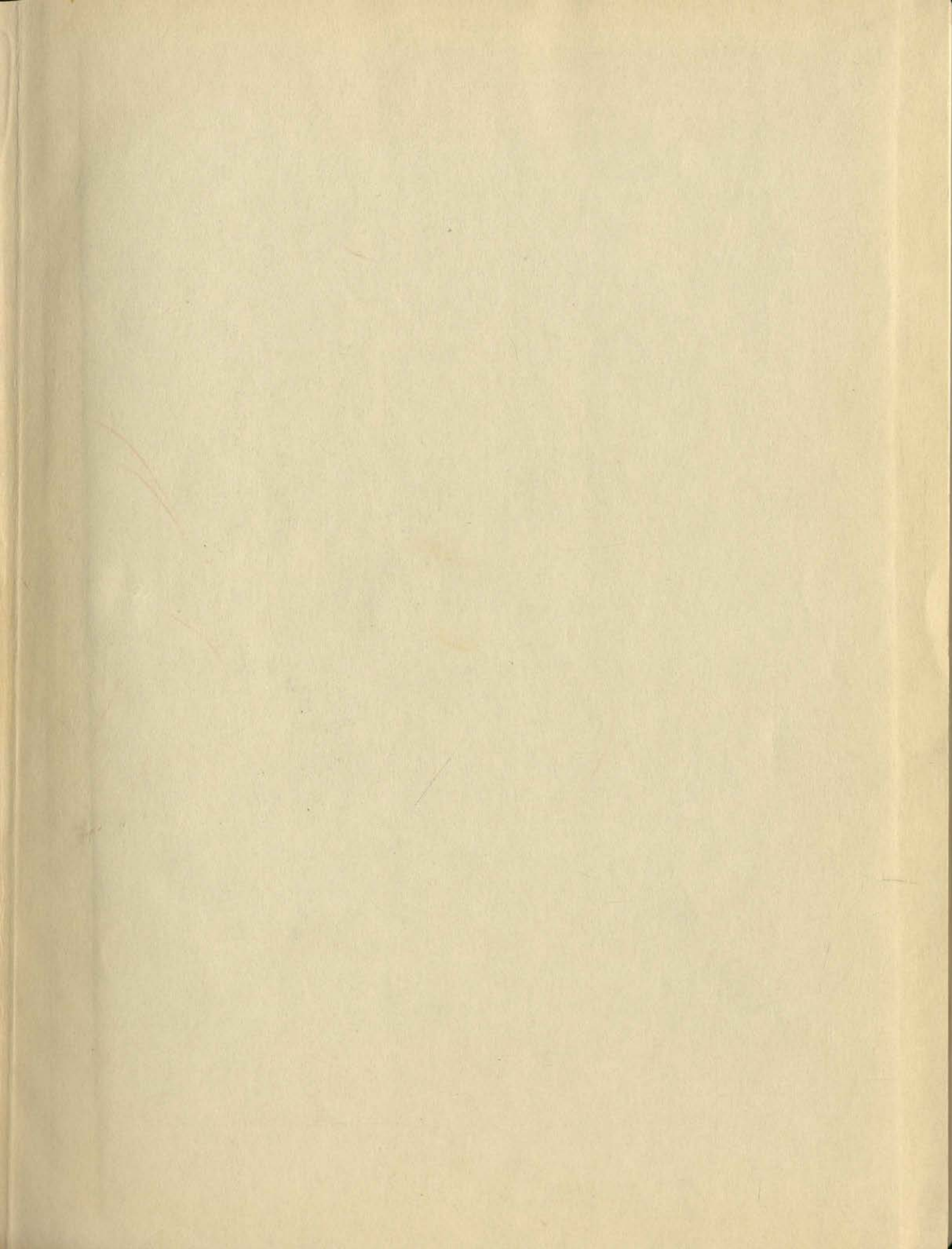
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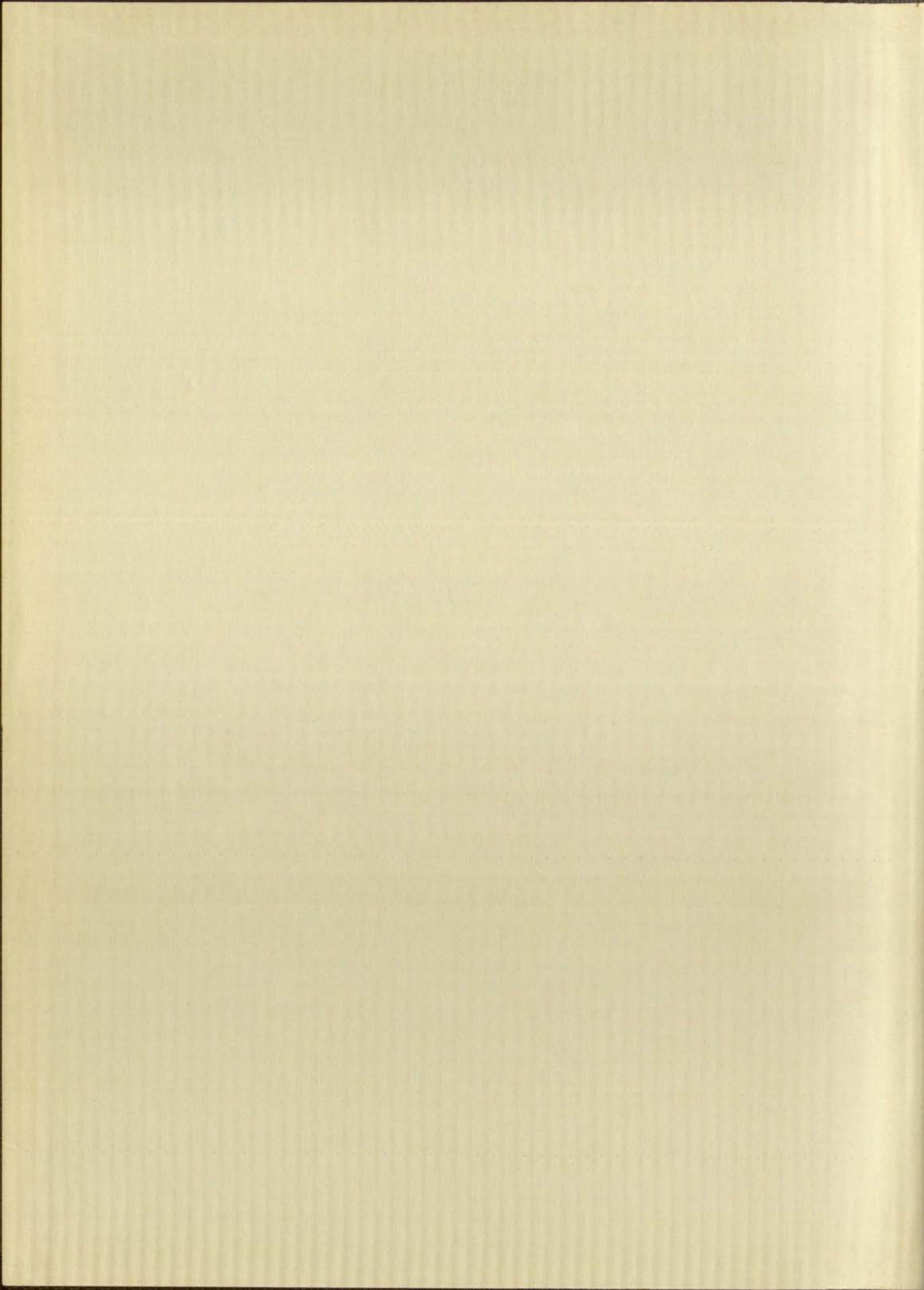
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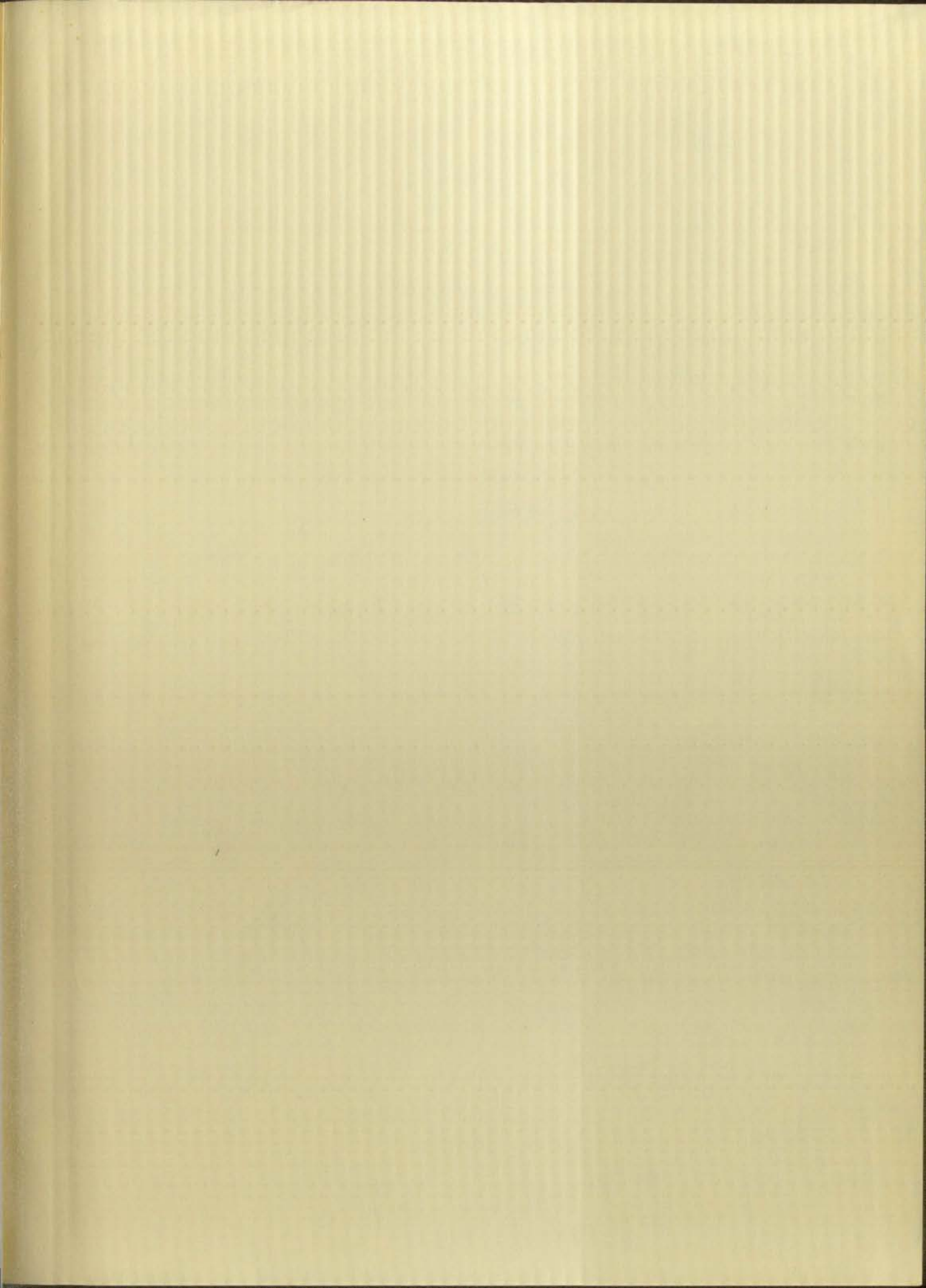


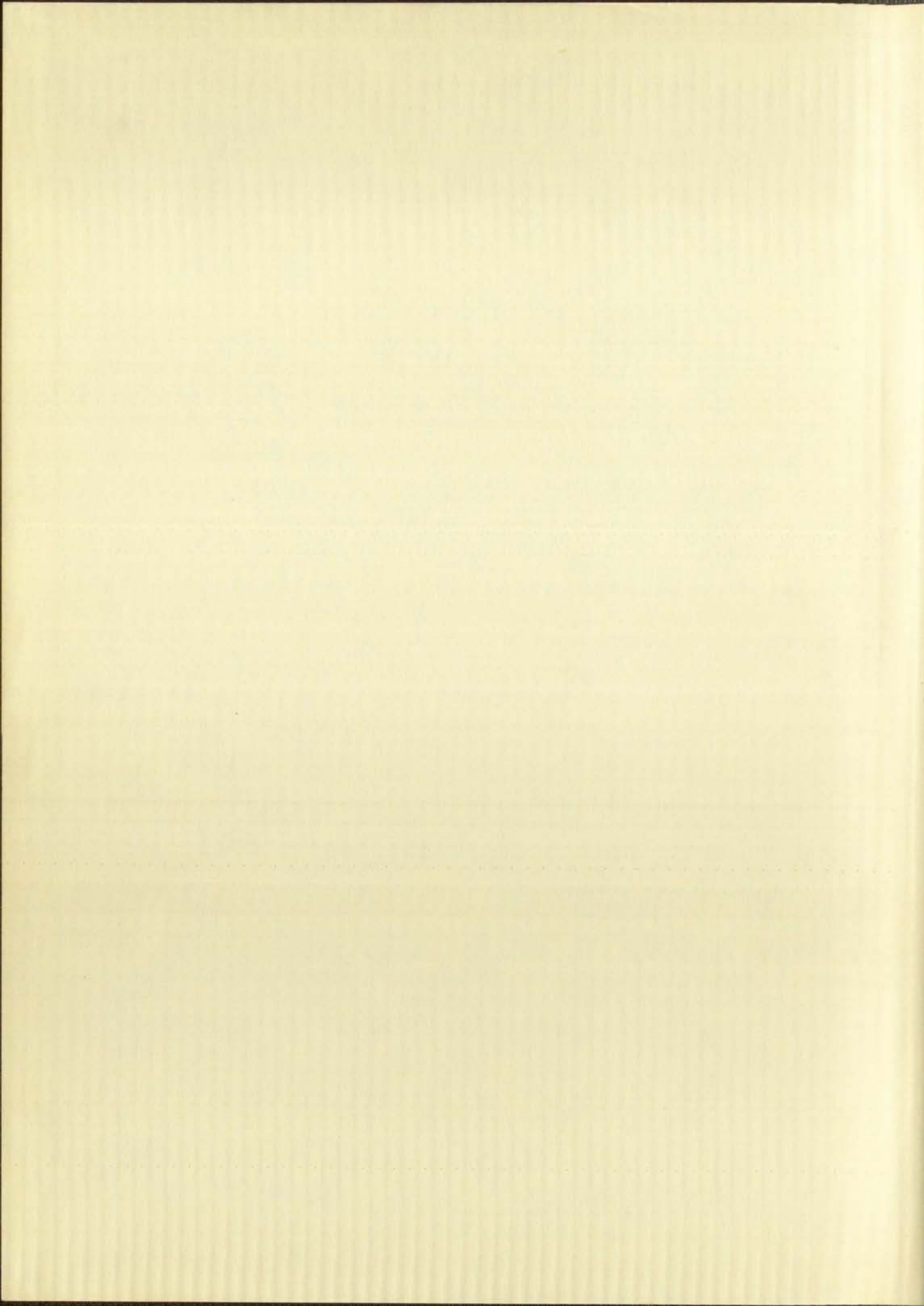
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AN ANALYSIS OF THE U. S. ARMY MEDICAL STANDARD
SUPPLY TABLES USED DURING THE CIVIL WAR PERIOD

By
Jack D. Key

A Thesis
Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Arts in History

The University of New Mexico

1960



UNIVERSITY OF TORONTO

This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Committee of the University of New Mexico in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

Ed Casteller
DEAN

DATE

May 23, 1960

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MASTER OF ARTS

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Thesis

Thesis committee

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PREFACE

One purpose of this thesis, in some small way, is to reverse present-day, commonly-held misconceptions of Civil War Medicine and bring into clear focus or erase altogether the exaggerated generalizations of Union Army casualties subjected to mediievally administered or inexpedient therapeutics. Another purpose is to contribute a quantitative analysis of materia medica used by the U. S. Army during the Civil War with special reference to the Standard Supply Tables. Surgery will not be discussed, nor does the discussion cover importation or original procurement of drugs and only treats the commercial aspects in a very cursory manner.

Chapter I develops the necessary institutional background of the Standard Supply Tables used during the Civil War by giving an over-all picture of the U. S. Medical Department and its facilities along with other formative influences such as the Civilian Commissions. This chapter, because it discusses the composite features of U. S. Civil War medicine, places the subsequent chapters, with their respective portions of the over-all subject, in proper perspectives.

Historical nomenclature is being used insofar as it is practical. I realize that modern usage would be advisable but for clarity it is better in many instances to use the historical word, for there are no direct parallels in modern terms,

i.e., disease classifications and various drug preparations. Latin terminology of the various medicines throughout this thesis is sometimes in the genitive case and sometimes in the nominative case. There was no consistency in the original documents so I followed whatever case was used from one document to the next.

The most important of the acknowledgments to be made are to: Mr. Charles Roos, Head, Document Section, National Library of Medicine, for his aid in acquiring invaluable documents necessary to this study; Miss Mildred E. Blake, Head Librarian, Lovelace Foundation Library, for the encouragement she has given me and inestimable aid in bibliography; all members of the University of New Mexico Library Staff but especially Miss Helen MacIntyre, Acquisitions Librarian, Miss Helen Hefling, Associate Librarian, and Mr. Charles W. Warren, Circulation Librarian; and Mrs. Roberta Voelker for her excellent proof-reading and suggestions in structure.

JACK D. KEY

CHAPTER I

THE INSTITUTIONAL SETTING OF THE MEDICAL SUPPLY TABLES

1.

The Office of Surgeon General and the Medical Department

By 1861 and the approach of the Civil War, the Medical Department of the United States Army was still geared to the peacetime needs of 15,000 men. Many of the medical men on active duty were unfit for service either from age or incompetence, although Congress in 1834 had created the position of assistant surgeon to induce young doctors into the service. On January 1, 1861, there were only 115 doctors in the U. S. Medical Department (one surgeon general, thirty surgeons and eighty-four assistant surgeons). Of these, the surgeon general retired, three surgeons and twenty-one assistant surgeons resigned to join the Confederacy, and three assistant surgeons were dismissed for disloyalty.¹

¹ Adams, George W., Doctors in Blue (New York: Henry Schuman, c1952), p. 4; Maxwell, William Quentin, Lincoln's Fifth Wheel. . . (New York and London: Longmans, Green & Co., 1956), p. 12; Julia C. Stimson and Ethel C. S. Thompson, "Women Nurses with the Union Forces During the Civil War," The Military Surgeon, LXII (January, 1928), 2; Isobel Stevenson, "American Medicine During the Sixties," Ciba Symposia, III, Number 4 (July, 1941), 894; and Surgeon General, U. S. Army, The Medical and Surgical History of the War of the Rebellion (1861-65), II, Part 3 (Washington: Government Printing Office, 1883), p. 899 (hereafter referred to as M&SH). Edward L. Munson, "The Army Surgeon and His Work," Prisons and Hospitals, VII, The Photographic History of the Civil War in Ten Volumes, edited by Holland Thompson (New York: The Review of Reviews Co., 1911),

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The man in the Surgeon General's office was Colonel Clement A. Finley who had succeeded Colonel Thomas Lawson after the latter's death May 15, 1861. The tone of the Medical Department had already been set by precedent, and Finley made few changes while he was in charge with the exceptions of his approval, for the introduction of medical cadets, and the enlistment of civilians as nurses for general hospitals. He also proposed strengthening the Medical Department numerically as well as its efficiency.² Finley, sixty-four years of age, was a product of the old army's conservative regime whose main qualification interest for position was seniority. Because of his "devotion to routine," "undisguised hostility" toward the Sanitary Commission and lack of forcefulness toward needed innovations subsequent to the medical disasters of the early battles, much pressure was brought to bear on the Congress by reformers for remedial action. As a result of this pressure Finley retired April 14, 1862. Immediately the rivalry of Hammond and Assistant

(Con't.) p.222, states that some of the more famous to resign and join the South were Samuel P. Moore, who became Surgeon General of Confederate forces, DeLeon, Madison, Haden, Johns, Langworthy, Potts, Fauntleroy, and Ramseur. One point of confusion between the cited sources seems to be whether there were 114 or 115 doctors in the U. S. Medical Department on January 1, 1861. I use the number 115 as that is the figure contained within the M&SH, p. 899.

² United States War Department, The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies. . . , Robert N. Scott, et. al., eds. (130 vols., Washington: United States Government Printing Office, 1880-1901), Series III, Volume I, p. 964 (hereafter designated as OR), and Maxwell, Lincoln's Fifth Wheel. . . , pp. 330-331.

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Surgeon General Wood broke into the open, each seeking the appointment via the commission; but William A. Hammond, who was their choice, received the appointment on April 25, 1862 and Wood, the loser, being reappointed Assistant Surgeon General.³

On November 10, 1862, Surgeon General Hammond, in a report to Edwin M. Stanton, Secretary of War, outlined the progress and needs of the Medical Department. He stated that partial progress had been made by increasing the Surgeon General's rank, adding a limited inspecting corps, increasing the number of surgeons, assistant surgeons, medical cadets, and hospital stewards and in general elevating the department to a more independent footing. But he claimed the Medical Department still needed a permanent hospital and ambulance corps composed of men specifically enlisted for that duty. Other of his suggestions were to increase the number of Medical Corps personnel, give medical officers to the cavalry and artillery organizations, lower the five year waiting eligibility period for promotion to surgeon, appoint more medical cadets, add more medical store-keepers, increase the pay of washwomen, and increase the pay and ranks of medical men to attain equality with other staff organizations (their position and responsibility had no comparative compensations with rank and pay). The last suggestion

³ OR, Series III, Volume II, p. 957. See also Maxwell, Lincoln's Fifth Wheel . . . , p. 8, and Adams, George W., Doctors in Blue (New York: Henry Schuman, c1952), pp. 28, 31-32. (Hammond appointed Surgeon General with the rank of brigadier-general by General Orders No. 48, April 28, 1862.

created a controversy which followed the medical profession to the end of the war. Some of Hammond's proposals such as more aid to the Army Medical Museum, establishment of an army medical school, establishment of more permanent hospitals, charging the Medical Department with construction responsibility, making medical supplies independent along with the transportation from other departments, and establishing a home for disabled soldiers, were far-reaching. He contributed to the Medical Department by several innovations; among them, he started collections of materials for a medical and surgical history of the rebellion, a uniform diet table for general hospitals, and large depots of medical supplies at various places to take advantage of prices.⁴

In May of 1863 Hammond issued a circular ordering the removal of calomel and tartar emetic from the army supply table using as a reason the harm done from misuse in the treatment of disease. The reports of medical inspectors and sanitary reports indicated that excessive use of calomel caused profuse salivation and occasionally mercurial gangrene. However, the use of calomel and tartar emetic was not completely stopped as they could be obtained by special requisition. This reform cost Hammond support from a large proportion of the medical profession and added to the interprofessional controversies

⁴ OR, Series III, Volume II, pp. 749-754, and Adams, Doctors in Blue, pp. 33-34.

concerning proper therapeutics.⁵

In a few crowded months Hammond rejuvenated and propelled the Army Medical Corps into more vigorous action. He initiated or requested every major improvement to be carried out during or for thirty years after the Civil War, but because he lacked diplomacy and because his outspoken personality clashed with that of Secretary of War Edwin M. Stanton, he was soon to be eased out of his position.⁶

The heir apparent to the Surgeon General's office was Joseph K. Barnes, possibly because he was the personal physician of Stanton who suffered from several ailments.⁷

On July 2, 1863, Stanton appointed a special commission of

⁵ Surgeon General, U. S. Army, Circular No. 7, May, 1863, Directions Concerning the Duties of Medical Purveyors and Medical Storekeepers, and the Manner of Obtaining and Accounting for Medical and Hospital Supplies for the Army with a Standard Table (Washington: Government Printing Office, 1863), pp. 1-21; "Calomel and Tartar Emetic in the Army," The American Medical Times, VI (June 20, 1863), pp. 297-298; "Removal of Calomel and Tartar Emetic," Ibid., pp. 298-299; Adams, Doctors in Blue, pp. 38-39; and Percy M. Ashburn, "Gleanings from Medical Department History," The Military Surgeon, LXIV (March, 1929), (Washington, D.C.: The Association of Military Surgeons of the United States), 449-450. (Some physicians of the period, the Allopaths, believed in large doses of calomel etc.; the Thomsonians opposed all mineral drugs; the Hydro-Therapeutists recommended therapeutic bathing; the Botanics favored the use of roots and herbs; and the Homeopaths favored tiny doses.)

⁶ Louis C. Duncan, "The Strange Case of Surgeon General Hammond," The Military Surgeon, LXIV (January and February, 1929), 98-110, 252-262.

⁷ Ibid., 98-110.

three civilians to examine the affairs of the Medical Department. The Committeemen were A. H. Reeder of Pennsylvania, Thomas Hood, and Major George O. Barstow of Boston. Reeder was a long-time enemy of Hammond, and to be placed on the commission put him in a position to enjoy revenge. The Committee had but one object in view; that was to crucify Hammond by any means, and especially to try to prove official ignorance of business procedure, neglect of the West, and personal responsibility for the Gettysburg sufferings. While the investigation was in progress, Hammond was maneuvered out of Washington August 30, 1863, to New Orleans so that he could "give his special attention to medical affairs" in the South Atlantic and Gulf Department. Stanton appointed Barnes to be the Acting Surgeon General during Hammond's absence September 3, 1863. Hammond never returned to office. As time wore on Hammond requested either a court of inquiry or a court-martial but received no answer until Stanton felt the opportune moment had arrived. The court convened January 30, 1864, and lasted for four months. Hammond was charged with conduct to the prejudice of good order and military discipline, with ten specifications all involving irregular purchase of supplies, and conduct unbecoming an officer and a gentleman. He was found guilty of four specifications of the first charge and of the second charge. Hammond entered private practice and became successful, both professionally and financially. When he had acquired enough money

James Smith, Jr. and his wife, Mary, of the same place, were the first to settle there. The first school was opened in 1840, and the first church was built in 1842. The first store was opened in 1843, and the first mill was built in 1844. The first bridge was built in 1845, and the first railroad was built in 1846. The first newspaper was published in 1847, and the first hotel was built in 1848. The first bank was opened in 1849, and the first college was founded in 1850. The first hospital was built in 1851, and the first library was opened in 1852. The first fire engine was purchased in 1853, and the first police force was organized in 1854. The first steam locomotive was introduced in 1855, and the first telegraph line was laid in 1856. The first electric street car was introduced in 1857, and the first telephone exchange was opened in 1858. The first automobile was introduced in 1859, and the first airplane was built in 1860. The first motor car was introduced in 1861, and the first motor bus was introduced in 1862. The first motor truck was introduced in 1863, and the first motor coach was introduced in 1864. The first motor car was introduced in 1865, and the first motor bus was introduced in 1866. The first motor truck was introduced in 1867, and the first motor coach was introduced in 1868. The first motor car was introduced in 1869, and the first motor bus was introduced in 1870. The first motor truck was introduced in 1871, and the first motor coach was introduced in 1872. The first motor car was introduced in 1873, and the first motor bus was introduced in 1874. The first motor truck was introduced in 1875, and the first motor coach was introduced in 1876. The first motor car was introduced in 1877, and the first motor bus was introduced in 1878. The first motor truck was introduced in 1879, and the first motor coach was introduced in 1880. The first motor car was introduced in 1881, and the first motor bus was introduced in 1882. The first motor truck was introduced in 1883, and the first motor coach was introduced in 1884. The first motor car was introduced in 1885, and the first motor bus was introduced in 1886. The first motor truck was introduced in 1887, and the first motor coach was introduced in 1888. The first motor car was introduced in 1889, and the first motor bus was introduced in 1890. The first motor truck was introduced in 1891, and the first motor coach was introduced in 1892. The first motor car was introduced in 1893, and the first motor bus was introduced in 1894. The first motor truck was introduced in 1895, and the first motor coach was introduced in 1896. The first motor car was introduced in 1897, and the first motor bus was introduced in 1898. The first motor truck was introduced in 1899, and the first motor coach was introduced in 1900.

he undertook a campaign in 1878 to restore his good name. He was victorious August 27, 1879, when the President annulled the court's sentence and placed his name on the army's retired list.⁸

Joseph K. Barnes was formally appointed Surgeon General August 18, 1864, after having been in charge for almost a year. While in office he established (with Stanton's approval) the Army Medical Museum and the Army Medical Library and started the publication during the post-war years of the first volumes of the Medical and Surgical History of the War of the Rebellion, all ideas of his predecessor. Stanton also aided the Medical Department by giving them exclusive control of general hospitals and hospital camps. Another improvement was in Medical Corps recognition acquired when Stanton granted them the use of the brevet commission. Barnes was raised from his colonelcy on March 13, 1865, to the rank of brevet major general and remained Surgeon General until 1882.⁹

The poor showing of the Medical Department during and after the early battles of the Civil War indicated the need for prompt remedial action. The action taken was a reorganization bill introduced by Henry Wilson of Massachusetts, backed by the Sanitary Commission and Secretary of War Stanton, and was put

⁸ OR, Series III, Volume III, p. 1199; Volume IV, p. 1035; Duncan, The Military Surgeon, LXIV, 98-110, 252-262; and Maxwell, Lincoln's Fifth Wheel . . . , p. 236. (The prosecuting hand was Stanton's to whom the Judge Advocate General and every member of the court, as well as the star witness, were obligated.)

⁹ Adams, Doctors in Blue, p. 42 and Maxwell, Lincoln's Fifth Wheel . . . , pp. 262, 318.

into effect April 16, 1862. The bill provided for a Surgeon General who was to have the rank, pay, and emoluments of a brigadier-general, an Assistant Surgeon General and an Inspector General of hospitals, both of whom were to have the same privileges of a colonel of cavalry, and eight Medical Inspectors to have the same privileges of lieutenant-colonels of cavalry, all of whom would be appointed on merit with the higher military rank, because the interested parties believed necessary action could be obtained by using active, progressive appointees. On May 19, 1862, the Medical Bureau was assigned complete control of the army's sick, whether in camps, hospitals, or transports. This authorization did away with state interference and that of others not under Bureau direction. With the passage of time it became evident much more had to be done to increase the efficiency and effectiveness of the Medical Department even though there had been great improvements in its administration.¹⁰

Additional legislation and orders were effected: Public--No. 38 provided for a corps of medical cadets to act as dressers in general hospitals and as ambulance attendants in the field. They were equated with the military cadets at West Point, with their numbers increased from time to time. The law also provided for use of female nurses in general or permanent

¹⁰ OR, Series III, Volume II, pp. 22-23, 40-41, and Adams, Doctors in Blue, pp. 29-31.

These efforts have been made in the past and will be continued in the future.

General and his staff have been working hard to improve the situation.

It is hoped that the situation will be improved in the near future.

The situation is not as bad as it was in the past.

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hospitals.¹¹ General Orders No. 79, July 15, 1862, provided for an increase in appointments of 40 surgeons and 120 assistant surgeons of the volunteers with corresponding rank, pay, emoluments of officers of the Regular Army and also increased the number of assistants from one to two assistant surgeons for each regiment.¹² General orders No. 55, May 24, 1862, authorized the addition of six skilled apothecaries to those already in the Medical Department, each to post a \$40,000 bond.¹³ Approval for the addition of eight more medical inspectors was given January 3, 1863.¹⁴ Two assistant surgeons were assigned to each regiment of cavalry January 7, 1863.¹⁵ Assistant Surgeon General R. C. Wood was placed in charge of the Louisville, Kentucky, Medical Department branch in order to facilitate medical transportation and accommodations for the armies of the West and Southwest.¹⁶ General orders No. 29, February 28, 1865, defined the rank and pay of medical directors of an army in the field and medical directors of military departments as follows:

" . . . if there were two or more army corps with four thousand beds or more in the general hospitals, the director shall have

¹¹ Ibid., Volume I, pp. 397-398, 635-636.

¹² Ibid., Volume II, p. 224.

¹³ Ibid., Volume II, p. 67.

¹⁴ Ibid., Volume III, pp. 3-4.

¹⁵ Ibid., Volume III, p. 4.

¹⁶ Ibid., Volume IV, p. 287.

the rank, pay, and emoluments of a colonel of cavalry, and if less, the director shall have the rank, pay, and emoluments of a lieutenant-colonel of cavalry."¹⁷

By the end of the fiscal year 1865 slightly more than 12,000 doctors had seen service either in the field or in hospitals. These doctors had been organized into seven categories:

- (1) Surgeons and Assistant Surgeons of the Regular Army in before the outbreak of the war (#115 of which one retired, 24 resigned to join the Confederacy, and three were dismissed for disloyalty).
- (2) Surgeons and Assistant Surgeons of Volunteers (#547).
- (3) Regimental Surgeons (#2,109) and Assistant Surgeons (#3,882) commissioned by State Governors.
- (4) Acting Assistant Surgeons, U. S. Army (#5,532) the great majority being "contract" surgeons.
- (5) Medical officers of the Veterans Corps.
- (6) Acting Staff Surgeons (#75).
- (7) Surgeons and Assistant Surgeons of Colored Troops.

From the commencement of the war to the end of the fiscal year 1865 the Medical Department casualties numbered 335 in the following categories:

29	killed in battle	
12	killed by accident	
10	died of wounds	
4	died in rebel prisons	
7	died of yellow fever	
3	died of cholera	18
270	died of other diseases.	

¹⁷ Ibid., Volume IV, p. 1204.

¹⁸ Ibid., Volume V, pp. 149-152, 1040 (lists total number of Medical Department casualties as 336); Adams, Doctors in Blue, p. 47-48; and Julia C. Stimson and Ethel C. S. Thompson, "Women Nurses with the Union Forces During the Civil War," The Military Surgeon, LXII (January, 1928), 2. Civilian physicians employed by the Union Army as full-time or part-time surgeons under

Civil War hospital administration is difficult to describe because of the many system variations from hospital to hospital. Generally there was a surgeon-in-charge who was the military commander over the hospital as it was an army post. Another surgeon would be the executive officer whose duties were to take care of the hospital staff and to handle administrative problems. Usually there would be at least one physician for each ward of 75 to 100 patients. There would be a chaplain (the morale officer), who operated the library, had the supervision of the cemetery, distributed the mail, read books or wrote letters for the patients. There would be a few medical cadets who acted as wound dressers. Hospital stewards supervised the hospital routines of clothing and hygiene in the wards, food and cooking, and dispensing from the hospital pharmacy. Generally, convalescent soldiers would be detailed to act as wardmasters in charge of the nursing and cleaning for each individual ward. The position roster for most hospitals would also include cooks, assistant cooks, carpenters, blacksmiths, storeroom workers, attendants for the dead, clerks, washwomen, and officers' attendants.¹⁹ The regulations of the Hospital Corps were: as to duties--nursing, cooking, or related

(Con't.) Contract were called Contract Surgeons. This method of acquiring surgeons was resorted to in periods which were dictated by such emergencies as the Civil War. Contract Surgeons received the same rate of pay as first lieutenants but were not formally commissioned.

¹⁹ Adams, Doctors in Blue, pp. 159-161.

activities; responsibilities--military discipline; pay--\$20.50 per month, clothing, rations, medical attendance; and uniform--the undress uniform of a private soldier with a green half-chevron on the left forearm. These regulations were instituted by Surgeon General Hammond in the early years of the war.²⁰

Female nurses were put under the control and direction of Superintendent of Female Nurses Dorothea Dix.²¹ The nurses, who had legal status as an attachment to the army were to substitute for soldiers in general or permanent hospitals for the pay of forty cents, and one ration in kind each day. Their number has been estimated at 3,214. A second classification of nurses was the Sisters of Charity or nuns of Holy Orders. A third class of nurses was women employed from necessity for the menial hospital chores. A fourth class consisted of colored men and women, employed at a salary of \$10 a month, under General Orders of the War Department 390 of 1863 and 23 of 1864. An estimation for the third and fourth classes is set by Ramsey at 4,500. A fifth class was made up of uncompensated volunteers; a sixth class might consist of women camp followers; the seventh and last class consisted of women employed by the various commissions. Very few had actual hospital experience or other qualifications other than physical strength and/or

²⁰ Stimson and Thompson, The Military Surgeon, LXII, 208-230.

²¹ OR, Series III, Volume I, pp. 139-140, 217.

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willingness, but at the time they were the best available.²²

With the end of the Civil War and the reduction of the army, cutbacks in personnel, supplies, and the amounts requested for Medical Department appropriations were made by Surgeon General Barnes.²³ The need for an all-out mobilized Medical Corps was over, since the emergencies of war had been met and a good job had been done if comparisons with previous wars are considered. An inexperienced country had created a vast hospital system with an over-all bed capacity for 136,000.²⁴ There were still many surgical, sanitation, and other inadequacies, but when one considers the period, what was known, and the tremendous job to be done, the Medical Department, the hospitals, and the people involved were assets to the nation.

To acquire an idea of actuality and to construct a broader background foundation, medical conditions in the field are dealt with next.

2.

Medical Conditions in the Field

The Army Medical Department was unprepared for war psychologically as well as physically in that it had an inadequate

²² Stimson and Thompson, The Military Surgeon, LXII, 1-3, 11, 222, and Adams, Doctors in Blue, pp. 176-178.

²³ OR, Series III, Volume V, pp. 65, 149-152.

²⁴ Adams, Doctors in Blue, pp. 172-173.

williamson, but it is not clear that he was
with him at the time of the murder.
any, but he was not present at the
quest for the body. The body was found
Burton's body was found in the same
Medical Officer, and he was not present
at the time of the murder. The body was
found in the same place as the body of
the other man. The body was found in
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number of medical personnel, lack of or antiquated methods, and inadequate supplies, all of which were based on the needs of a peace time army numbering close to 15,000 soldiers and could not begin to meet the needs of collecting the wounded from the battlefields, caring for them in hospitals, or transporting them to the rear, problems the Civil War created.

Another matter was the tone of administration set by Surgeon General Colonel Thomas Lawson, a holdover from the John Quincy Adams' period, who was primarily concerned with keeping the budget down to bare necessities. Frederick Law Olmsted felt the chief block toward a better medical organization was the seniority system of promotion encouraged by the department's "elder-statesman" administration. This was one of the Commission's main reasons for backing the younger Hammond for the Surgeon General's Office.²⁵

There was a time lag in medical ideas between Europe and America because of the distance, American frontier atmosphere, and the inadequacies of American medical schools. Several examples of the American medical lag are: the Army Medical Department did not acquire an achromatic microscope until 1863; the army used very few thermometers; few surgeons practiced the procedures of auscultation and percussion; and few surgeons used the stethoscope, the hypodermic syringe, the ophthalmoscope, or the laryngoscope. A further indication of the lag

²⁵ Adams, Doctors in Blue, pp. 4, 27-28.

is evidenced by the large number of physicians professing the medical cults and the therapeutic controversies they perpetuated.²⁶

The Union Army went to war with an insufficient number of ambulances and without a specialized field-relief system. Antecedently in 1859, a board of medical officers examined a number of ambulances and recommended that two be tried, but they had not been adopted by the time the Civil War started. In 1861 the Quartermaster Corps issued two-wheel ambulances in a ratio of four to one of the four-wheel type. Later these two-wheeled ambulances proved unsatisfactory under battle conditions. The board's lack of foresight was to cost a great deal in terms of death and misery following the early battles. A large number of the few ambulances available within the armies were used as pleasure transportation by the officers or as general utility vehicles. Agitation for an ambulance corps with permanent specialized personnel mounted from the summer of 1861 until its proponents received an acceptable approximation in 1864.²⁷

In order for one to acquire an idea of medical preparedness and conditions during the early battles with their evolution to a point approaching adequacy, a glance is needed first at the aftermath of the first battle of Bull Run July 21, 1861.

²⁶ Ibid., pp. 50-51.

²⁷ Ibid., pp. 25-26, 84, and Fred B. Ryons, "The United States Army Medical Department 1861 to 1865," The Military Surgeon, LXXIX (November, 1936), 341-342.

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State and Federal Government, and the
Bureau, LXXI (1911), p. 100.

Approximately 18,500 men of General McDowell's army actually took some part in the battle. Surgeon W. S. King was the Medical Director of the army, and although there was adequate time before the expected conflict, no proper hospital arrangements were made except the site selections of a hotel, a church, and a large dwelling, and no plan was made for field-relief of the wounded to rear areas.²⁸

Within the seven participating brigades each regiment had one medical officer who attended the wounded on the field and collected them into intermediate protected places prior to removal to the Centerville Hospitals, but because the work was not organized, the results were small with only a few of the severely wounded receiving temporary aid and removal. Approximately half the 1,124 wounded, either with aid or under their own power, somehow reached the rear, and 550 wounded were captured as Confederate reports of these prisoners sent to Richmond indicate. To complicate medical matters the Confederates were victorious, and as the Union forces retired from the area many of the severely wounded, later prisoners, were left since no provision had been made for them. A number of regimental surgeons volunteered and remained with the wounded through the long trip to Richmond into the prison camps. The Bull Run Union casualty list indicates 483 killed, and 1,011 wounded of which 550 were captured.²⁹

²⁸ Ryons, The Military Surgeon, LXXIX, 342-344.

²⁹ Ibid., 342-344.

Seven inspectors investigated the Bull Run defeat for the Sanitary Commission. Their findings, later incorporated into Olmsted's Report on the Demoralization of the Volunteers, accused the administration of incompetent planning and logistics.³⁰

The next phase of medical conditions during the early battles includes Pope's Virginia Campaign, Cedar Mountain, and the Second Battle of Bull Run. The principal role is played by Surgeon Thomas McParlin, U. S. Army, the Medical Director, a competent man, and later Medical Director of the Army of the Potomac through a number of its campaigns with skill and success.³¹

The hospital system and field-relief were still inadequate. McParlin was acquainted with the Letterman plan, but pressing events and the time factor prevented its being put into operation. Again the problem of an ambulance system arose as those available were totally inadequate after the second battle of Bull Run.³² What ambulances there were belonged to

³⁰ Maxwell, Lincoln's Fifth Wheel . . . , pp. 20-21.

³¹ Ryons, The Military Surgeon, LXXIX, 345-347.

³² The Surgeon General forcibly gathered Washington vehicles of all types and sent them to the battle site for the wounded. Drivers of these vehicles were of the same stamp as earlier deserters, hired civilians, who either fled the battle scene or left with one load not to return. They broke into the supplies, which included liquor, and many of these drivers made their way back to Washington without wounded. Among those who were persuaded to pick up the wounded were a few who refused to give water to the disabled, refused to help load the incapacitated into the ambulances, stole from the supplies, and even stole anything of value from their wounded passengers. The Letterman plan is discussed in more detail on page 20.

the regiments. When necessary they were collected and used independently; this arrangement was unsatisfactory since the regimental commanders constantly demanded their return. McParlin suggested a separate corps be created for an ambulance system which would take care of the adverse situation. Some degree of progress is noted as McParlin had a field hospital plan which was to be one great hospital for the entire army and was to be situated at the rear of the battlefield. His plan at this time failed because the army was too large to be served by one hospital, the hospital was too far behind the lines to serve the army's wings, and there was poor transportation for the wounded. Furthermore, regimental surgeons stayed with their regimental units leaving the central hospital understaffed. McParlin had other progressive ideas; i.e., general hospitals to be established only at central points such as Alexandria so the sick and wounded would not have to be retained in the field, small moveable medical depots to furnish battlefield supplies, a clearing hospital, and a railway supply train to move supplies in, wounded out. The trains carried medical attendants, water, subsistence, straw for the floors, and bedding.³³

The Cedar Mountain list of battle casualties numbered 314 killed, 1,445 wounded, and 622 missing of which 400 were reported

³³ Ryons, The Military Surgeon, LXXIX, 344-347 ("This train seems to have been extremely useful"), and Adams, Doctors in Blue, pp. 73-76.

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 independently; this arrangement was unsatisfactory since the
 regimental command consistently demanded their return.
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 tained in the field, small movable medical depots to furnish
 battlefield supplies, a clearing hospital, and a railway supply
 train to move supplies in, wounded out. The trains carried
 medical attendants, water, ambulance, stores for the troops,
 and bedding.

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The Great Mountain list of battle casualties numbered 315
 killed, 1,445 wounded, and 682 missing of which 400 were reported

33 From: The William Harrison, LXXXIX, 344-347 ("This train
 seems to have been extremely useful", and Adams, Posters in Blue,
 pp. 75-76.

captured by the Confederates.³⁴

The Second Battle of Bull Run had many more wounded and killed than that of Cedar Mountain. The number of wounded was reported as 8,452 which is more of an estimation than actual fact. This battle proved there were still many Medical Department inadequacies as the general field hospital was too small, the number of surgeons too few, and there was endless trouble with ambulances which would take one load of the wounded and disappear. McParlin and Medical Inspector Coolidge both emphasized the need for a well-organized ambulance corps. The Surgeon General recommended that the Letterman system be established in all the armies, but General Halleck refused to approve it for another year.³⁵

Chief problems of the Medical Department, as emphasized by these early battles, were inadequate field transportation, field hospitals which lacked mobility, inadequate evacuation transportation and hospitals, and poor organization of the line of communications. One of the first men to help alleviate some of the problems was Surgeon H. S. Hewitt, Medical Director of General Grant's Army of Volunteers. For the Fort Donelson battle in February, 1862, he organized four field hospitals by combining all the regimental hospitals and created the first tent field hospital of the war. Also at his direction all the

³⁴ Ryons, The Military Surgeon, LXXIX, 345-347.

³⁵ Ibid., 348-351, and Maxwell, Lincoln's Fifth Wheel . . . , p. 179.

regimental ambulances were collected and organized into ambulance trains which could be used wherever needed.³⁶

In the Army of the Potomac, Surgeon Charles Tripler had been the Medical Director since August 12, 1861. Apparently progressive ideas did not concern him too much as he believed in divisive regimental organization for both hospitals and ambulance transportation. He did however, succeed in bringing some order out of the chaotic medical conditions he found in the Army of the Potomac. There were many administrative problems he surmounted, achieving some degree of improvement.³⁷ Tripler was succeeded in office by Surgeon Jonathan Letterman in July, 1862. This appointment change was one of the innovations made by William A. Hammond soon after his appointment to the office of Surgeon General. Letterman immediately began the task of reorganization in the Medical Department of the Army of the Potomac. His plan as instituted included an ambulance corps with a captain in charge for each army corps, a first lieutenant for each army division, a second lieutenant for each brigade, and a sergeant for each regiment all of whom were under the control of the medical directors. All the ambulances were organized into division and sometimes corps trains.³⁸ The army ambulance service and organization became law on March 11, 1864, even though it had been in operation under Letterman for some time.

³⁶ Ryons, The Military Surgeon, LXXIX, 351-354.

³⁷ Adams, Doctors in Blue, pp. 22-23, 60.

³⁸ Ryons, The Military Surgeon, LXXIX, 351-354, and Maxwell, Lincoln's Fifth Wheel . . . , p. 337.

Principles embodied in the Ambulance Corps Act of 1864 provided a basis of ambulance organization for a great number of armies down to the first decades of the twentieth century.³⁹

Letterman's first battle experience came at Antietam September 17, 1862. Using the Letterman ambulance system his medical division collected all the wounded with immediate needs cared for within twenty-four hours. As a result of apparent battlefield medical aid deficiencies Letterman in October devised a field hospital plan for each division. This plan directed the establishment of a field hospital for each division with the needed personnel and equipment and defined the station, duties, and accountability for each medical officer. Under this plan one assistant surgeon of each regiment had a front line dressing station; the rest of the division staff was at the hospital where one was assigned to records, one was responsible for food, shelter, clothing and bedding, others worked as wound dressers, and about one out of every fifteen

³⁹ OR, Series III, Volume IV, pp. 185-187, and Adams, Doctors in Blue, p. 97. (The act provides for two-horse ambulances:

	No. of ambulances	No. of men
regiment	3	500+
infantry	2	200-500
infantry	1	200-
cavalry	2	500+
cavalry	1	500-
artillery	1	battery
headquarters	2	

Two army wagons for each division ambulance train. Ambulances shall be used only for transportation of the sick and wounded, in urgent cases for medical supplies. Only proper medical attendants shall be permitted to take or accompany sick or wounded men to the rear.)

was assigned to the operating team. This plan was not completed for the Army of the Potomac until April, 1864, and for the armies of the West not completely adopted until June, 1864. Supply tables with predetermined allowances for given periods were set up to guard against the waste of medical stores.⁴⁰

Letterman's complete battlefield-relief system received its first "baptism" at Fredericksburg, December 13, 1862. Around ten thousand wounded were removed from the battlefield and sheltered within twelve hours, and by December 25 all had been evacuated to Washington hospitals.⁴¹

At the later battles of Chancellorsville and Gettysburg, the Letterman system worked fairly well, but showed his field hospital plan to be inferior to his ambulance plan.⁴² At the Battle of Gettysburg Letterman's medical organization consisted of 650 medical officers, 1,000 ambulances, and almost 3,000 drivers and stretchermen.⁴³

In January, 1864, Letterman at his own request retired from his position as Medical Director of the Army of the Potomac. This request coming at the time Surgeon General Hammond was

⁴⁰ Ryons, The Military Surgeon, LXXIX, 355; Adams, Doctors in Blue, pp. 79, 88; and Maxwell, Lincoln's Fifth Wheel . . . , pp. 175-176.

⁴¹ OR, Series I, Volume XXI, p. 142, and Ryons, The Military Surgeon, LXXIX, 356.

⁴² Ibid., Volume XXVII, Part 1, p. 187, and Ryons, The Military Surgeon, LXXIX, 356.

⁴³ Adams, Doctors in Blue, p. 91.

was estimated to be about 100
for the day of the attack. The
analysis of the 2-20-42 report
Supply cables were received
were set up to be used for
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the 2-20-42 report. The
around the 2-20-42 report
and another 2-20-42 report
been estimated to be about 100
the 2-20-42 report. The
hospital plan to be
battle of 1942. The
of 500 medical
drivers and
from his position
This report

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in 1942
pg. 173-174

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in 1942
pg. 173-174

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in 1942
pg. 173-174

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in 1942
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being maneuvered out of office suggests that Letterman was associating himself with his chief.⁴⁴ Surgeon McParlin succeeded Letterman to the post of Medical Director, and the field-relief system under his direction achieved a high degree of excellence.⁴⁵

By the summer of 1864 the field-relief system administered immediate medical attention via ambulance hospitals. Minor wounds, sunstroke cases, and day to day sickness were cared for by a small detail of surgeons and attendants who represented a highly mobile hospital unit. Under battle conditions, full division hospitals were set up which usually employed four operating teams of three men each. Depot hospitals would be established at some central point to receive the disabled, clearing the field division hospitals of cases whose most urgent needs had been cared for by thorough examinations and emergency surgery. Dressing stations were set up close to the battle line to administer rough dressings, whisky, and opium pills, after which the wounded were removed to the division hospitals.⁴⁶

To take care of the day to day cases the army had a traditional daily sick call at which ill men reported for treatment. The system of attention and accommodation was graduated;

⁴⁴ Ibid., pp. 92-93.

⁴⁵ Ryons, The Military Surgeon, LXXIX, 356.

⁴⁶ Adams, Doctors in Blue, p. 101.

being transferred out of office space...
associated himself with his duties...
needed helpmen in the past of the...
relief system under his direction...
cellar.

By the summer of 1904...
immediate medical attention was...
wounds, gunshot cases, and...
for by a small detail of surgeons...
a highly mobile hospital unit...
division hospitals were set up...
operating teams of three men each...
established at some central point...
clearing the field of the...
urgent needs had been cared for...
emergency surgery...
basic line to administer...
pills, after which the patient...
hospitals.

To take care of the day to day...
divisional daily staff...
man. The system of attention...

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slightly ill patients were treated in their own quarters; the more seriously ill were treated in the regimental hospitals; and the very seriously ill were treated in the corps hospitals. The sick soldier received as much attention and treatment as could be expected under the circumstances.⁴⁷

Rev. T. H. Robinson describes in a very clear manner the organization and working of a typical division field hospital, as follows:

When, after a march, the hospital is camped for the night, or to await a battle, the hospital tents are pitched in three rows, to represent the three brigades of the division, each brigade under the charge of the Surgeon-in-chief of the brigade. The camp is pitched in the form of a hollow square - the surgeons' tents on one side, the hospital tents on another, the kitchen on the third side, and near by it the provost guards and the pioneers, and on the fourth side are arranged the hospital wagons. In the centre of the square, under a large tent, are placed the operating tables where amputations are performed.

In locating a hospital the requisites are-1, pure water; 2, wood; 3, good ground, dry and even surface; also, if possible, near a wood where boughs may be obtained for beds. . . . Each brigade of the division has its own operating table in the centre of the hollow square. This table is under the charge of the chief surgeon of the brigade, who is held responsible for all operations performed. He has two assistant surgeons, making three to each table, also a steward to assist and to keep record of operations and to dispense medicines to the sick. There are also other stewards placed in charge of the sanitary stores and of the medical wagons, who are ready at all times to fill the prescriptions of the surgeons. . . . In addition to it [the division hospital] there is also an outpost hospital, established on every field of battle in time of engagement. . . . To it wounded men picked up by stretcher-bearers on the field are brought, the wound examined, temporarily dressed, hemorrhages of blood stopped, and then they are placed in ambulances that come up to this point, and borne back to the division hospital. Each

⁴⁷ "Army Medical Department," American Druggists' Circular and Chemical Gazette, VIII (August 1, 1864), 156.

man is sent to the brigade to which he belongs, the wound is at once re-examined, the slight ones attended to in tents, the more severe taken to the operating tables. No amputations are allowed on the field or in outpost hospitals⁴⁸

3.

The Aid and Influence of the Civilian Commissions

As the clouds of war grew darker and many lamentable problems arose concerning the welfare of Union forces, several New York supply organizations joined forces to learn what could be done. A joint committee of members from the Woman's Central Association of Relief, Physicians and Surgeons of the New York Hospitals, and the Lint and Bandage Association went to Washington. The U. S. Medical Department under Acting Surgeon General

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Rev. T. H. Robinson, "Arrangement and Working of an Army Field-Hospital," American Druggists' Circular and Chemical Gazette, VIII (August 1, 1864), 165. (The field division hospital organization of the 1st Division of the 5th Army Corps under the direction of Surgeon-in-Chief W. R. DeWitt, Jr.):

Division Surgeon-in-Chief: responsible to Corps Medical Director.
Surgeon-in-Charge: general charge of hospital.
Assistant Surgeon: responsible for food and shelter.
Division Recorder: responsible for accurate records of all who enter hospital.

<u>Brigade</u>	<u>Number of regiments</u>	<u>Number of surgeons per regiment</u>
1st	10	2
2nd	5	2
3rd	7	2
	22	44

1 steward per regiment

1 nurse per 10 to 20 men

For each brigade: 1 medical supply wagon, several ambulances, various stores.)

man is sent to the bridge to which he belongs, the woman is at once re-examined. The light once attended to in haste, the water service taken to the operating tables. No operations are allowed on the table or in outposts.

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Dr. J. M. Johnson, Assistant Surgeon General and Director of the

Army Medical Service, American Physicians, Surgeons and Dentists

Association, 1700 Avenue I, New York, N. Y. (The First Division was

the organization of the First Division of the New York State

the Division of Surgeons-in-Chief, Dr. W. H. Davis, Jr.

Division Surgeon-in-Chief, responsible to Surgeon General

Surgeon-in-Chief, General, Chief of Hospital.

Assistant Surgeon: responsible for food and shelter.

Division Hospital: responsible for accurate records of all who

enter hospital.

Number of patients

Number of patients per

unit

1st

2nd

3rd

4th

5th

6th

7th

8th

9th

10th

11th

12th

13th

14th

15th

16th

17th

18th

Wood pointed out the need to the Secretary of War for a scientific commission to be concerned about the sanitary interests of the United States Forces.⁴⁹

The U. S. Sanitary Commission was organized on June 12, 1861, using the British Sanitary Commission, an outgrowth of the Crimean War, as its model. Dr. Bellows was elected president, Alexander Dallas Bache was elected vice-president, and George Templeton Strong was selected to be the treasurer.⁵⁰ At first their idea was to inspect and offer advice to the government; but as time went by and needs arose the organization was transformed into one of voluntary aid. It became a collecting and distributing agency for people's generosity of articles of comfort and necessity that the government had difficulties acquiring in sufficient quantities. For returning soldiers the Commission established rest stations which had facilities to feed, lodge, bathe, instruct about back pay and pensions, and help them on their way home.⁵¹

After Wood was replaced by Dr. Clement Alexander Finley as Surgeon General, the U. S. Sanitary Commission's activities

⁴⁹ OR, Series III, Volume I, p. 225, and Maxwell Lincoln's Fifth Wheel . . . , p. 3.

⁵⁰ Maxwell, Lincoln's Fifth Wheel . . . , pp. 8-9. (Some of the other members were George W. Cullum, Alexander E. Shires, Robert C. Wood, John S. Newberry, William H. Van Buren, Cornelius R. Agnew, Oliver W. Gibbs, Elisha Harris, Samuel G. Howe, Thomas M. Clark, Joshua H. Wolcott, Mark Skinner, Ezra B. McCagg, John H. Heywood, Theodore S. Bell, Charles J. Stille, Fairman Rogers, and Horace Binney, Jr.)

⁵¹ Stimson and Thompson, The Military Surgeon, LXII, 222-223.

were confined to the volunteers (because Finley believed they would not make good soldiers), and the navy. The Commission was excluded from aiding the regular army and only furnished some stores for the navy on the Mississippi River.⁵²

Eventually the Sanitary Commission and the Medical Bureau clashed, for their views differed about organization, supplies, medicines, and what consisted of an adequate medical force to serve the army's needs.⁵³ The reformers began to bring pressure to bear on members of Congress, and at a meeting on September 12, 1861, decided to work toward the removal or retirement of Finley and for remedial legislation. William A. Hammond was backed for the position, which he received after the retirement of Finley was effected.⁵⁴

Hammond's attitude toward the Sanitary Commission was that he saw no reason for their continuance in the areas they had been working since the reorganized Medical Bureau adequately performed all the needed services. Hammond stated that he would aid the Commission if it wanted merely to collect statistics, but appeared to regard the Commission as a source of embarrassment especially since their intrusions reflected upon his Bureau to its detriment.⁵⁵

On the credit side of the Civil War's medical scene the

⁵² Maxwell, Lincoln's Fifth Wheel . . . , p. 8.

⁵³ Ibid., p. 93.

⁵⁴ Adams, Doctors in Blue, p. 28.

⁵⁵ Maxwell, Lincoln's Fifth Wheel . . . , p. 196.

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On the other side of the Civil War's medical scene the

²² Maxwell, Lincoln's Little Wars, p. 8.

²³ Ibid., p. 25.

²⁴ Adams, Doctors in Blue, p. 28.

²⁵ Maxwell, Lincoln's Little Wars, p. 100.

Sanitary Commission with its theme "the most good with the least pain" contributed by three methods of relief--general, special, and battlefield; supplied agents and stores to several hundred battle engagements; developed a battlefield relief corps to feed the wounded, weary, and sick upon the battlefield and along the roads to base hospitals; helped organize an Auxiliary Relief Corps through Frank B. Fay to help mitigate the urgent needs of the early battles by giving first aid to battlefield wounded, acting as nurses in hospitals, and setting up temporary hospitals; organized about seven thousand supply contributing aid societies; set up transient stations; provided many services for the individual soldier; distributed tracts on medicine advances to army surgeons; and contributed inspectors with military status and authority to check and enforce health regulations within the armies.⁵⁶

After Frederick Law Olmsted joined the Sanitary Commission as its Executive Chairman, he and Hammond worked closely together on the problems of an ambulance corps and transportation independent of the Quartermaster's department. Their ideas were incorporated into a memorandum to Stanton, the Secretary of War, who turned the ideas down because they were

⁵⁶ *Ibid.*, pp. 9, 28, 79, 167-170, 249, 303. (Examples of individual supplies contributed during and after the early battles include ice, wine, spirits, sheets, beds, flannel, towel-
ing, mosquito netting, jellies, pens, writers for patients who could not use their arms, barbers, bandages, lint, dressings, splints, chloroform, sponges, beef tea, chocolate, condensed milk, tourniquets, and many other needed foods and medicines.)

Analysis Commission with 17 members, including 10 from the
least being constituted by three members, 10 full-time members,
operated, and satisfied; supplies, and other items to be
hundred battle casualties; several hundred battle
corps to feed the wounded, supply, and other items
field and also, the need to have a large number of
an auxiliary medical corps, and other items
Gave the urgent needs of the war, and other items
to battlefield wounded, and other items
setting up temporary hospitals; and other items
supply, and other items; and other items
provided many services for the wounded; and other items
trains to deliver supplies to the front; and other items
inspectors with military rank and authority to check the work
force health regulations within the army.
After inspection was completed, the War Department
also as its Executive Director, and other items
together on the problem of an organization, and other items
this independent of the Department of War.
These were incorporated into a committee to study the
Secretary of War, who turned over to the War Department

56 Ibid., pp. 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

too expensive and because he believed the use of noncombatants would be demoralizing on regular fighting men.⁵⁷

Several months after the U. S. Sanitary Commission was established another aid society called the Western Sanitary Commission was organized in the West. This commission was organized along the same lines as the U. S. Sanitary Commission and was recognized on an equal footing by the government. It also performed the same functions, but in the territory west of the Mississippi River. The Western Commission established way stations for returning soldiers and was instrumental in creating and servicing floating hospitals on the Western rivers. It also established four general hospitals with more than 2,000 beds.⁵⁸

The Christian Commission was organized November 14, 1861, at the Bible House in New York by Protestant ministers, the Y. M. C. A., and the American Tract Society electing as its chairman George H. Stuart. The Commission's primary object was the spiritual welfare of the soldier; it received no privileges from the government. Between 1862 and 1864 this commission expended \$6,291,107.68, sent 95,000 boxes of stores and publications to the front, distributed 8,309,052 pieces of knapsack literature, 1,466,748 Bibles and other religious reading materials, preached 53,304 sermons, held 77,744 prayer meetings,

⁵⁷ Ibid., pp. 176-177.

⁵⁸ Stimson and Thompson, The Military Surgeon, LXII, 222-223, and Maxwell, Lincoln's Fifth Wheel . . . , p. 98.

wrote 92,321 letters for the sick and wounded, and set up diet kitchens attached to hospitals to prepare food for those unable to eat the regular rations.⁵⁹

By the end of the Civil War, in addition to many other contributions, the U. S. Sanitary Commission had received and distributed more than fifteen million dollars worth of supplies, the Western Sanitary Commission more than five million dollars worth of supplies; and other organizations had contributed generously of supplies, time, money, and efforts.⁶⁰

The Civil War had halted for the time being the fight for civil sanitary reform. Sanitarians who had been fighting for civil reforms, with the coming of the war centered their attentions on the health of the volunteer armies. The instruments they used to achieve their aims were the commissions. At first the commissions' activities were confined to investigations of army living conditions, but as a result of the early battles they then undertook most of the duties the then non-existent Red Cross was to handle later. In fact, the U. S. Sanitary Commission was the forerunner of the American Red Cross. As a result of the Civil War, public opinion was awakened to the need of sanitation and much of the groundwork was laid toward furthering the postwar public health movement.⁶¹

⁵⁹ *Ibid.*, 223, and p. 191.

⁶⁰ Howard D. Kramer, "Effect of the Civil War on the Public Health Movement," *The Mississippi Valley Historical Review*, XXXV (1948), 459-460.

⁶¹ *Ibid.*, 449-462.

Material aid of the civilian commissions to war efforts was considerable and depicts the generosity and sacrifice of the American people. The stamp of the pressure and influence of the civilian commissions is evidenced by the many reforms effected during the war years, and in creation of an efficient, effective, and adequate organization out of an archaic Medical Bureau. Now that the institutional background has been set and the formative influences concerned with U. S. Military medicine in the Civil War have been discussed the scene progresses to a quantitative consideration of officially used Materia Medica.

Historical and geographical information
concerning the various tribes
American Indians, and the
the different countries of the
United States, and the
effects of the various
tribes, and the
and the various
medicine, and the
progress of the
Native Americans.

AMERICAN INDIAN
HISTORY
1800
CORRECTION
1800
1800

CHAPTER II

A QUANTITATIVE ANALYSIS OF THE OFFICIAL MATERIA MEDICA USED BY THE U. S. ARMY MEDICAL DEPARTMENT DURING THE CIVIL WAR

1.

Introduction

This analysis is limited to a study of the official drugs and medicines employed by the U. S. Army Medical Department during the war years. Basically, the analysis is a quantitative collation of available data consisting of the Standard Supply Tables for the years 1861, 1862, 1863, and 1867. Also included (because of their pertinence) are various reports, orders, and statements. Tables for the years 1864 (with the exception of the Field Table for the Army of the Potomac 1864), 1865, and 1866 are not available. The Standard Supply Table for 1867 is used because of the need for terminal information. Medicines and their therapeutics are dealt with more fully in later chapters along with some qualitative criticisms.

For some time prior to the Civil War and up to the time W. A. Hammond became Surgeon General, there were complaints about the rigidity of the medical supply table. What one doctor considered an essential medicine would not be recognized as such by another. At the time, the men in charge of the Medical Department considered that keeping on hand a large and

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varied drug supply of what they thought important for the disease was enough of a problem without adding the additional difficulties of acceding to various eccentricities.¹ With the pressing needs for medicines accentuated by inadequacies during the early war months, much of the rigidity which marked Surgeon General C. A. Finley's era was relaxed for improvisation, substitution, and common sense.

Most medical supplies for the Army for many years prior to 1861 were obtained from the Purveying Depot at New York City. The military posts in the East and some of those in the South and on the Western frontier were supplied directly from that depot. Other posts, more difficult of access in the South and West, acquired their supplies from subdepots, four of which were in existence in 1860 and were located at New Orleans, Louisiana, San Antonio, Texas, Camp Floyd, Utah, and Albuquerque, New Mexico.²

With the commencement of war and the acceleration of medical needs for the greater number of men needing quick attention, subdepots were quickly established at Washington, D.C., St. Louis, Missouri, and Cairo, Illinois. As the war progressed and the need arose, almost thirty additional purveying depots were established either close to main bodies of troops, good

¹ Maxwell, Lincoln's Fifth Wheel . . . , p. 85.

² Report by Surgeon W. C. Spencer, U. S. Army, M&SH, I, Part 3, pp. 964-966.

transportation, or favorable drug markets.³

In addition to the stores held at the depots obtainable by requisitions, some supplies were placed in the charge of field purveyors, who accompanied the armies in order to issue and replenish reserve supplies whenever needed.⁴

Most medical purchases from the open market were made by the New York and Philadelphia Purveyors. These supplies were then available to the other depots by approved requisitions or orders of the Surgeon General. Occasionally lesser quantities were purchased at Washington, St. Louis, Cincinnati, Chicago, Louisville and other cities when prices were favorable.⁵ One example of the amounts of money expended per year for medical supplies, by a Purveyor is given in the presented chart.

Year	Total
1861	\$ 753,184.91
1862	\$2,779,635.21
1863	\$3,420,334.33
1864	\$6,472,498.41
1865	\$4,660,916.45
	<u>\$18,086,569.31</u>

This money was expended by Bvt. Brig. Gen. R. S. Satterlee who was in charge of the Army Medical Purveying Depot at New York City.⁶

³ Ibid.

⁴ Ibid.

⁵ Ibid.

⁶ Satterlee, R. S., Statement of Medical and Hospital Supplies, Furnished to the Sick and Wounded of the United States Army, and Moneys Expended for the same; at New York, from April 15th, 1861, to December 31st, 1865 (New York: Army Medical Purveying Depot, 1866).

By 1863 the quantity and cost of medical supplies for use by the armies had become such great problems that it was considered advantageous for the Department to prepare and manufacture its own supplies. Finally in the spring of 1863, the Department organized three well equipped laboratories to prepare and manufacture these supplies. The laboratories established at Astoria, Long Island and Philadelphia were larger than the one at St. Louis since its principal operation was confined to repackaging bulk medicines for issue. These laboratories were to insure the purity, reliability and uniformity of medical supplies employed by Union Forces. Not only was this done, but a considerable saving to the Government was effected by doing away with dealers' profits. Savings at the Philadelphia Laboratory amounted to \$766,019.32 for the period March, 1863, to September 30, 1865. A statement was presented by the Astoria Laboratory indicating a savings of \$279,972.04 for the six months ending November 30, 1864. The St. Louis Laboratory had a savings of \$5,451.96 for the period March 1, 1863, to July 31, 1863.⁷

In 1861 a revised edition of the Regulations for the United States Army was prepared and promulgated, and by it the Medical Supply Table was enlarged and improved. Still greater scope was given in the purchase and issue of medical stores by an Act of Congress approved April 16, 1862. The Medical Bureau availed itself of the authority conveyed by the Act on June 17,

⁷ Spencer's Report, M&SH, I, Part 3, pp. 964-966.

1862, by creating a board in New York City for the purpose of introducing improvements in the existing Supply Table. The membership of this board included Surgeon R. S. Satterlee, U. S. Army, Medical Purveyor at New York City, Surgeon R. O. Abbott, U. S. Army, and E. R. Scuibb, M.D.⁸

Surgeon General William A. Hammond sent a letter of suggestions concerning several things that should be on the 1862 Supply Table to this board.

He [Hammond] thinks there should be supplied the Gum Acacia in lump, the Opium also, and the quantity of powdered gum is not sufficient to make the proper quantity of Paregoric and Laudanum. For the former of these officinal preparations are also needed benzoic acid and oil of anise, neither of which are placed on the Table. A pint of Laudanum is hardly deemed enough for a hospital for six months. Other articles should also be supplied, e.g. acetic extract of colchicum, carbonate of zinc cerate, the bicarbonate and nitrate of potash, the fluid extract of cubebs or powder, as there are no cubebs at all on the list⁹

Some of his suggestions were followed; others were not. This can be seen by an examination of the reproduced sections of the 1861 and 1862 Standard Supply Tables in light of what he wanted considered. For example, Gum Acacia and Opium in lump forms, benzoic acid, and oil of anise were not put on the Table, whereas the others were supplied or had substitutes.¹⁰

⁸ Ibid.

⁹ Letter from L. A. Edwards, by order of the Surgeon General, to Surgeon Robert S. Satterlee, U.S.A. Medical Purveyor, New York City, June 17, 1862 (ms., Surgeon General's Office, Letters Received, Record Group 112, National Archives).

¹⁰ The medicine sections of the 1861 and 1862 Standard Supply Tables can be seen in the appendix.

The board made its report on July 15, 1862, and then on October 20, 1862, the Surgeon General's Office issued Circular No. 12 to medical officers containing the Revised Standard Supply Table and "Directions Concerning the Manner of Obtaining and Accounting for Medical and Hospital Supplies for the Army."¹¹ Generally, these directions prescribed the latitude medical Purveyors had in obtaining supplies, and the accounting procedures to be followed by both Purveyors and Medical Storekeepers in the receiving, storing, and issuance of said supplies.¹² Procurement policy concerning Supply Table medicines was broadened as the directions stated the medical officers would not be confined "absolutely to that table, either in variety or quantity." The Supply Table was designed to be a standard guide for requisitions holding the men making the requests to classification, order, and nomenclature on all official lists. Requests for medicines, which varied from those listed on the Standard Supply Table, required the approval of a Medical Director or the Surgeon General, but a progressive feature of this Circular provided for prompt issuance of any medicine in any quantity, without prior approval, in all cases of emergency (which could be broadly interpreted).¹³

¹¹ Spencer's Report, MASH, I, Part 3, pp. 964-966.

¹² Surgeon General, U. S. Army, Circular No. 12, October 20, 1862, Directions Concerning the Manner of Obtaining and Accounting for Medical and Hospital Supplies for the Army with a Standard Supply Table (Washington: Government Printing Office, 1862), pp. 1-6.

¹³ Ibid.

Directions for Circular No. 7 issued May 7, 1863, were substantially the same as those of 1862. The major exceptions dealt with a further delineation of the duties of Medical Purveyors and Medical Storekeepers in the deposition of supplies in their possession and the preservation of empty containers for further use.¹⁴

By 1867 the Standard Supply Table of the Medical Department had become a separate circular with but one short paragraph of forwarding instructions exactly the same as the first paragraph of Circular No. 12, October 20, 1862. The content of this paragraph was concerned with not holding the medical officers to a strict observance of the Supply Table as far as variety or quantities of medicines were concerned, and accountability procedures. Provision for emergencies was made in these directions as it was in those of 1862.¹⁵

2.

Total Quantities of Medicines Issued During the Civil War to Union Troops

In order to simplify this topic the subject matter is dealt with by use of generalities. That is, similar therapeutic types of medicines are collected together in the

¹⁴ Surgeon General, U. S. Army, . . . Standard Supply Table, 1863, pp. 1-7.

¹⁵ Surgeon General, U. S. Army, Circular No. 6, May 9, 1867, Standard Supply Table of the Medical Department of the United States Army (Washington: Government Printing Office, 1867), p. 1.

quantitative discussions. A list of specific drug articles and their individual total quantities, which comprise the bulk of medicines officially acquired by Union troops during the Civil War, is presented in the appendix. On this list, all medicines and supplies (those without asterisks) with their corresponding quantities were derived from a report by Surgeon W. C. Spencer, U.S. Army, contained within The Medical and Surgical History of the War of the Rebellion, I, Part 3, pp. 964-966. These supplies were purchased or manufactured during the war by the Medical Department of the Army. The medicines and supplies which have an asterisk after the quantity were derived from the Report of the Secretary of War, Abstract "A", Volume III, House Documents, 39th Congress; 2nd Session, 1866, pp. 384-388. This abstract contains a statement of the quantity of medical supplies issued during the war from the purveying depots at New York City, Philadelphia, Penn., Baltimore, Md., Washington, D.C., Cincinnati, Ohio, Louisville, Ky., and St. Louis, Mo.

In comparing the quantities of the medicines and supplies of the latter report to those of the former, many differences are noted which can be reconciled in part by the fact that the larger depots furnished supplies to the smaller, making accounting duplications easier, and in part by the fact that some of the supply records (which Spencer could have had access to at a later date) may not have been included in the 1866 computations. Therefore some duplication probably occurred in instances

quantitative disbursements. A list of the quantities of
and their individual total quantities, together with
of medicines officially supplied to the Army, Navy,
Civil War, is presented in the report.
Medicines and supplies listed in the report were
corresponding quantities were shown in the report.
W. D. Browner, U. S. Army, contributed to the
Medical History of the War of 1861-1865, Vol. I,
964-966. These supplies were shown in the report
the war by the Medical Department of the Army, and
and supplies which were in storage at the time of
derived from the report of the Medical Department,
Volume III, War of 1861-1865, Vol. I, 964-966.
pg. 964-966. This abstract contains a list of
of medical supplies issued during the war, and
deposits at New York City, Philadelphia, and
Washington, D. C., Cincinnati, Ohio, and
Louis, Mo.

In comparing the quantities of the supplies
of the latter report to those of the former,
are noted which can be reconciled. The
larger reports furnished supplies to the
ing disbursements earlier, and in the
the supply records (which showed
a later date) and not have been
shown. Therefore some duplication

where the amounts are greater, and incomplete accounting may have occurred where the amounts are smaller than those of Spencer's report.

The medicines which appear under "Quantities of Medicines Issued During the War" in the appendix may be classified several ways for the sake of dissertation. One method is derivation. Of the 155 medicines listed, a majority of 84 are botanical; second are those of the mineral kingdom numbering 56; 10 are derived from the animal kingdom; and for convenience Aether Fortior, Aetheris Spiritus Compositus and Nitrici, Alcohol Fortius, and Chloroform can be lumped together under the title "Alcohols."

Another method of classification and one to which more space is devoted is that of the assignment of general therapeutic values to the articles of materia medica.

Remedies of a general nature are dealt with first. These medicines had a secondary, remote, or constitutional (therapeutic) effect on a diseased body. The second broad classification of medicines dealt with are "Local Remedies." These remedies had an immediate effect upon the part of the body to which they were applied. ¹⁶

¹⁶ Neill, John, and Smith, Francis F., An Analytical Compendium of the Various Branches of Medical Science (Philadelphia: Blanchard and Lea, 1856), pp. 693-694, and Wood, George B., and Bache, Franklin, The Dispensatory of the United States of America, 11th ed., (Philadelphia: J. B. Lippincott and Company, 1858). The Dispensatory is of invaluable aid as a general reference on the therapeutic uses of medicines. In this chapter the Dispensatory is cited but once as it is used only for general reference purposes.

Substances which caused a constriction of the living tissues to which they were applied, diminution of secretions, and of hemorrhagic discharges were called Astringent. This type of medicine was employed in chronic diarrhoea, dysentery, passive hemorrhages, bronchial discharges, catarrh of the bladder, and locally, on gonorrhoea, leucorrhoea, otitis, and several types of ulcers.¹⁷ Botanical astringents issued during the period were Tannic Acid and Catechu totaling 196,760 ounces. The astringents termed mineral were Lead and Alum with a total of 823,235 ounces issued.¹⁸

Medicines which had the power to increase gradually the muscular fibre tone and revigourate a body weakened by disease were called "Tonic." They were especially indicated in functional disorders of the digestive organs and in convalescence.¹⁹ Among the botanical tonics were Gentian, Peruvian Bark, Quinia, Wild Cherry Bark, Cinnamon, Nutmeg, Black Pepper, Cubebs, Ginger, Brandy, Peppermint, and Spirit of Lavender. The botanical tonics issued totaled 4,986,358 ounces, 178,050 dozen pills, and 582,187 thirty-two ounce bottles. Minerals used as tonics included preparations of Iron, Copper, Zinc, Silver, Subnitrate of Bismuth, the Mineral Acids, and the animal Cod-Liver Oil.

¹⁷ Ibid., p. 705.

¹⁸ For all respective individualized totals throughout this chapter see "Quantities of Medicines Issued During the War" in the appendix. (Botanical astringents: Acidum Tannicum and Catechu. Mineral astringents: Plumbi Acetas and Alumen.)

¹⁹ Neill and Smith, Compendium . . . , p. 712.

Mineral tonics issued totaled 3,990,225 ounces plus 114,596
32-ounce bottles.²⁰

Substances which increased or facilitated as a primary action the activity of the circulation were called arterial stimulants. These medicines were used in cases of "sudden or great prostration."²¹ The more common arterial stimulants used in this period were the Ammoniae and Cayenne Pepper. Total quantities issued for this class were: mineral preparations 864,127 ounces, and botanical preparations 209.623 ounces.²²

Various articles like Assafoetida, Valerian, Coffee and Tea stimulated the nervous system. These medicines therefore were called nervous stimulants or antispasmodics and were used in cases of hysteria, hooping-cough, asthma, etc. The total

20

The medicines from the list in the appendix classified as botanical tonics: Black Pepper, Cinchonae Calisayae Pulvis, Cinchonae Sulphas, Cinnamon, Cubebae Oleo-resina, Cubebae Pulvis, Extractum Cinchonae Fluidum, Extractum Gentianae Fluidum, Extractum Pruni Virginianae Fluidum, Extractum Zingiberis Fluidum, Ferri et Quinae Citras, Ginger, Nutmegs, Olei Menthae Piperitae, Oleum Cinnamomi, Pilulae Quinae Sulphas, Quinae Sulphas, Spiritus Lavandulae Comp., And Spiritus Vini Gallici. Those classified as mineral tonics: Acidum Muraticum, Acidum Nitricum, Acidum Phosphoricum Dilutum, Acidum Sulphuricum, Acidum Sulphuricum Aromaticum, Argenti Nitras, Bismuthi Subcarbonas, Cupri Sulphas, Ferri Chloridi Tinctura, Ferri Iodidi Syrupus, Ferri Persulphatis Liquor, Ferri Persulphatis Pulvis, Ferri Pilulae, Ferri Sulphas, Oleum Morrhucae, Zinci Acetas, Zinci Carbonas, and Zinci Sulphas.

21 Neill and Smith, Compendium . . . , p. 731. Articles classified as mineral arterial stimulants: Ammoniae Carbonas, Ammoniae Murias, and Ammoniae Spiritus Aromaticus. Capsici Pulvis was considered to be botanical.

22

Ibid.

issuance of these articles (all botanical) was: 256,685 ounces of Assafoetida and Extractum Valerianae Fluidum, 559,291 pounds of Coca and Tea, and 25,317 gallons of Coffee.²³

Stimulants which acted chiefly upon the brain with a "narcotic" effect were termed cerebral stimulants. These stimulants also influenced the circulatory and spinal nervous systems. Narcotic stimulants were used in medicine extensively for their anodyne, stimulating and antispasmodic values.²⁴

The amounts of cerebral stimulants issued totaled 5,880,325 ounces, 1,193,214 dozen pills, 3,127,534 32-ounce bottles, and 1,833,948 16 ounce bottles.²⁵

In cases of debilitated, sluggish conditions of a part, or of the whole of the body, as in partial paralysis, or inertia, remedial agents called excito-motor stimulants were used. These agents excited the anterior or motor centers into action causing reflex muscular movements. The more common medicines

²³ Ibid., p. 733.

²⁴ Ibid., p. 736.

²⁵ The cerebral stimulants were comprised almost entirely of botanical drug articles: Camphora, Extractum Belladonnae, Extractum Hyoscyami, Morphiae Sulphate, Opii Pulvis, Opii Tinctura, Opii Tinctura Camphorata, Pilulae Camphorae et Opii, Pilulae Opii, Porter, Sherry, and Whiskey. The exceptions which are included in the totals have been classified as Alcohols because of their basic similarities and uses. Various elements in their construction and the uses to which these drugs were put-make a separate classification necessary. The Alcohols included here are Aether Fortior, Aetheris Spiritus Compositus, Alcohol Fortius, and Chloroform, which amount to 2,506,399 ounces and 483,930 thirty-two ounce bottles of the total.

used as this type of stimulant were Ergot, Nux Vomica, and Strychnia. Issuance of these three botanicals totaled 35,692²⁶ ounces.

In cases of high vascular action such as the different inflammations and fevers (non-typhoidic), several medicines were used which produced a depressed or slowed circulatory action. These medicines were called arterial sedatives and/or refrigerants.²⁷ Botanical drugs used were Acetic Acid and Citric Acid. Drugs of a mineral derivation which were used were Tartar Emetic, Tartaric Acid, and Chlorate of Potassa. The issuance of these articles totaled 1,671,437 ounces. Of this amount 685,278 ounces came from botanical sources, and 986,159 ounces came from minerals.

Medicines which acted as sedatives upon the cerebro-spinal system were classified as nervous sedatives. Aconite and Hemlock were two of these drugs. Aconite diminished sensation in the extremities, "muscular debility, contraction of the pupil, but no delirium or stupor."²⁸ This drug was used internally in chronic rheumatism, gout, and cancer. Externally it was applied as a tinctural application in cases of neuralgia. Hemlock affected the nerves of motion by paralyzing the

²⁶ Neill and Smith, Compendium . . . , p. 748.

²⁷ Ibid., p. 750. Refrigerants were medicines which produced a cooling effect upon the surface of the body because of a reduced vascular action.

²⁸ Ibid., p. 755.

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voluntary muscles. This medicine was applied in cases of scrofula, syphilis, and cancers.²⁹ Both of these nervous sedatives can be classified as botanicals with a total issuance of 231,850 ounces.

Alternative medicines were believed to gradually modify the "nutrition," and counteract the action, of a diseased organ or tissue thereby recreating a healthy condition. Common articles used as alterative medicines were: Mercury, Preparations of Mercury, Iodine, Preparations of Iodine, and Arsenic.³⁰ The aggregate amount issued of this type of medicine, all from mineral sources, was 936,981 ounces.

The most common medicine used during the Civil War period to produce vomiting, termed emetic, was Extract Fluid of Ipecacuanha, a botanical. Emetics were used to remove substances from the stomach, such as poisons or other substances introduced into the body via the digestive passages, to deplete obnoxious matters from the system, to promote secretions, to promote a shock to the system for breaking up of acquired diseases, to create pressures on the surrounding entrails, to reduce arterial actions, and to cause stomach revulsion. Emetics were avoided wherever possible in congestion of the brain,

²⁹ Ibid., pp. 755-757.

³⁰ Ibid., p. 758. The specific articles classified as alteratives from the list in the appendix entitled "Quantities of Medicines Issued During the War" were: Arsenitis Potassae Liquor, Hydrargyri Iodidum Flavum, Hydrargyri Oxidum Rubrum, Hydrargyri Unguentum, Hydrargyri Unguentum Nitratis, Hydrargyrum Cum Creta, Iodinium, and Potassii Iodidum.

hernia, and stomachic inflammations. The total amount distributed of this particular type of medicine was 313,739 ounces.³¹

Medicines which evacuated the alimentary canal were called cathartics. Those cathartics which merely evacuated intestinal contents were termed laxative; those which created an increased secretion, mucous or bile, were called purgative; and those that caused large watery discharges were called hydragogues. The term drastic was applied to those cathartics that acted with great violence. Some medicines such as Rhubarb were used to produce a tonic impression instead of depletion. Different cathartics were used to affect the various parts of the alimentary canal. Aloes was used for action upon the rectum; Calomel for action upon the upper bowels, and the neutral salts for action upon the whole tract.³² Generally cathartics were used to evacuate harmful materials from the bowels, relieve constipation and its accompanying evils, and to cause bowel revulsions, particularly in cerebral disorders. Neill and Smith say that "They are contra-indicated in inflammation of the mucous membrane of the bowels; and should be cautiously employed in typhoid fever."³³

Botanical drug articles used as cathartics were: Aloes,

³¹ Ibid., pp. 764-765.

³² Ibid., p. 766.

³³ Ibid., p. 767.

American Hellebore, Castor Oil, Colocynth, Compound Cathartic Pills, Croton Oil, May-Apple, Olive Oil, and Rhubarb. Mineral drug articles used as cathartics were: Blue Pills, Calomel, Rochelle Salts, Sulphate of Magnesia, Sulphur, and Tartrate of Potassa. The amounts of this medicine disseminated within the Union Army totaled: Botanical-1,034,471 ounces, 655,982 dozen pills, and 179,105 32-ounce bottles; Mineral-785,766 pounds and 2,105,441 ounces.³⁴

Certain medicines used during the Civil War period were considered to increase the secretion of urine. The medicines were termed diuretics as they acted upon the system by being absorbed and going into direct contact with the kidneys, by promoting absorption into the blood-vessels, or by stimulating the mucous membrane of the urinary passages. Diuretical medicines were used chiefly in dropsies, and in inflammations and irritations of the urinary tract. As a class their actions were rather uncertain.³⁵ The more common articles considered as diuretical and used for those particular values were: Acetate of Potassa, Bicarbonate of Potassa, Copaiba, Creasote,

³⁴ Those medicines from the list in the appendix entitled "Quantities of Medicines Issued During the War" given cathartic properties: Botanical-Aloes Pulvis, Extractum Colocynthis Compositum, Extractum Rhei Fluidum, Extractum Veratri Viridis Fluidum, Oleum Olivae, Oleum Ricini, Oleum Tigllii, Pilulae Catharticae Compositae, Podophylli Resina, Rheum, Rhei Pulvis. Mineral-Hydrargyri Chloridum Mite, Hydrargyri Pilulae, Magnesiae Sulphas, Potassae Bitartras, Sapo, Sodae et Potassae Tartras, Sulphur.

³⁵ Neill and Smith, Compendium . . . , pp. 778-779.

Fluid Extract of Buchu, Extract of Colchicum, and Sweet Spirit of Nitre. The sum total amount of diuretic medicines issued was 3,897,571 ounces. Of that total 2,050,653 ounces were mineral, and 1,846,981 ounces were botanical.³⁶

Medicines which increased the function of perspiration were called diaphoretics or refrigerants. A diaphoretic medicine acted in one or more ways to increase the function of perspiration: it relaxed the surface of the skin; it stimulated the sweat glands; it stimulated the system generally; it acquired sympathy from the stomach; or it filled the blood vessels. These medicines were usually used as evacuants. The more common mineral diaphoretics were Borate of Soda and Nitrate of Potassa which had a total issuance of 405,691 ounces. Dover's Powder and Ipecacuanha Powder were the major botanical diaphoretics. Issued amounts of botanical diaphoretics totaled 775,180 ounces. Together the mineral and botanical diaphoretics totaled 1,180,871 ounces.³⁷

Drug articles which increased or promoted the evacuation of the bronchial secretions were classified as expectorants.

³⁶ Those medicines classified as mineral diuretics were: Aetheris Spiritus Nitrici*, Potassae Acetas, and Potassae Bicarbonas. Those medicines considered as botanical diuretics were: Copaiba, Creasotum, Extractum Buchu Fluidum, and Extractum Colchici Seminis. (*Elsewhere this article is classified with the Alcohols. It is counted with the mineral diuretics here because of its particular diuretic therapeutic values.)

³⁷ Neill and Smith, Compendium . . . , p. 785. Mineral diaphoretics, per the list in the appendix, were Potassae Nitras and Sodae Boras. Botanical diaphoretics were Ipecacuanhae Pulvis and Ipecacuanhae et Opii Pulvis.

Some of the expectorants acted by producing relaxation; others by stimulating the mucous exhalant vessels, and still others acted by stomachic sympathy. The expectorants were used in cases of inflammatory or fevered excitement and in cases of enfeebled action. Among the principal expectorants used were the botanicals, Fluid Extract of Seneka, Powdered Squill, and Syrup of Squill, with an issuance total for the Civil War period of 183,582 pounds and 362,815 ounces.³⁸

Those medicines which produced blisters when applied to the skin were called epispastics or vesicatories.³⁹ Epispastics were employed for their stimulant action (both general and local), and occasionally to procure a denuded surface for endermic medicine applications. This type of medicine was relied upon for its therapeutic uses in diseases of the Genito-Urinary system. Epispastics were also considered powerfully revulsive and were used for that reason in inflammations of the internal organs. Commonly used epispastic medicines were Cerate and Powder of Spanish Flies. The Union Army consumed 485,059 ounces of these medicines during the Civil War years.⁴⁰

³⁸ Ibid., p. 789. Botanical medicines used in the expectorant classification were: Extractum Senegae Fluidum, Scillae Pulvis, and Scillae Syrupus.

³⁹ The objectives desired from blistering were: to establish a degree of counter-irritation upon the surface of the body, and thus to substitute a mild and easily managed disease for an internal and difficult one (on the principle that two different inflammations cannot be carried on in the system at the same time); to stimulate absorption in the removal of effused fluids; to act as derivatives; to stimulate the system and increase the vigor of the circulation.

⁴⁰ Neill and Smith, Compendium . . . , p. 794. The epispastic

Drug articles very similar in action to epispastics but slower in operating effect were the rubefaciens. When applied externally rubefaciens caused skin irritation and were used for this vesicant reason in local inflammations. Rubefaciens were inferior to the epispastics in their power of combating disease, and because of this factor they were used as revulsives in spasms and nervous irritations. Oil of Turpentine, Powdered Mustard, and Solution of Ammonia were the more common drug articles classified as rubefaciens. Issued amounts of these rubefaciens totaled 1,237,627 ounces from mineral sources and 94,824 32-ounce bottles and 219,012 pounds from botanical sources.⁴¹

Substances which operated as chemical solvents of the tissues, to which they were applied, were called escharotics or caustics. This type of drug was used, depending upon its strength, to cause sloughs or running sores, to repress fungous granulations, change the character of diseased surfaces, and to open up abscesses. Fused Nitrate of Silver in weak solution was considered a safe and excellent escharotic, particularly useful as an application to ulcers, cornea ulcers, and inflamed tonsils. Corrosive Sublimate, a very powerful caustic, was usually used in weak solution as a gargle in

(Con't.) medicines *Cantharidis Pulvis* and *Cantharidis Ceratum* were derived from the animal kingdom.

⁴¹ *Ibid.*, p. 795. *Ammoniae Liquor* was the mineral and *Oleum Terebinthinae* and *Sinapis Nigrae* were the two botanical rubefaciens.

They are very similar in action to opiate, but slower in operating effect than the opiate. When applied externally rubefacients caused skin irritation and were used for this purpose in local irritations. Rubefacients were inferior to the opiate in their power of producing disease, and because of this they were used as counter-irritants in opiate and nervous irritations. Oil of Turpentine, Powdered Mustard, and Solution of Ammonia were the more common drug articles classified as rubefacients. I found numbers of these rubefacients listed 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

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(Con't.) medicines considered safe and escharotics for use were derived from the animal kingdom.

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venereal sore throat, and a lotion on chronic skin diseases. Permanganate of Potassa was a powerful caustic and was used chiefly to form sloughs, open abscesses, and destroy diseased surfaces. Escharotics issued, all derived from mineral sources, totaled 64,813 ounces.⁴²

Medicinal drug articles called demulcents diminished the pain and tension of inflamed internal passages. Demulcents were considered to assist in producing complete resolution of internal irritations or, if too far advanced for that, they at least aided the suppurative process. Medicines classified as being demulcent consist entirely of botanicals. Total issuance was 2,305,676 ounces of Gum Arabic, Flaxseed, Glycerin, Liquorice, Liquorice Root, plus 951,485 pounds of Arrow-Root, Barley, Corn Starch, Powdered Flaxseed, and Tapioca.⁴³

Mineral substances which combined with and neutralized acids by their chemical actions were called antacids. The more popularly used antacid articles were Bicarbonate of Soda, Magnesia, and Prepared Chalk. These articles were used in removing excess acids from the stomach and bowels which caused diarrhoea, etc., and in cases of uric acid dispositions where there were tendencies toward gout or gravel. There were 965,828 ounces of antacids employed by the U. S. Army Medical Department during

⁴² Ibid., pp. 797-799. Used as escharotics were Argenti Nitras Fusus, Hydrargyri Chloridum Corrosivum, and Potassae Permanganas.

⁴³ Ibid., pp. 799-803. Those articles used as demulcent were: Acaciae Pulvis, Corn Starch, Extractum Glycyrrhizae, Glycerina, Glycyrrhizae Pulvis, Hordeum, Lini Pulvis, Linum, Maranta, Tapioca.

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Medicines, like the botanical Pink Root, which destroy or expel worms from the alimentary canal, were called anthelmintics. Some of the anthelmintics destroyed worms by a poisonous influence; others expelled the worms by acting as drastic cathartics. There were 81,675 ounces of Pink Root issued to the Union Army during the Civil War.⁴⁵

Chemical agents used to combat and neutralize disease emanations "morbific effluvia," all derived from mineral sources, were called disinfectants. The chief disinfectants employed by the U. S. Medical Department and their total issued amounts were: Chloride of Lime 364,551 pounds, Solution of Chloride of Soda 167,459 pounds, and Solution of Chloride of Zinc, 486,966 ounces. There were also issued 10,705 small packages of the antiseptic Solution of Chlorine. Antiseptics were included within the disinfectant class.⁴⁶

The U. S. Army issued a number of medicinal agents during the war years which really belong to several general classes, and as they are so few in number they therefore are dealt with by being classified as miscellaneous. The first miscellaneous

⁴⁴ *Ibid.*, pp. 804-805. Antacid articles from the list in the appendix entitled "Quantities of Medicines Issued During the War" were Greta Preparata, Magnesia, and Sodae Bicarbonas.

⁴⁵ *Ibid.*, pp. 805-808. The officinal name for the Pink Root preparation used by the Union Army was *Extractum Spigeliae Fluid*.

⁴⁶ Dunglison, Robley, *A Dictionary of Medical Science* (Philadelphia: Blanchard and Lea, 1860), pp. 75, 306, and 602. The officinal names for the disinfectant preparations were Chloride of Lime, Chlorinium, Soda Chlorinatae Liqueur, and Zinc Chloridi Liqueur.

article is Cera Alba or White Wax with 472,343 ounces being issued. The chief employment of this wax was as an ingredient in almost all the officinal cerates, ointments, and plasters.⁴⁷ In this miscellaneous classification are two generally used ointments for burns--Basilicon Ointment (Ceratum Resinae) and Simple Cerate (Ceratum Adipis) with their sum total issuance being 261,929 pounds.⁴⁸ Also issued were 28,992 ounces of Maynard's Adhesive Liquid (Collodium) which was used with other medicinal agents for external applications on ulcers, abrasions and chapped skin. This adhesive was occasionally used with ether, in cases of wounds, to keep their edges together after surgery.⁴⁹ There were 2,421 ounces of Hydrated Sesquioxide of Iron (Ferri Oxidum Hydratum) issued during this period for U.S. military uses. According to the 11th edition of The Dispensatory of the United States of America this drug article was principally employed as an antidote for Arsenic poisoning. The last articles under this miscellaneous classification are Desiccated Egg, Extract of Beef, and Wheat Flour (Farina) with an aggregate issuance totaling 920,605 pounds. These articles were used especially as nutritious foods in convalescence.⁵⁰

In addition to all the foregoing amounts of medicinal

⁴⁷ Ibid., p. 186.

⁴⁸ Ibid., p. 187.

⁴⁹ Ibid., p. 223.

⁵⁰ Ibid., pp. 123, 375, and 667.

supplies issued to Union forces, large quantities of ice were consumed by the armies engaged in active fighting. Ice was used to cool refrigerant drinks for fevers and occasionally in cases of external inflammations.⁵¹ Each patient in hospitals south of the latitude of Washington, D.C. was allowed one pound of ice each day; north of that latitude the patient was allowed only half a pound of ice per day. The total amount of ice issued in this manner during the years 1862 through 1865 amounted to 48,661 tons. Also furnished to Union Soldiers at government expense during the intervening period between July 16, 1862 and May 4, 1867, were 49 artificial eyes, 61 hands, 2,391 arms, 4,095 legs, 14 feet and 144 apparatuses for resection.⁵²

Excluding the miscellaneous medicinal articles, Cerebral Stimulants were issued in greater quantities than the other drug classifications. Cathartics and Tonics were also issued in very large amounts. Excito-motor Stimulants was the therapeutic classification which had the least amounts issued. Caustics and Anthelmintics were also in the low quantities issued bracket.

⁵¹ Ibid., p. 487.

⁵² M&SH, I, Part 3, pp. 964-966. The large quantities of ice purchased from the hospital funds by the Union Army's general, post, and regimental hospitals are not included in the total amount of ice issued during the Civil War.

Standard Supply Tables

General and Post Hospitals

Two of the Standard Supply Tables for General and Post Hospitals are reproduced, in part, in the appendix. The sections presented are the medicines and drugs, with their corresponding quantities, for the years 1861 and 1862. These sections are given in full because of the many quantitative changes, the numerical variations, and the adoption in 1862 of a slightly different terminological spelling.⁵³

The number of medicines on the Supply Tables varies from one year to the next. Year to year variations are noted in the presented chart.

NUMBER OF MEDICINES PER SUPPLY TABLE FOR GENERAL AND POST HOSPITALS

| Year | Number of articles
under "Materia Medica" | Number of articles
under "Hospital Stores" |
|------|--|---|
| 1861 | 155 | 11 |
| 1862 | 129 | 15 |
| 1863 | 126 | 15 |
| 1867 | 134 | 17 |

In the succeeding materials only the major drug changes are presented, and their numbers bear only slight correlation to the numerical differences noted in the preceding chart. Many of the article changes between tables are merely revisionary. The drug may be an extract and/or tincture on one table and a powder on the other or the reverse. Some items are found in

⁵³ See "Standard Supply Table for General and Post Hospitals 1861" and "Standard Supply Table 1862" in the Appendix.

General and Special Agents

For a full and complete list of names, please refer to the

list of names which is attached to this report.

presented to the committee for their consideration.

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the main list on one table and under "Hospital Stores " or another section of a different table. An article may, on one table, have several preparations; i.e., it may be listed as a tincture, a powder, and an extract, whereas on another table it may be listed only once. Whatever the case, and because there are some duplications, only the more important additions and deletions from one table to the next are noted.

Derivation by categories of the 166 articles on the 1861 Supply Table gave the subsequent results that 98 of the articles were botanical, 56 of the articles were mineral, five were alcohols, and seven came from animal sources.⁵⁴

In characterizing, or placing in their proper categories the 144 Materia Medica items of the 1862 Supply Table, it is found that 78 of these articles were derived from botanical sources, 53 of the articles were derived from minerals, five were alcohols, and eight originated from the animal kingdom.⁵⁵

There were 31 major drug articles on the 1861 Supply Table which were not on the Table for 1862. Twenty-five of these items were botanical, four were mineral, one was an alcohol, and one stemmed from an animal source.⁵⁶ Seventeen new drugs

⁵⁴ United States War Department, Revised Regulations for the Army of the United States, 1861 (Philadelphia: J. B. Lippincott and Company, Publishers, 1861), pp. 292-297.

⁵⁵ Surgeon General, U.S. Army, Circular No. 12, October 20, 1862, Directions Concerning the Manner of Obtaining and Accounting for Medical and Hospital Supplies for the Army with a Standard Supply Table (Washington: Government Printing Office, 1862), pp. 7-10.

⁵⁶ United States War Department, Revised Regulations for the Army of the United States, 1861, pp. 292-297. The major

were added to the 1862 Supply Table which had not been on the 1861 Table. Of the new drugs nine emanated from botanical sources, five from minerals, two from animals, and one was an alcohol.⁵⁷

In order to make some quantitative comparison between the Supply Tables for 1861 and 1862, a table of carefully selected examples is produced in the appendix.⁵⁸ There is much variation in authorized materia medica allowances from the peacetime table of 1861 to the first table used under war conditions. For this reason, and to eliminate unnecessary detail, a generalized excerpt of comparisons is formulated, for the quantities upon the comparative table, using quantitative allowances for a similar number of troops. The comparisons generally will hold true proportionately for the reduced amounts allotted lesser numbers of troops. In looking at the comparative quantities it will be

(Con't.) drugs on the 1861 Supply Table not on the Table for 1862 were: Acacia in lump form, Acidi Arseniosi, Acidi Benzoici, Aetheris Sulphurici, Ammoniac, Anise, Anthemidis, Arnica, Cajuputi, Digitalis, Gambogia, Guaiaci Resinae, Jalapa, Maranta, Mellis Despumati, Myrrha, Origanum, Piceis Abietis, Potassae Sulphatis, Potassii Cyanureti, Pruni Virginianae, Quassia, Sabina, Sarsaparilla, Senna, Serpentaria, Taraxacin, Ulmin.

⁵⁷ Surgeon General, U.S. Army, . . . Standard Supply Table, 1862, pp. 7-10. Major drugs added to the 1862 Supply Table which are not on the 1861 Table were: Acidum Phosphoricum Dilutum, Aether Fortior, Cinchonae Sulphas, Chlorinium, Chocolate, Corn Starch, Extract of Beef, Extractum Cinchonae Fluidum, Ferri Persulphatis Pulvis, Ferri Oxidum Hydratum, Gelatine, Glycerina, Hydrargyri Pilulae, Nux Vomica, Pilulae Catharticae Compositae, Podophylli Resina, Tapioca.

⁵⁸ See "Quantitative Comparisons Between the Supply Tables for 1861 and 1862."

noted that there was usually a reduction from 1861 to 1862. Possibly the answer lies partially in the need for judicious issuance to facilitate the increased needs of an enlarged soldiery. Part of the answer also lies with the Board of June 17, 1862, whose purpose was to introduce improvements into the Supply Table (1862). The members of this board had a reasonable amount of experience in the medical world, and their product--the Supply Table for 1862--received few complaints as to quantities. It must be remembered that this table, unlike its predecessor, was elastic. When a need arose, increased supplies were furnished if at all possible.

Very few article changes of *materia medica* are noted on the 1863 Supply Table in comparison with the Table for 1862. No article changes occurred between the two lists of "Hospital Stores" except that Corn Starch and Farina, instead of being packaged in one pound papers as they were in 1862, were packaged in tins on the 1863 Supply Table. There were 126 articles of *materia medica* on the 1863 Table, three less than on the 1862 table, and 15 articles under "Hospital Stores," the same number as in 1862. The difference is accounted for because *Antimonii et Potassae Tartras* (Tartar Emetic), *Hydrargyri Chloridum Mite* (Mild Chloride of Mercury or commonly called Calomel), and *Hydrargyrum Cum Greta* (Mercury with Chalk) were not put on the Standard Supply Table in 1863. Of the 141 items on the 1863 Supply Table, 78 were derived from botanical sources, 50 were mineral, five were alcohols, and eight came from animal

sources. The three deleted medicines were minerals.⁵⁹

Quantitative changes between the 1862 and 1863 Supply Tables were also few in number. The allowance of *Extractum Colchici Seminis Fluidum* for troops in the field was increased from four ounces in 1862 to eight ounces in 1863. The allowance of *Extract of Beef* for troops in the field was reduced from 36 pounds in 1862 to 24 pounds in 1863.

The 1867 Supply Table had a total of 151 medical articles. When this total is partitioned into the four general categories there are 84 botanical drugs, 56 mineral drugs, five alcohols, and six drugs from animal sources. *Cinchonae Sulphas*, a botanical drug, and *Ferri Oxidum Hydratum*, a mineral drug, were two articles which were on the 1863 Supply Table but not on the Table for 1867. There were 15 medical articles, seven botanical and eight mineral, added to the 1867 Supply Table which are not on the 1863 Table. For the quantitative allowance of these new articles see "Drugs Added to the 1867 Supply Table which are not on the 1863 Table" in the appendix.⁶⁰

⁵⁹ Surgeon General, U.S. Army, . . . Standard Supply Table, 1863, pp. 1-21, "*Calomel and Tartar Emetic in the Army*," The American Medical Times, VI (June 20, 1863), 297-298; "*Removal of Calomel and Tartar Emetic*," Ibid., 298-299; and Adams, Doctors in Blue, pp. 38-39. These drugs were not put on the 1863 Supply Table by the orders of Surgeon General William A. Hammond, who used as a reason their misuse in the treatment of disease. His original order concerning the deletion of *Calomel* and *Tartar Emetic* was issued May 4, 1863, as Circular No. 6. As this order is not available, Circular No. 7 is cited illustrating the resulting changes along with other supporting articles.

The medical articles added to the 1867 Supply Table since 1863 were: *Antimonii et Potassae Tartratis*, *Brominii*, *Digitalis Tincturae*, *Extracti Cannabis Purificati*, *Ferri*

There are many quantitative differences between the 1863 and 1867 Supply Tables. The great majority of these quantitative changes were reductions from 1863 to 1867 in the amounts allowed. Actually these reductions were normal for the war was over creating lesser demand and a smaller need for the same amounts of medicinal agents.⁶¹

A few of the medicines utilized by the U.S. military during the Civil War underwent various changes. Opium was one of the medicines which experienced several changes. On the 1861 Supply Table it was listed only in its simplest forms, lump and powder. By 1862 there were several preparations of "Opium" which were used throughout the war. There was a tincture of Opium, a preparation of Opium with Camphor, and several types of Opium pills. In 1867 a deodorized tincture of opium was put on the Standard Supply Table. Bismuthi Subnitratidis (Subnitrate of Bismuth or White Oxide of Bismuth) was on the

(Con't.) Sulphatis Exsiccatae, Hydrargyri Chloridi Mitis, Hydrargyri Cum Creta, Morphiae Acetatis, Olei Limonis, Olei Theobromae, Opii Tincturae Deodoratae, Potassae Permanganatis, Potassii Bromidi, Potassii Cyanidi, Arrow-Root.

⁶¹ Surgeon General, U.S. Army, Circular No. 6, May 9, 1867, Standard Supply Table of the Medical Department of the United States Army (Washington: Government Printing Office, 1867), pp. 1-5. See "Quantitative Comparison Between the Supply Tables for 1863 and 1867" in the appendix. This is a table of quantity comparisons of the allowances for General Hospitals (1,000 beds), for a Regiment or 1,000 troops (on the 1867 Supply Table " . . . including a Post Hospital of 50 Beds") at permanent posts, and for a Regiment or 1,000 troops in the field. Noted are all the medicines which have quantitative differences. Not shown are the allowances for fewer numbers of beds. This was done to save space and to preclude unnecessary detail as the increases or reductions will generally be the same proportionately for the lesser allotted amounts.

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1861 Supply Table but was replaced on the 1862 and 1863 Supply Tables with Bismuthi Subcarbonas (Subcarbonate of Bismuth). By 1867 Bismuthi Subnitrat is was again being used instead of the Subcarbonas. Another drug article, Carbonate of Zinc, was on the 1862 and 1863 Supply Tables but was replaced by 1867 with Oxide of Zinc. These preparations were very similar.

Field Service

Drug items placed on the Field Service Standard Supply Tables were those articles considered to be the most suitable medicinal accouterments for an army in the field subject to battle conditions. Suitable field equipment consisted of those medicines, stores, instruments and dressings, in quantities thought substantial, which were most necessary in emergency cases and which could be transported easily from spot to spot.

Field Service supply allowances for the years 1861 and 1862 are reproduced, in part, in the appendix. Reproduced are the medicines and "Hospital Stores" with their respective listed quantities.⁶²

The number of medicines, like those for General and Post Hospitals, varied from one year to the next. A reference chart of the year-to-year number of medicines is given for comparison.

⁶² See "Standard Supply Table for Field Service 1861" and "Standard Supply Table 1862" in the appendix. The latter table lists the 1862 allowance for three months for a Regiment or 1,000 troops in the field.

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NUMBER OF MEDICINES PER SUPPLY TABLE FOR FIELD SERVICE

| Year | Number of articles
under "Materia Medica" | Number of articles
under "Hospital Stores" |
|-------|--|---|
| 1861 | 78 | 7 |
| 1862 | 74 | 7 |
| 1863 | 73 | 7 |
| *1864 | 56 | 11 |
| 1867 | 78 | 8 |

*Consolidated statement of articles and quantities of medical and hospital property carried with the Army of the Potomac across the Rappahannock, May 4, 1864, taken from the OR, Series I, Volume XXXVI, Part I, pp. 222-223, and M&SH, I, Part I, pp. 168-170.

In succeeding pages the major additions and deletions of medicines from one year to the next are discussed. This material, like that for the "General and Post Hospitals," is concerned with the more distinctive changes and not with each minute difference. As stated before, under the section dealing with General and Post Hospitals, many of the articles on one table may have several preparations and on the next table have only one. Because only the major changes are discussed, their numbers will have little correlation to the numerical differences noted in the chart entitled "Number of Medicines Per Supply Table for Field Service." For quantitative variations see the charts presented in the appendix which contain those comparative facts.

The Field Supply Table for 1861 had 85 materia medica articles listed. Forty-seven of these articles were botanical, 29 were mineral, four were alcohols, and five originated from animals. Of the 81 drug items on the 1862 Field Supply Table, 42 were derived from botanical sources, 28 were constructed

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from minerals, five were alcohols, and six came from animal sources.⁶³ Eighteen medicinal items, of which 13 were botanical and five were mineral, from the 1861 Field Supply Table were not put on the Table for 1862.⁶⁴ Added to the 1862 Field Supply Allowance were 17 materia medica articles which did not appear on the Table for 1861--11 were botanical, three were mineral, one was an alcohol, and two were from animal sources.⁶⁵

There were 80 materia medica items on the 1863 Field Supply Table. Of this number 43 of the articles stemmed from botanical origins, 26 were derived from minerals, five were alcohols, and six came from animal sources. By 1863 two mineral drugs, Antimonii et Potassae Tartras Pulvis and Hydrargyri Chloridum Mite, had been deleted from the Field Supply Table by orders from the Surgeon General. On the 1863 Table eight ounces

⁶³ United States War Department, Revised Regulations for the Army of the United States, 1861, pp. 304-307, and Surgeon General, U.S. Army, . . . Standard Supply Table, 1862, pp. 7-10.

⁶⁴ Drugs on the 1861 Field Supply Table not on the Table for 1862 were: Acidi Acetici, Brominii, Extracti Buchu Fluidi, Extracti Glycyrrhizae, Extracti Rhei Fluidi, Extracti Sennae Fluidi, Farina, Liquoris Potass. Arsenitis, Maranta, Olei Caryophylli, Olei Menthae Piperitae, Potassae Nitratis, Potasii Cyanureti, Pulveris Capsici, Pulveris Rhei, Strychniae, Tincturae Veratri Viridis, Zinci Acetatis.

⁶⁵ Medicinal items added to the Field Supply Allowance for 1862 not on the 1861 Table were: Aether Fortior, Beef, Cinchonae Sulphas, Coffee, Collodium, Extracti Cinchonae Fluidi, Extracti Ipecacuanhae Fluidi, Ferri et Quiniae Citras, Ferri Persulphatis Liquor, Glycerina, Milk, Opii Tinctura Camphorata, Pilulae Camphorae et Opii, Scillae Pulvis, Scillae Syrupus, Sodae Chlorinatae Liquor, Zinci Chloridi Liquor.

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of Capsici Pulvis allowance for three months was added for a Regiment or 1,000 troops in the field.⁶⁶

The 1867 Field Supply Table had 47 botanical, 28 mineral, five alcohols, and six animal articles for a total of 86 medicinal agents. Cinchonias Sulphas and Extract of Coffee, two botanical articles, which were on the 1863 Table had been dropped by 1867. Eight items, three mineral and five botanical, had been added to the 1867 Field Supply Table which were not on the formally discussed Table.⁶⁷

In order to have as broad a perspective as possible of the quantitative scene of the medicines used by the U.S. Army during the Civil War and to test the theoretical allowances against actuality, a table of the different medicines and the quantities thereof that an army actually had in its possession is reproduced in the appendix. This table is taken from a consolidated statement that the Army of the Potomac made when it crossed the Rapidan on May 4, 1864. Aside from the medical articles authorized by the Department there is also a short

⁶⁶ Surgeon General, U.S. Army, . . . Standard Supply Table, 1863, pp. 8-11.

⁶⁷ Surgeon General, U.S. Army, . . . Standard Supply Table, 1867, pp. 1-5. The drugs added to the 1867 Field Supply Table with allowances for three month periods for a Regiment or 1,000 Troops in the field were: Acidi Citrici, in 1/2 lb. bott.-8 ozs., Extracti Buchu Fluidi, in 1/2 lb. bott.-8 ozs., Extracti Glycyrrhizae, in paper-32 ozs., Extracti Nucis Vomicae Alcoholici, in 1 oz. pots-1 oz., Hydrargyri Chloridi Mitis, in 2 oz. bott.-2 ozs., Olei Menthae Piperitae Tincturae, in 4 oz. bott.-4 ozs., Potassae Arsenitis Liquoris, in 4 oz. bott.-4 ozs., Potassae Permanganatis, in 2 oz. bott.-4 ozs.

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list of the things made available by the Sanitary Commission.

The Army of the Potomac had a consolidated total of 71 medicinal agents in its possession on May 4, 1864. Forty items of this total came from botanical sources, 21 items came from minerals, five items were alcohols, and five items were animal derivatives.⁶⁸ There were a number of medicinal articles on both the 1863 and 1867 Field Supply Tables which were not in the Army of the Potomac's possession.⁶⁹

Several of the articles on the Army of the Potomac's 1864 statement of medications available for use were not provided for on either the 1863 or 1867 Field Supply Tables.⁷⁰

Auxiliary Medicinal Facilities for Troops in the Field

On the 1862 Field Supply Table, allowance was made for one

⁶⁸ OR, Series I, Volume XXXVI, Part 1, pp. 222-223.

⁶⁹ Articles furnished on the 1863 Field Supply Table but not listed with those items in the Army of the Potomac's possession were: Capsici Pulvis, Cera Alba, Ceratum Resinae, Coffee, Cupri Sulphas, Extracti Aconiti Radicis Fluidi, Extracti Cinchonae Fluidi, Extracti Senegae Fluidi, Extracti Zingiberis Fluidi, Ferri et Quinae Citras, Glycerina, Hydrargyri Unguentum, Hydrargyri Nitratis, Ipecacuanhae Pulvis, Oleum Tiglli, Opii Tincturae Camphorata, Potassae Bicarbonas, Potassae Chloras, Scilla Pulvis, Zinci Chloridi Liqueur, Zinci Sulphas. All of the foregoing items were on the 1867 Field Supply Table except Coffee. In addition to the preceding materia medica articles--a number of items were on the 1867 Field Supply Table but not listed among the medicines held by the Army of the Potomac. These items from the 1867 Field Supply Table were: Acidi Citrici, Extracti Buchu Fluidi, Extracti Glycyrrhizae, Extracti Nucis Vomicae, Hydrargyri Chloridi Mitis, Olei Menthae Piperitae Tincturae, Potassae Permanganatis.

⁷⁰ Those articles in the possession of the Army of the Potomac (1864) but which were not provided for on the 1863 or 1867 Field Supply Tables were: Acidum Tartaricum, Canned Peaches, Corn Starch, Dried Fruit, Farina, Jellies (assorted), Lemons, Rum, Wine. Potassae Arsenitis Liqueur was on the 1867 Field Supply Table but not on the Table for 1863.

"Hospital Knapsack" per regiment or 1,000 troops. This knapsack held 12 drugs which had specific authorized amounts. Six of the knapsack articles were derived from botanical sources, three were mineral, one was an alcohol, and two were derived from animal sources.⁷¹

On the 1863 and 1867 Field Supply Tables the equivalent of the 1862 knapsack was called a "Medicine Case" and the allowance was two per regiment or 1,000 troops. There were 10 drug articles in the 1863 Medicine Case. Of these articles eight were botanicals, one was mineral and one was an alcohol. By 1867 pills of Extract of Colocynthis Compositi and Ipecacuanhae had been dropped and Acidi Sulphurici Aromatici (1 oz.), Pilulae Camphorata et Opii (12 dozen), and Pilulae Quinia Sulphatis (12 dozen) had been added.⁷²

The Hospital Knapsack for the period 1859-1861 was 18

⁷¹

Surgeon General, U.S. Army, . . . Standard Supply Table, 1862, p. 18. The drug contents of a 1862 Hospital Knapsack were: Ammoniae Spiritus Aromaticus 8 ozs., Cera Alba 1 piece, Ceratum Adipis 8 ozs., Chloroformum 12 ozs., Ferri Persulphatis Pulvis 1 oz., Opii Tinctura 4 ozs., Pilulae Catharticae Comp. 8 doz., Pilulae Hydrargyri 12 doz., Pilulae Opii 12 doz., Pilulae Opii et Camphorae 8 doz., Pilulae Quiniae Sulphatis 12 doz., Spiritus Vini Gallici 16 ozs.

⁷²

M&SH, II, Part 3, p. 915; Surgeon General, U.S. Army, . . . Standard Supply Table, 1863, p. 19; and Surgeon General, U.S. Army, . . . Standard Supply Table . . . , 1867, p. 13. The drug contents of a 1863 Medicine Case were: Chloroformum Purificatum 6 1/2 ozs., Extractum Ipecac. Fluidum 2 ozs., Extractum Zingiberis Fluidum 2 ozs., Liquor Ferri Persulphatis 2 ozs., Pilulae Catharticae Comp. 12 doz., Pilulae Quiniae Sulphatis (3 grains each) 12 doz., Pilulae Opii 12 doz., Pill of Extractum Colocynthis Compositi 3 grains and Ipecacuanhae 1/2 grain 12 doz., Spiritus Frumenti 24 fluid ozs., Tinctura Opii 2 fluid ozs.

inches high, 15 inches wide, seven and one-half inches deep, and weighed 18 pounds when filled. At first these knapsacks were made of light wood, then in 1861, one was developed and put into use, which was made of wicker-work covered with enamelled cloth. This knapsack was in general use during the early months of the war. In 1862 the Hospital Knapsack was changed for what was called the New Regulation Knapsack. The New Regulation Knapsack was 16 inches high, 12 1/2 inches wide, and six inches deep. The contents of this knapsack were packed in drawers for more accessibility and when completely packed the over-all weight was 20 pounds.⁷³

Regulation Knapsacks in practice proved too heavy for the surgeon to carry around, so in 1863, a "Surgeon's Field Companion" was developed. The Companion was a leather case 13 inches long, six inches wide, and seven and one-half inches deep. It was supported by a strap passed over the shoulder and had a waist strap to steady it when carried. This Field Companion had 10 drug articles among its contents. Of these medicinal items eight were botanical, one an alcohol, and one a mineral.⁷⁴

⁷³ M&SH, II, Part 3, p. 915.

⁷⁴ Ibid., p. 915. Drug contents of a Surgeon's Field Companion were: Chloroform 6 1/2 ozs., Fluid Extract of Ipecacuanhae 2 ozs., Fluid Extract of Ginger 2 ozs., Solution of Persulphate of Iron 2 ozs., Whiskey 24 ozs., Tincture of Opium 2 ozs., Compound Cathartic Pills 144, Colocynth and Ipecacuanhae Pills 144, Sulphate of Quinine Pills 144, Opium Pills 144.

Hospital medicine chests, mess-chests, and other bulky hospital supplies were transported about in an army's supply train wagons and were often inaccessible when needed. To avert this inconvenience there were developed "Panniers" which contained only the more necessary medicines, dressings, and appliances. At first Panniers were designed to be carried upon the backs of pack-animals, but were soon found to be too unsuited for this mode of transportation, and were more generally carried under the front seat in one of the ambulance wagons--to be replenished when necessary from the Medicine Chest. Panniers arranged for Army use by Dr. Squibb, of Brooklyn, N. Y., were wooden boxes strongly bound with iron, 21 1/8 inches long, 11 5/8 inches wide, and 11 3/8 inches deep. When completely filled the Squibb Pannier weighed 88 pounds.⁷⁵

Allowance was made for one Pannier per regiment or 1,000 troops on the 1862 Field Supply Table. This allowance was increased to two on the 1863 and 1867 Tables. In 1862, a Pannier had within its contents 79 drug articles. Forty-four of the Pannier drugs were botanical, 23 were mineral, seven were animal by-products, and five were alcohols.⁷⁶

By 1863 twenty-five of the drug articles on the 1862 Field Supply Table had been dropped from the official allowance

⁷⁵ Ibid., pp. 915-916.

⁷⁶ Surgeon General, U.S. Army, . . . Standard Supply Table, 1862, p. 18. See "Pannier 1862" in the appendix for a listing of individual drug articles.

for Pannier contents.⁷⁷ Also eight new medicinal items were added to that (1863) Pannier's contents. Added were six botanical, one mineral, and one animal, derivative medicines.⁷⁸

To illustrate the auxiliary medicinal facilities an army might have available in the field an estimation is commented on of what the Army of the Potomac had in its possession on May 4, 1864. It was estimated that the Army at that time had 50 Medicine Chests, 40 Medicine Panniers, 90 Hospital Knapsacks, and 65 Field Companions all filled per supply table. The Army of the Potomac also had the following means of hospital transportation for medicines and the sick or wounded:

⁷⁷ The 25 drug articles dropped from the official allowance for Pannier contents were: *Acaciae Pulvis*, *Acidum Sulphuricum Aromaticum*, *Aether Fortior*, *Cera Alba*, *Ceratum Resinae*, *Cinchoniae Sulphas*, *Cupri Sulphas*, *Ext. Rhei Fluidum*, *Ext. Veratri Viridis Fluidum*, *Hydrargyri Chloridum Mite*, *Lini Pulvis*, *Magnesia Sulphas*, *Olei Menthae Piperitae Tinctura*, *Oleum Ricini*, *Oleum Tigllii*, *Pil. Cinchonias Sulphas*, *Pil. Copaibae*, *Quinias Sulphas*, *Sinapis Nigrae Pulvis*, *Sodae Bicarbonas*, *Zinci Chloridi Liqueur*, Corn Starch, Farina, Gelatine, Nutmegs.

⁷⁸ Surgeon General, U.S. Army, . . . Standard Supply Table, 1863, pp. 19-21. Added were the following items: *Capsici Pulvis*, *Ceratum Cantharidis*, *Collodium*, *Cough Mixture, *Creasotum*, **Liniment, Pills of *Ext. Colocyn. Comp.* 3 grs., *Ipecac.* 1/2 gr., *Tinctura Ferri Chloridi*. *The cough mixture consisted of Syrup of Squills and Camphorated Tincture of Opium, each four fluid ounces, with two fluid drachms of Fluid Extract of *Ipecacuanha*. The dose is one teaspoonful. **The liniment was prepared with equal parts of water of Ammonia, Oil of Turpentine, and Olive Oil.

For further information, please contact the
author at 1234 Main Street, New York, NY 10001.
Detailed information is available in the
appendix, or upon request. The following
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THE
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| <u>Commands</u> | <u>Medicine Wagons</u> | | <u>Ambulances</u> | |
|----------------------|------------------------|---------------|--------------------|------------------|
| | <u>Autenrieth</u> | <u>Perots</u> | <u>Serviceable</u> | <u>Allowance</u> |
| 2nd Army Corps | 7 | 8 | 178 | 181 |
| 5th Army Corps | 6 | 5 | 171 | 176 |
| 6th Army Corps | 3 | 6 | 144 | 144 |
| Cavalry Corps | 5 | 1 | 77 | 77 |
| Artillery Reserve | 1 | - | 26 | -- |
| Gen. Patrick's Brig. | 1 | - | 11 | 11 |
| Engineer Brigade | <u>1</u> | <u>-</u> | <u>12</u> | <u>12</u> |
| | 24 | 20 | 619 | 601 79 |

In the early days of the Civil War medical supplies were carried in heavy army wagons. These soon proved to be inadequate and ill-constructed for Medical Department needs. In March, 1862, Surgeon Jonathan Letterman, U.S.A. had a dispensary wagon constructed to his specifications by E. Hayes & Co., of Wheeling, Virginia. An examining Board, consisting of Brigade Surgeon William Hayes and Assistant Surgeons Hammond and Dunster, U.S.A., scrutinized the Letterman Dispensary Wagon on April 17, 1862. The Board unanimously approved the dispensary wagon and recommended that it be immediately sent into the field for practical testing. Comments were made by the Board members that some such plan as the Letterman Dispensary Wagon for Transporting medical supplies should have

79 OR, Series I, Volume XXXVI, Part 1, pp. 222-223, and 225. Also included for the same commands were a number of Hospital Tents:

| <u>On Hand</u> | <u>Allowed</u> |
|----------------|----------------|
| 87 | 85 |
| 87 | -- |
| 63 | -- |
| 34 | 34 |
| 16 | 14 |
| 3 | 3 |
| 4 | 4 |
| <u>294</u> | <u>140</u> |

long before been adopted.⁸⁰

In November, 1862, a Mr. J. Dunton submitted his suggestions for a regimental medicine wagon. Medical Inspectors T. F. Perley and J. M. Cuyler and Surgeons J. Simpson and J. H. Brinton, reported on November 3, 1862, that the Dunton Wagon was faulty in construction and had an insufficient capacity to carry a three month allowance of medical supplies for a regiment.⁸¹

After the Medical Department's field organization was tried in battle and perfected, the old system of regimental supplies was curtailed and augmented with the brigade plan. Each brigade was furnished a Perot Medicine Wagon which was considered to have excellent and convenient internal fixtures and arrangements especially adapted to the transportation of medical supplies. The Perot Wagons carried ample drugs, stores, dressings, furniture and appliances, a table for amputations, and some bedding. Medical purveyors who accompanied each army replenished as necessary any depleted stores.⁸²

In June, 1864, the Autenrieth Medicine Wagon replaced the Perot pattern as the latter had proved very expensive to furnish. During the last year of the war, with Medical Department sanction, an improved model of the Autenrieth Wagon

⁸⁰ M&SH, II, Part 3, p. 916. The information is not available as to whether or not the Letterman Dispensary Wagon was ever used in the field.

⁸¹ Ibid., pp. 916-917.

⁸² Ibid., p. 917.

was constructed in the Government shops and put into use.⁸³

It remains the task of the subsequent chapter to consider the therapeutic uses to which the Standard Supply Table medicines were put with reference to the U.S. Army's formal disease classifications.

⁸³ Ibid., pp. 917-918. In order to acquire an idea of the typical drug contents of a Medicine Wagon see "Drug Contents of the 1867 Medicine Wagon" in the appendix. Of the 91 drug items on the Medicine Wagon Table 50 were botanicals, 31 were from minerals, six were derived from animal sources, and four were alcohols.

CHAPTER III

THERAPEUTIC USES OF MEDICINES ON THE SUPPLY TABLES

1.

Introduction

Therapeutic application of Supply Table medicines to the Union Army's classification of diseases is the major subject under consideration in this chapter. To be discussed here are sickness and mortality attributed to disease, wounds, accidents, and injuries of both white and colored troops during the Civil War with regard to their therapeutics and total numbers.¹

The Union Army specified five general classes of sickness and mortality. These categories were: Zymotic Diseases, Constitutional Diseases, Parasitic Diseases, Local Diseases, and Wounds, Accidents, and Injuries. Most of the classes were also subdivided into orders and further sub-divided into the specific diseases which will be dealt with for the most part in the several classification and therapeutic discussions.

An over-all sickness and mortality statement for the Union

¹ All the sickness, mortality, and medical discharge totals which are used in this chapter in the individual disease classifications were taken from The Medical and Surgical History of the War of the Rebellion (1861-65), I, Part 1. Not counted in these specific enumerations are: those killed in action, those dead of wounds or disease while prisoners of war, those who died while on furlough, leave of absence, absence without leave, or those who died after being discharged from the service on a surgeon's certificate of disability.

Army during the Civil War, including both white and colored troops, had an estimated grand total of 304,369 deaths of which 93,969 were from violent causes, 186,216 were from disease, and 24,184 were from unknown causes.² In 1885 the Adjutant General revised the Union Army Civil War death estimates to a total of 359,528 of which approximately 225,000 died from disease.³ The ratio of these deaths due to disease to the number of total deaths is very nearly the same as that ratio for the totals taken from Volume I, Part 1, of the Medical and Surgical History of the War of the Rebellion. The ratio for the former was 61.2% and for the latter 62.6%.

In order to conserve space and at the same time adequately consider disease therapeutics, many similar diseases throughout this chapter are grouped together. This assemblage is done wherever possible and when it will not weaken the general subject matter. Where generalization is impossible, the therapeutics of a disease may be considered somewhat more specifically. By no means is this chapter designed to be a complete and definitive work on the Union Army's Civil War medical therapeutics. The intention is to present an abridged, "thumbnail sketch" of the better known or more important of the military's

² M&SH, I, Part I, pp. xxx-xxxviii. These numbers are totals of the deaths from all causes including those not counted for the reasons specified in footnote 1.

³ Ashburn, P. M., A History of the Medical Department of the United States Army (Boston and New York: Houghton Mifflin Company, 1929), pp. 430-432.

supply table materia medica. Also mentioned are other contemporaneous remedies not necessarily on the supply tables but nevertheless incidental to Civil War medicine in the therapeutics of diseases.

In this age of "heroic" medicine most diseases were treated symptomatically even though there was a large number of medicines accorded general remedial powers. Disease symptoms such as fever, constipation, haemorrhage, nausea, and inflammations, to mention a few, were treated with the local remedies. General remedies were often given as adjuvants for their remote or constitutional effects upon the system in combating a particular disease. Many of the specific remedies and diseases will be discussed in succeeding sections of this chapter.

2.

Zymotic Diseases

Zymotic diseases were those "epidemic, endemic, contagious or sporadic affections," produced by disease-causing agents which acted on an organism in a fermentational manner. The zymotic class was by far the largest division of the entire sickness and mortality classification of the Union Army. White troops had 3,520,824 cases and 93,436 deaths, and colored troops had 401,067 cases and 16,990 deaths counted within this class. There were 36,804 discharges for white troops and 1,078 discharges for colored troops on surgeon's certificates of

disabilities caused by one of the Zymotic diseases.⁴

This classification was divided into three orders: Miasmatic diseases which had their origins in marshy districts and conditions, Enthetic diseases which were caused by an introduced "exogenic morbidic affliction," and Dietic diseases which were caused from diet deficiencies or other immoderate abuses.⁵

First to be considered of the order labeled Miasmatic are fevers other than those termed "eruptive." The major fevers thus combined therapeutically were: Continued, Intermittent, Malarial, Remittent, Spotted, Typhoid, Typhus, and Yellow. For the most part these fevers were treated symptomatically, the idea being to subdue the worse features of the fevers, bolster the patient's failing strength, and reinvigorate the body after

⁴ M&SH, I, Part 1, pp. 636-648, 710-718. Total number of cases and deaths by order for white troops were: Miasmatic diseases--3,285,376 cases, 92,150 deaths; Enthetic diseases--192,504 cases, 162 deaths; and Dietic diseases--42,944 cases, 1,124 deaths. Total number of discharges by order for white troops on surgeon's certificate of disability were: Miasmatic diseases--34,117; Enthetic diseases--2,367; and Dietic diseases--320. Total number of cases and deaths by order for colored troops were: Miasmatic diseases--369,659 cases, 16,537 deaths; Enthetic diseases--14,948 cases, 37 deaths; Dietic diseases--16,460 cases, 416 deaths. Total number of colored troops discharged by order on surgeon's certificate of disability were: 942 Miasmatic diseases; 106 for Enthetic diseases; and 30 for Dietic diseases.

⁵ Dunlison, A Dictionary of Medical Science, pp. 593, 992, and M&SH, I, Part 1, pp. xix, 636-648, 710-718. Wood and Bache's Dispensatory of the United States of America, 1858, is used throughout this chapter as a general reference aid for the therapeutic uses of medicines. Another book used as a general reference aid is Waring, Edward John, Practical Therapeutics, (Philadelphia: Lindsay and Blakiston, 1866).

an attack.

Treatments usually commenced with an active cathartic such as the Compound Cathartic Pill to clear and keep the bowels open. Catechu, Chalk Mixture, Dover's Powder, Nitrate of Silver and Opium, Subnitrate of Bismuth, or Spirit of Turpentine were used in case diarrhoea ensued; Mercury was administered for "hepatic derangement"; poultices, blisters, and hot cloths were employed for the relief of abdominal pain; counter-irritants were used for chest pains; Persulphate of Iron was used in the treatment of bowel haemorrhage; Aromatic Sulphuric Acid was given to control night perspirations; effervescing draughts were prescribed for thirst; and Beef-Tea, Wine, and many other preparations good for convalescence were used to aid in regaining body strength. If the patient was in a cold stage, warm drinks of Tea, Wine, and Water were employed along with hot foot-baths, a warm bed, massage of the spine, and Opium; if the patient was in a hot stage, cool drinks and refrigerants were used. After the initial attack had run its course remedies to prevent recurrences were given in liberal doses. Prophylactic and febrifuge remedies for these fevers of the foremost repute were Quinine and the several preparations of Quinine. Additional remedies resorted to were: Acetate of Potassa, Alcoholic stimulants, Ammonia, Blue Pills, Calomel, Camphor, Capsicum, Catechu, Chlorate of Potash, Cinchonia, Citrate of Iron, Digitalis, Nitrate of Potash, Peruvian Bark, Strychnia, Sulphates of Copper and Zinc, Sweet Spirit of Nitre, Tannic Acid, Tincture of

Aconite, Turpentine, Veratrum Viride, Wild Cherry Bark, and many others.⁶

Eruptive fevers included Diphtheria, Erysipelas, Measles, Scarlet Fever, Small-pox and Varioloid, and Pyemia. Pyemia was included in this classification because of its similarities to Erysipelas. Of the eruptive fevers Erysipelas, Hospital Gangrene, Medullitis, Pyemia, and Tetanus were in the majority of cases attributed to surgical infections and resulted in very high mortality rates. These highly contagious streptococcal infections were spread by the touch of the unsterilized instruments, dressings, and surgical procedures.⁷

For the most part clinical treatment of "Surgical Fevers" was concerned with modifying severity of the local inflammation and limiting the spread of the disease. Laxatives and purgatives were freely prescribed in all treatments of the eruptive fevers. In some cases protection from the air afforded relief.

⁶ Adams, Doctors in Blue, pp. 218-219, 227-228; George M. Kober, "Personal Recollections of Old Medical Officers," The Military Surgeon, LXI (November, 1927), 638-639; M&SH, I, Part 3, pp. 166-186, 531-618, 678-682; Maxwell, Lincoln's Fifth Wheel . . . , p. 71; Neill and Smith, Compendium . . . , pp. 821-852; and OR, Series I, Volume XXX, Part 3, p. 246.

⁷ Adams, Doctors in Blue, pp. 138-146; Hancock, Cornelia, South After Gettysburg, edited by Henrietta S. Jaquette (Philadelphia: Univ. of Penn. Press, 1937), p. 52; M&SH, I, Part 3, pp. 673-675; Neill and Smith, Compendium . . . , pp. 861-862; and OR, Series I, Volume XXXVIII, Part 2, p. 530. Erysipelas was a skin disease which had a general fever, tension and swelling of the part, pain, and the appearance of small vesicles upon the visible inflammations. Medullitis was an inflammation of the marrow bones. Pyemia was blood poisoning marked by fever, chills, sweating, and jaundice, in which multiple abscesses were formed. Varioloid was a mild modification of Small-pox.

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To effect this protection the body surface would be daubed with Collodion, Flour, Fresh Lard, Glycerine, Indian Meal Poultice, Lotion, Oil, or Starch and Flaxseed Emulsion or an unirritating Unguent. Other medicinal agents were employed to influence and control the "cutaneous manifestations." A few of the medicines used to influence this local action were: Cranberry Poultices, Creasote, Charcoal Poultices, Nitrate of Silver, Tincture of Iodine, Tincture of Iron, Solution of Chlorate of Potash, Sulphate or Persulphate Solutions of Iron, and Unguents of Resin and Turpentine. Bromine soon developed into the sovereign external remedy for the treating of eruptive fever inflammations, especially the gangrenes. Miraculous results were obtained from Bromine treatments in a number of gangrene cases.

Pyemia cases, more often than not, were fatal to those who had contracted this dread disease. Even though the majority of cases ended in death, it was generally agreed that sensible therapeutics should include tonic and stimulating medicines. Oral medicinal agents used to combat Pyemia included: Bibron's Antidote (Potassium Iodide, Mercury Bichloride, and Bromine), Diluted Sulphuric Acid, large quantities of Liquor, Opium, Preparations of Iron, and Quinine.⁸

Small-pox, another of the eruptive fevers, and Varioloid, a modified form of Small-pox, were treated with laxatives, salines, and Dover's Powder during the onset of the fever,

⁸ Ibid.

CONFIDENTIAL

To submit this report to the Director of the Central Intelligence Agency, Washington, D.C. 20505, for his information and guidance.

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with tonics, stimulants and strengthening nourishment during the course of the disease. Astringent Ointments, Creasote in Olive Oil, and Iodine in Glycerine were used to soothe cutaneous irritation and to prevent pitting. Vaccination was the great preventive and an effective weapon against contracting Small-pox. Unfortunately many unhappy results occurred from impure inoculations which caused Cellulitis, Chancres, and Syphilis.⁹

Systematic isolation and protection of the sick by hospitalization, with free ventilation and sanitary supervision over the unaffected soldiers, were the major steps taken when Measles, an eruptive fever, struck a command. Specific treatment and medicinal therapeutics included rest in bed, a low diet, anodynes, astringents, mild febrifuges, and the employment of one or more of the following medicines: Antimonial Wine, Dover's Powder, Nitrate of Silver, Opium, Paregoric, Quinine, Syrup of Ipecacuanha, Syrup of Squill, Sweet Spirit of Nitre, Tincture of Cinchona, and Tincture of Veratrum Viride. Complications which might arise along with or as a result of Measles were treated "specifically."¹⁰

Scarlet Fever, the last of the eruptive fevers to be

⁹ Adams, Doctors in Blue, pp. 218, 220; M&SH, I, Part 3, pp. 633-634; Maxwell, Lincoln's Fifth Wheel . . . , p. 71; and Neill and Smith, Compendium . . . , pp. 852-857. Cellulitis was an inflammation of cellular tissue.

¹⁰ M&SH, I, Part 3, pp. 651-661; and Neill and Smith, Compendium . . . , pp. 857-859.

discussed, was rarely seen during the Civil War. Prescribed for those cases which did occur were tepid baths; the throat was swabbed often with a strong solution of Nitrate of Silver and frequent gargles of Chlorate of Potash. Medicinal agents employed in a number of cases were Alum, Bitartrate of Potash, Calomel, Camphor, Citrate of Potassa, Compound Jalap Powder, Dover's Powder, Nitrate of Potash, Tartar Emetic, Tincture of Aconite, Tincture of Digitalis, Tincture of Iron, and Tincture of Muriate of Iron. Treatments for Diphtheria were similar to those for Scarlet Fever because of the many basic resemblances of these diseases.¹¹

Therapeutics of other Miasmatic diseases were: for Mumps, a poultice of Arnica leaves and Flaxseed and the employment of Hyoscyamus or Opium; for Epidemic Catarrh or "influenza," febrifuges similar to those for other fevers of the Miasmatic order, expectorants to evacuate mucus, and antispasmodics to relieve spasms of the muscular fibers of the bronchial tubes; and for Debility, strengthening draughts of a concentrated fluid like Essence of Beef or one of the stimulants (Brandy, Whiskey, Wine).¹²

The last division of the Miasmatic disease order to be discussed is concerned with Diarrhoea and Dysentery which had

¹¹ Ibid., p. 662, and pp. 860-861.

¹² Farre, Frederic J., Manual of Materia Medica and Therapeutics, edited by Horatio C. Wood, Jr., (Philadelphia: Henry C. Lea, 1866), pp. 951-1011; and M&SH, I, Part 3, p. 675.

a higher rate of incidence than any other single disease classification in the Union Army's medical records. There were no definitive distinctions between the ailments called Diarrhoea and Dysentery. In fact no two doctors seemed to agree as to what caused either affliction. Some claimed that the causes were due to diet, bad water, exposure, "crowd poison," uncleanliness, lack of ventilation, or many others.¹³ The most common treatments for Diarrhoea and Dysentery were Epsom Salts or Castor Oil as a morning laxative and Opium before retiring in the evening. Treatment often included mild Alkaline purgatives, followed by astringents and tonics, a regulated regimen, and Iodine painted on the abdomen and spine. Popular therapeutic preparations included Calomel, Fowler's Solution (Solution of Arsenite of Potassa), Opium, Preparations of Opium, and Quinine, given individually and in combinations.¹⁴

¹³ Marx, Rudolph, "The Fifth Column at the Battle of Gettysburg," The United States Armed Forces Medical Journal, IX (1958), 1779-1784. Marx characterized the effect a dysentery can have upon an army by calling it a "Fifth Column." G. W. Adams in his book Doctors in Blue on pages 199 to 200 had the following to say about a differentiation between Diarrhoea and Dysentery. "Ordinarily, a sick man with loose bowels was said to suffer from dysentery if there was blood in the stools, and the patient's symptoms included tenesmus, otherwise it was 'diarrhoea.'"

¹⁴ Adams, Doctors in Blue, pp. 226-227; Neill and Smith, Compendium . . . , pp. 876-878; and CR, Series I, Volume XXXVIII, Part 2, p. 531. The following information, concerned with various treatments for the "Alvine Fluxes" or Diarrhoea and Dysentery, was taken from the M&SH, I, Part 2, pages 654 to 842 and condensed for this generalized footnote. Prophylaxis--general hygienic regulation as to quarters, "sinks," water supply, food and its preparation, and suitable clothing; a systematic

The major Enthetic diseases during the Civil War period were Syphilis, Gonorrhoea, Orchitis, Stricture of the Urethra, Purulent Ophthalmia, and Serpent Bite. All of these afflictions (with the exception of Serpent Bite) were considered to be

(Con't.) application of disinfectants; and prompt medical treatment for all cases of Diarrhoea whether they be slight or chronic. General management of the sick--placed in bed, furnished a bedpan, not exposed to unnecessary drafts, and kept very clean both in person and surrounding accouterments. Diet as to drinks--good drinking water, coffee and tea, and well selected wines. Diet as to food--the foods given must contain nutriment and be manageable by enfeebled digestive organs such as Solution of Albumen; gruels of Barley, Rice, Wheat Flour, Oatmeal, Starch, Sago, Tapioca, Potatoes, and Bread, prepared with or without Milk; custards; broths and soups; Oysters and Eggs; fresh vegetables; and fruits. Venesection--bloodletting was used to some extent as a therapeutic agent. Oral medications--Emetics: Antimony combined with Tartar Emetic, White Hellebore, and Ipecacuanha; Purgatives: Castor Oil, Mercurials, Neutral Salts, and Rhubarb; Diaphoretics: Distilled Waters flavored with Antimony, Brandy, Opium, or Wine, Dover's Powder, Ipecacuanha, Nitrate of Potassa, and Tartar Emetic. Diuretics: Acetate of Potash, Atropia, and Bitartrate of Potash; Anodynes: Opium and its many preparations, Belladonna, Bromide of Potassium, Chloroform, Diluted Hydrocyanic Acid, Extract of Cannabis Indica, Extract of Stramonium, Hyoscyamus, and Sulphate of Atropia; Astringents: Acetate of Lead, Alum, Astringent Balts of Iron, Catechu, Gallic Acid, Kino, Nitrate of Silver, Oxide of Zinc, Sulphate of Copper, Sulphate of Zinc, and Tannin; Botanical Tonics: Bark of Willow, Chamomile, Gentian, Nux Vomica and its alkaloid Strychnia, Peruvian Bark with Cinchonia and Quinia its alkaloids, Quassia, and Serpentaria; Mineral Tonics: Muriatic Acid, Nitric Acid, Nitro-Muriatic Acid, Phosphoric Acid, and Sulphuric Acid; Aromatics: Anise, Cardamom, Capsicum, Cassia, Cinnamon, Cloves, Ginger, Lavender, Mace, Nutmeg, Orange-peel, Pepper, and Peppermint; Resins and Balsams: Balsam of Copaiba, Camphor, Compound Tincture of Benzoin, and Oil of Turpentine; Antiseptic Remedies: Calomel, Camphor, Carbolic Acid, Creasote, Chlorine Water, Peruvian Bark and Quinia, Salicylic Acid, the Mineral Acids, and the Simple and Aromatic Bitters. Medications via the rectum--Anodyne Clysters (liquids injected into the large intestine by syringe) and suppositories of Opium, astringent clysters usually Nitrate of Silver, Iodine Clysters, Ipecacuanha Clysters, Antiseptic Clysters of Carbolic Acid, Charcoal, Chloride of Lime, or Labarraque's Solution (Chlorinated Soda), Water Clysters (hot or cold), and purgative clysters of Castor Oil or Soap and Water. External medications--epispastics, rubefacients, and hot and cold applications.

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Wrote September 1944
Pamphlet: *On the History of the Negro in America*

(with the author's introduction)

(Con't.)

General introduction

Part I. The Negro in American History

1. The Negro in American History

2. The Negro in American History

3. The Negro in American History

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venereal or to have been secondarily affected by that induced type of disease. Venereals were generally treated by one or more of the mercurials. Therapeutic agents used in the various cases of Enthetic diseases were: a solution of Chlorate of Potash injection, Chloride of Zinc injection, Balsam of Copaiba, Iodide of Potassium, and Magensia, Mercury, or Powdered Cubebs given orally in a large pilular shaped mass called a bolus.¹⁵ For rattlesnake bite poisoning Bibron's Antidote was the army's standard therapeutical preparation.¹⁶

Scurvy, Purpura, Delirium Tremens, Inebriation, and Chronic

¹⁵ MASH, I, Part 3, pp. 891-896. There were a few systematized programs for the prevention of Venereal Diseases, by means of licensed prostitution and regulated inspections, tried at Nashville and Memphis, Tennessee in 1864-1865, but all efforts were discontinued in 1865. Orchitis was a swelling and inflammation of the testicle due to Gonorrhoea. Treatments included medicinal compression and supports. Stricture of the Urethra was a diminution or contracted condition of the Urethra. This condition of the Urethra was corrected by surgical dilation using instruments called bougies. Purulent Ophthalmia was a Gonorrhoeal pus-inflammation of the eye-ball. Treatment included mercurial eyewash solutions.

¹⁶ Parrish, Edward, A Treatise on Pharmacy, 3rd ed. (Philadelphia: Blanchard and Lea, 1864), p. 340. Bibron's Antidote, the invention of Professor Bibron of France, was introduced to the American medical profession by Dr. William A. Hammond, of the U.S. Army. The preparation included: four grains of Iodide of Potassium, two grains of Corrosive Chloride of Mercury, five drachms of Bromine, and seven and one-half fluid ounces of Diluted Alcohol. The dose was ten drops of Bibron's Antidote in a tablespoonful of brandy--repeated as required. There was much doubt as to the inventor of the Antidote which bears Bibron's name. S. Weir Mitchell in the article "Inquiry into the Correctness of the Belief that Prof. Bibron was the Inventor of the Antidote which bears his Name," The American Journal of the Medical Sciences, XLVIII (October, 1864), pages 420-422, states, along with supporting evidence, that Bibron was not the inventor and that this question must be consigned to "the chances of future elucidation."

Venerable and learned, I have the honor to acknowledge the receipt of your letter of the 10th inst.

type of business, and I am sorry that I cannot do so.

Some of the extracts from your letter are as follows:

One of the main objects of the present work is to show

to the public the importance of the study of the history of the

country, and to show that it is not only a science, but a

practical one, and that it is one which is of great use to the

people. I am, Sir, very respectfully, your obedient servant.

The above is a copy of the letter which I have just received from

you, and I am sorry that I cannot do so.

I am, Sir, very respectfully,

your obedient servant,

at the same time, I am sorry that I cannot do so.

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Alcoholism were the principal diseases under the Zymotic order called Dietic.¹⁷ For Scurvy those medicinal therapeutics most employed in its prevention and cure included: Anti-scorbutics-- Cream of Tarter, desiccated vegetables, dried apples, fresh or pickled cabbage, green corn, lemons, limes and lime-juice, onions, oranges, pickles, potatoes, "sour-kROUT," sweet potatoes, and watermelons; fresh meat; fresh vegetables; mineral acids--Diluted Nitric and Sulphuric; Salts of Potash; Tincture of Iron; and vegetable acids--Acetic, Citric, and Tartaric. Topical applications for gums affected by Scurvy were Chlorate of Potash and weak solutions of Nitrate of Silver. Sometimes Tincture of Chloride of Iron was used as a topical application on scorbutic sores. Useful adjuvants to the foregoing medicines in effecting complete cures were tonics, stimulants, and a furlough.¹⁸

In Purpura the treatment was to correct and strengthen the low state of the blood with tonics, a milk diet, astringents for the haemorrhages which might occur from the gums or lungs, and

¹⁷ Dunglison, A Dictionary of Medical Science, pp. 282, 777 and Neill and Smith, Compendium . . ., p. 931. Delirium Tremens was a state of agitation peculiar to those addicted to the habitual and intemperate use of Liquor, Opium, or Tobacco especially noticeable by their abandonment after prolonged use. Purpura was a disease which resembled Scurvy in its general character but was not prevented nor cured by Anti-scorbutics. In Purpura livid spots appeared on the skin caused by blood escaping into the surrounding areas. There was also a general loss of muscular strength, and pains in the limbs.

¹⁸ Adams, Doctors in Blue, pp. 212-213; M&SH, I, Part 3, pp. 710-713; and OR, Series I, Volume XI, p. 1 and Volume XXXVI, Part 1, p. 262. For more information on the U.S. Army Civil War Ration see M&SH, I, Part 3, pp. 711-712.

Alcoholism was the main cause of the trouble in the family. The father was a heavy drinker and the mother was a heavy smoker. The children were all born with physical defects. The first child was a girl who was born with a cleft palate. The second child was a boy who was born with a club foot. The third child was a girl who was born with a heart defect. The fourth child was a boy who was born with a brain defect. The fifth child was a girl who was born with a spinal cord defect. The sixth child was a boy who was born with a kidney defect. The seventh child was a girl who was born with a liver defect. The eighth child was a boy who was born with a lung defect. The ninth child was a girl who was born with a stomach defect. The tenth child was a boy who was born with a bladder defect. The eleventh child was a girl who was born with a uterus defect. The twelfth child was a boy who was born with a prostate defect. The thirteenth child was a girl who was born with a vagina defect. The fourteenth child was a boy who was born with a penis defect. The fifteenth child was a girl who was born with a clitoris defect. The sixteenth child was a boy who was born with a scrotum defect. The seventeenth child was a girl who was born with a vulva defect. The eighteenth child was a boy who was born with a testis defect. The nineteenth child was a girl who was born with a fallopian tube defect. The twentieth child was a boy who was born with a vas deferens defect. The twenty-first child was a girl who was born with a uterus defect. The twenty-second child was a boy who was born with a prostate defect. The twenty-third child was a girl who was born with a vagina defect. The twenty-fourth child was a boy who was born with a penis defect. The twenty-fifth child was a girl who was born with a clitoris defect. The twenty-sixth child was a boy who was born with a scrotum defect. The twenty-seventh child was a girl who was born with a vulva defect. The twenty-eighth child was a boy who was born with a testis defect. The twenty-ninth child was a girl who was born with a fallopian tube defect. The thirtieth child was a boy who was born with a vas deferens defect.

Opium.¹⁹

Delirium Tremens was treated by some doctors with large doses of Opium to induce rest. Other doctors used the expectation or waiting method which was to observe the progress of the disease, and remove the damaging influence without resorting to stimulant medicines. The latter cure seemed to be more permanent than the former.²⁰

Alcoholism and Inebriation were better treated by the preventive measures of military discipline and controls rather than medical therapeutics. Of course in violent cases narcotics, relaxants, or sedatives could be employed to insure quiet and rest.²¹

3.

Constitutional Diseases

Constitutional diseases were considered to be afflictions which spread and were usually inherited and/or involved a number of organs "in which morbid products or new formations frequently make their appearance in the parts involved."²² This class was divided into two orders of diseases termed Diathetic and Tubercular. The principal Diathetic diseases were Gout,

¹⁹ Neill and Smith, Compendium . . . , p. 931.

²⁰ Dunglison, A Dictionary of Medical Science, pp. 282, 362, and Neill and Smith, Compendium . . . , pp. 958-960.

²¹ M&SH, I, Part 3, pp. 890-891.

²² Ibid., I, Part 1, p. xix.

Rheumatism, Anaemia, Dropsy, Cancer, and Tumors. It was thought that the body had a "predisposition" or susceptibility to certain diseases rather than others and because of these prior factors the disease would still occur whatever the precautions. Consumption and Scrofula were the two main Tubercular diseases. Scrofula was a general term given to organic degenerative tumors which could develop in many different parts of the body but most frequently appeared in the lungs and mesentery.²³

Constitutional disease class totals for white troops were: 308,177 cases, 6,644 deaths, and 36,281 discharges on surgeon's certificate of disability; and for colored troops there were 39,781 cases, 1,877 deaths, and 1,789 discharges on surgeon's certificate of disability.²⁴

Treatments for the various diseases under the order termed Diathetic were very similar especially those for Gout, Rheumatism and Dropsy. In most instances active purging was considered very proper. The more popular remedies applied, not only as cathartics but to relieve pain, were Acetate of

²³ Dunglison, A Dictionary of Medical Science, pp. 295, 307, 934, and M&SH, I, Part 1, pp. 636-648, 710-718.

²⁴ M&SH, I, Part 1, pp. 636-648, 710-718. Total number of cases, deaths, and discharges by order for white troops were: Diathetic diseases--288,287 cases, 1,226 deaths, and 14,971 discharges; Tubercular diseases--19,890 cases, 5,418 deaths, and 21,310 discharges. Total number of cases, deaths, and discharges by order for colored troops were: Diathetic diseases--35,922 cases, 581 deaths, and 1,050 discharges; Tubercular diseases--3,859 cases, 1,296 deaths, and 739 discharges.

Potassa, Bicarbonate of Soda, Blue Mass, Colchicum, Dover's Powder, Iodide of Potassium, Lemon Juice, Mercury, Morphia, Opium, Quinia, Sulphate of Magnesia, Sweet Spirit of Nitre, Tartar Emetic, and Tincture of Aconite Root. Local treatments included bathing the part involved with warm water then covering it with carded cotton or flannel after applying a mild Camphor liniment, a mild Anodyne liniment, a Hop poultice, or a Tincture of Iodine. Saline purges in frequent use accompanied opiates in mitigating pain. Most doctors of the period considered that proper diet, vigorous exercise, and the establishment of regular bowel habits, to be the main prophylactics in thwarting recurrences. In addition to the employment of many of the foregoing medicines in the treatment of Cancer or Tumors excision was practised whenever the afflictions were so situated as could be easily removed. Often opiates and anodynes were employed to allay pain, and sometimes Arsenical Ointment was externally applied in an effort to heal Cancerous sores.²⁵

In the order termed Tubercular, treatment for the disease called Consumption generally embraced the dispensing of Cod Liver Oil, tonics, stimulants, proper and highly nutritious food, warm clothing, and abundant out-door exercise. Medicinal agents at night for cough and restlessness called for an opiate, often Dover's Powder, Morphia, Paregoric, or a combination with other remedies such as Chlorate of Potash and Muriate of Ammonia.

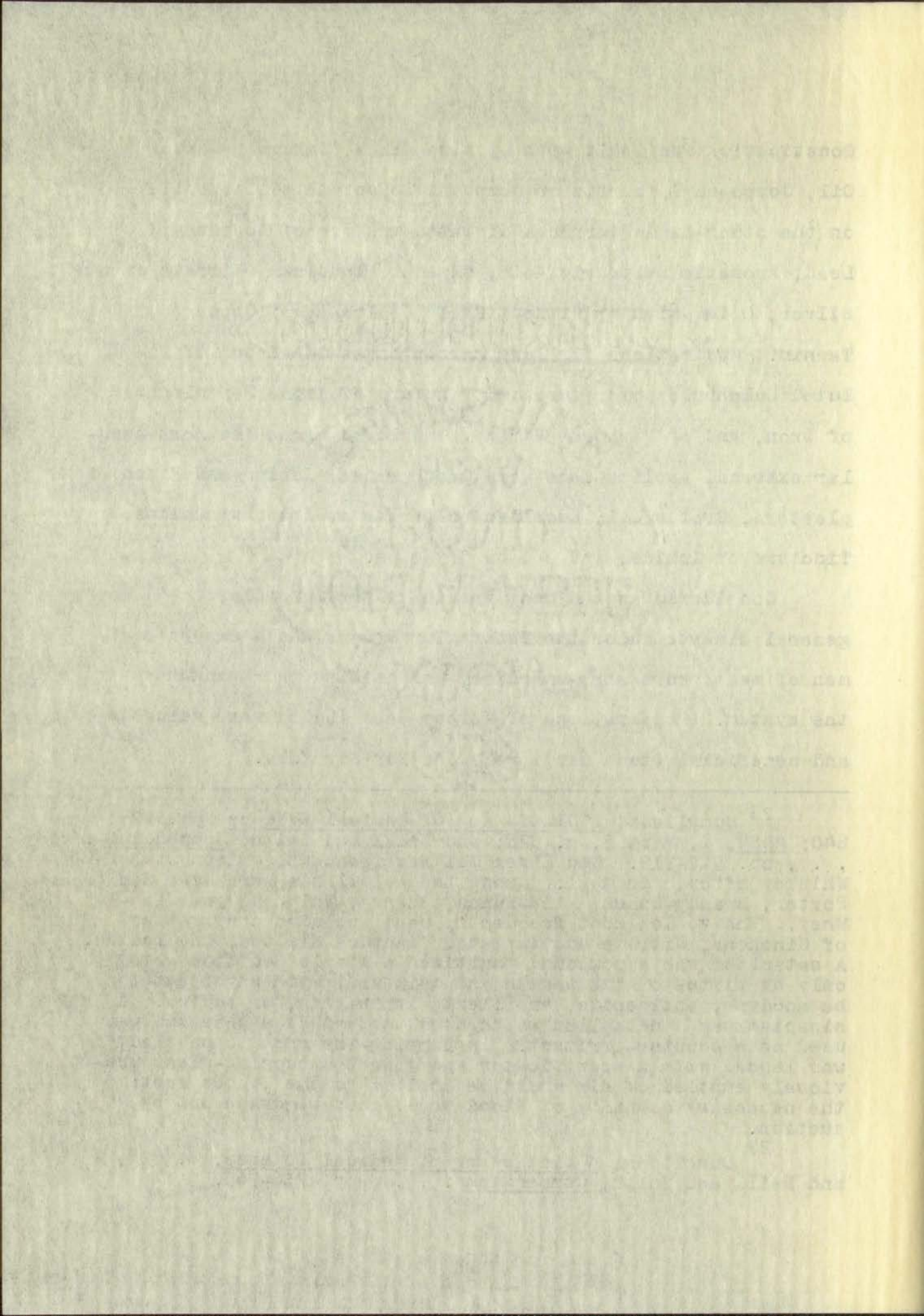
²⁵ Ibid., I, Part 3, pp. 843-844, and Neill and Smith, Compendium . . . , pp. 865-868, 937.

Constipation was dealt with by Blue pills, Calomel, Castor Oil, Compound Cathartic or Compound Colocynth pills, while on the other hand Diarrhoea dictated the use of Acetate of Lead, Aromatic Sulphuric Acid, Catechu, Laudanum, Nitrate of Silver, Opium with or without Chalk, Sulphate of Copper, or Tannin. Medications for lung hemorrhages consisted of Diluted Sulphuric Acid, Muriated Tincture of Iron, Persulphate of Iron, and/or Veratrum Viride. Employed among the more popular external applications were Cantharides, Conium and Pitch plasters, Croton Oil, Emollient cataplasms, Iron, sinapiams, Tincture of Iodine, and wet or dry cups.²⁶

Considered as the best treatment for Scrofula, the other general disease under the Tubercular order, was a proper regimen of meat, pure air, exercise, and bathing to strengthen the system. Preparations of Mercury and Iodine were valuable and beneficial (much used) remedies for Scrofula.²⁷

²⁶ Dunghison, A Dictionary of Medical Science, pp. 175, 840; M&SH, I, Part 3, p. 828; and Neill and Smith, Compendium . . . , pp. 912-919. Cod Liver Oil was frequently given with Whiskey after each meal. Among the stimulants were Beer and Porter, Brandy-Punch, Milk-Punch, Sherry, Whiskey, and Wine-Whey. The tonics most frequently used included preparations of Cinchona, Citrate and Muriated Tincture of Iron, and Iodide. A cataplasm was a compound poultice (a simple poultice acts only by virtue of its warmth and moisture) with an object to be anodyne, antiseptic, emollient, irritating, or tonic. A sinapism was a cataplasm which used Mustard as a base and was used as a counter-irritant. In cupping-the spot to be bled was lanced with a scarificator and then the cupping-glass previously emptied of air would be applied to the lanced spot; the necessary quantity of blood would then be drawn out by suction.

²⁷ Dunghison, A Dictionary of Medical Science, p. 828, and Neill and Smith, Compendium . . . , pp. 758-763.



4.

Parasitic Diseases

Animals which lived in or on the human body were classified as Parasitic. The major irritants in this classification were Itch, Tape-worm, Worms, and Intestinal Worms.²⁸

There were 35,669 cases, eight deaths, and six discharges for white troops, the causes for which were attributed to Parasitic diseases. Colored troops had a total of 3,810 cases, six deaths, and two discharges listed under the class entitled Parasitic Diseases.²⁹

For that affliction known as "Army Itch" and aptly described by George M. Sternberg, Assistant Surgeon, U.S. Army, many treatments were employed singularly and in combination. Sternberg described Army Itch and its treatment as

The little *Acarus* [which] squats upon a new recruit with every prospect of a long life and a large family, and borrows away, undisturbed by soap or sulphur, until every square barley-corn of the poor soldier's skin is like a New York tenement house,--full inside and out.³⁰

Every doctor had a pet preparation by which speedy cures were promised. Some of these numerous preparations consisted of Alcoholic Extract of Aconite, Arsenite of Soda, Black Sulphuret of Mercury, Burgundy Pitch, Butter, Carbonate and Nitrate of

²⁸ Dunglison, A Dictionary of Medical Science, p. 679, and M&SH, I, Part 1, pp. 636-648, 710-718.

²⁹ M&SH, I, Part 1, pp. 636-648, 710-718. There were no specific orders under this class.

³⁰ Ibid., I, Part 3, p. 888.

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with the same result. The same result was obtained in the case of the other two series of experiments. The results of the experiments are given in the following table.

For the purpose of the experiments, the same apparatus was used as in the case of the other two series of experiments. The results of the experiments are given in the following table.

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Potash, Compound Syrup of Sarsaparilla, Corrosive Sublimate, Creasote, Diluted Citrine, Fowler's Solution, Glycerine, Kerosene, Lard, Lime, Oil of Bergamot, Olive Oil, Red Oxide of Mercury, Sulphate of Copper, Sulphur, Vinegar, White Precipitate, and many others.³¹

In the treatment for Worms the object was to kill and evict those unwanted guests and avert their return. Anthelmintic remedies such as Calomel, Oil of Turpentine and Pink Root were often employed, and occasionally purgatives such as Castor Oil, Croton Oil, or Rhubarb were found sufficient to evict the Worms. To prevent a recurrence of the parasitical worms, exercise, a nutritious diet, and proper hygiene were recommended.³²

5.

Local Diseases

This class dealt with diseases which confined themselves to a particular part of the human body and did not involve the general system except in a secondary sense. The orders included within this class were Diseases of the Nervous System, Eye, Ear, Organs of Circulation, Respiratory Organs, Digestive Organs, Urinary and Genital Organs, Bone and Joints, and the Integumentary System.³³

³¹ Ibid., I, Part 3, pp. 886-889.

³² Neill and Smith, Compendium . . . , pp. 882-883.

³³ Dunglison, A Dictionary of Medical Science, p. 552, and M&SH, I, Part 1, pp. 636-648, 710-718.

The totals involved under this class for white troops were 1,552,690 cases, 28,849 deaths, and 63,493 discharges. Colored troops had 160,359 cases, 8,626 deaths, and 1,962 discharges listed under the Local Diseases classification.³⁴

Therapeutic agents for the diseases listed under this order will be discussed as categorically and concisely as possible in order to conserve economically space and time.

The first order dealt with was called Diseases of the Nervous System and included Apoplexy, Epilepsy, Headache, Insanity, Inflammations of Brain, Membranes of Brain, and Spinal Cord, Nostalgia, Neuralgia, Toothache, Paralysis, and Sun-stroke.

Apoplexy or cerebral haemorrhage was treated by bleeding to relieve the head of an over-accumulation of blood and to

³⁴ M&SH, I, Part 1, pp. 636-648, 710-718. Total number of cases, deaths, and discharges by order for white troops were: Diseases of Nervous System--170,032 cases, 4,442 deaths, and 9,292 discharges; Diseases of Eye--88,701 cases, two deaths, and 4,166 discharges; Diseases of Ear--28,918 cases, six deaths, and 1,681 discharges; Diseases of Organs of Circulation--25,106 cases, 1,658 deaths, and 14,251 discharges; Diseases of Respiratory Organs--448,923 cases, 17,902 deaths, and 8,742 discharges; Diseases of Digestive Organs--563,239 cases, 4,146 deaths, and 14,617 discharges; Diseases of Urinary and Genital Organs--29,875 cases, 430 deaths, and 3,052 discharges; Diseases of Bones and Joints--8,079 cases, 47 deaths, and 6,108 discharges; and Diseases of Integumentary System--189,817 cases, 216 deaths, and 1,584 discharges. Total number of cases, deaths, and discharges by order for colored troops were: Diseases of Nervous System--23,935 cases, 815 deaths, and 379 discharges; Diseases of Eye--7,599 cases, one death, and 171 discharges; Diseases of Ear--2,080 cases, one death, and 52 discharges; Diseases of Organs of Circulation--1,559 cases, 467 deaths, and 270 discharges; Diseases of Respiratory Organs--55,189 cases, 6,198 deaths, and 222 discharges; Diseases of Digestive Organs--54,271 cases, 971 deaths, and 515 discharges; Diseases of Urinary and Genital Organs--3,016 cases, 131 deaths, and 90 discharges; Diseases of Bones and Joints--950 cases, 15 deaths, and 209 discharges; and Diseases of Integumentary System--11,760 cases, 27 deaths, and 54 discharges.

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prevent a further congestion in that part of the body. The head was shaved and "freely leeches"; the temples and back of the neck were cupped; and "brisk" drastic cathartics (Croton Oil or Castor Oil) were employed to aid in relieving coma. Also locally administered were cold lotions or iced water to keep the head cool. In persistent coma blisterants were applied to the neck and head. After employing all of the active treatments it was concluded that "Something must be allowed to time, and the powers of nature."³⁵

Epilepsy treatments other than placing the patient in a horizontal position and preventing him from self injury included the medicinal therapeutics of Ammonio-Sulphate of Copper, Arsenite of Potash, Extract of Nux Vomica, Nitrate and Oxide of Silver, Quinine, Strychnia, and Sulphates of Iron, Zinc, and Copper. Among the more important antispasmodics used were Ammonia, Assafoetida, Camphor, Castor, Ether, Musk, Serpentari,
36
and Valerian.

Headaches were treated with one or more of the anodynes like Atropia, Belladonna, Hemlock, Morphia, or Opium.³⁷

There was no general or even specific medicinal therapy for insanity other than institutionalizing those so afflicted. Sedatives and narcotics were prescribed to subdue violence. Effective Psychiatry was to be a flourishing science of the future.

³⁵ Neill and Smith, Compendium . . . , pp. 960-964.

³⁶ Ibid., pp. 968-970.

³⁷ M&SH, I, Part 3, pp. 873-874.

Treatments and medicinal agents for inflammations of the brain, membranes of the brain, and the spinal cord included: anodynes; applications of sinapisms (mustard plasters) blister-ants, counter-irritants, plaster of Belladonna; Galvanism; cupping; frictions; muscle exercise; proper diet; purgatives; tonics; and the often used specific therapeutic remedies of Bromide of Potassium, Calomel, Citrate of Iron, Extract of Hyoscyamus, Extract of Valerian, Iodide of Iron, Iodide of Potassium, Nux Vomica, Porter, Quinine, Sulphate of Atropia, and Wine.³⁸

Nostalgia or homesickness was averted or alleviated by directing the attention of those so plagued into "make-work" channels or some lively amusement.³⁹

Neuralgia for the most part was considered to be a very tenacious malady and one for which a great diversity of therapy was made use of: bleeding, electricity, emetics, mercurial frictions, narcotics, purgatives, rubefacients, and vesicants. According to Dunglison, "The most successful remedy, perhaps, is the carbonate of iron, given in doses of some magnitude . . . in molasses."⁴⁰

³⁸ Ibid., I, Part 3, pp. 846-849, and Neill and Smith, Compendium . . . , pp. 956-958. Galvanism according to the 1860 Dunglison Medical Dictionary was the application of two small metal disks of different natures on the opposite sides of the affected part; connect the disks by means of a wire; and the induced nervous impression "is often beneficial."

³⁹ M&SH, I, Part 3, pp. 885-886.

⁴⁰ Dunglison, A Dictionary of Medical Science, pp. 631-632.

Toothache treatments usually consisted of the cavity being plugged with a cement of "finely powdered caustic lime, thirteen parts; anhydrous phosphoric acid, twelve parts. When introduced into a carious tooth, it becomes solid in about two minutes."⁴¹ If the cement did not work to satisfaction the nerve's sensibility was destroyed with a powerful stimulant, or the tooth was extracted.⁴²

Paralyses were dealt with by bleedings to relieve initial pressures and stimulants to the parts affected. Local treatments included baths, blisters, electricity, frictions, purgatives, sinapisms, and stimulating liniments. Applications of Nux Vomica and/or Strychnia were often used to excite movement when there was no longer self-control over the paralyzed part(s).⁴³

Sun-stroke therapy often included: Galvanism; a diet of boiled milk, Beef-tea, gruel, or mild Chamomile tea; purgatives; a body surface sponging with Diluted Tincture of Cayenne; and/or neck blisters. Some of the specific medicines employed singularly or in combination were: Blue Pills, Calomel, Citrate of Iron, Compound Tincture of Cinchona, Extract of Belladonna, Fluid Extract of Valerian, Iodide of Iron, Iodide of Potassium, Iodide of Zinc, Iron, Mixture of Acetate and Nitrate of Potash with Veratrum Viride, Mixture of Strychnia, Diluted Nitric Acid,

⁴¹ Ibid., p. 184.

⁴² Ibid., p. 644.

⁴³ Ibid., p. 678, and Neill and Smith, Compendium . . . , pp. 966-967.

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and Water, Mixture of Tolu, Squill, and Morphia, Quinine, Seidlitz Powder, Sulphate of Quinine, Sweet Spirit of Nite,
Tincture of Digitalis, and Tincture of Iron.⁴⁴

The order concerned with diseases of the eye included Amaurosis, Cataract, Inflammations of Conjunctiva, and of Iris, Ophthalmia, and Night Blindness. Amaurosis was treated with counter-irritants but usually without much success as this disease was generally incurable. Cataracts could only be obviated by the surgical removal of those obstacles to vision. The treatments for Inflammations of Conjunctiva and of Iris, and Ophthalmia may be considered together because of similarities. Treatments for the various cases included: cupping of the temples; extra diet; exclusion of light; fly-blister applied behind the ear; a saline purge; warm-dressings to the eyes; internal doses of Calomel, Cod Liver Oil, Compound Cathartic Pills, Iron, Opium, and Quinine; and eye-medications of Acetate of Lead, Atropine Drops, Belladonna, Borax, Camphorated Solution of Sulphate of Copper, Chloride of Sodium, Cold Water, Distilled Water, Iodine, "lapis divinus," Laudanum, Morphine, Nitrate of Silver, Opium, Red and White Oxide of Mercury Ointments, and Sulphate of Zinc. Treatments for the disease called Night Blindness were very uncertain and obscure with a cure being considered impossible.⁴⁵

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M&SH, I, Part 3, pp. 858-860.

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Dunlison, A Dictionary of Medical Science, pp. 50, 176, 639, and M&SH, I, Part 3, pp. 851-853. Amaurosis was complete or almost complete loss of sight without any noticeable

Treatments for the Diseases of the Ear, Earache, Inflammation of Internal Ear, Deafness, and Otorrhoea, consisted chiefly of syringing the ears, applying stimulating oils and medicated "vapors." Often the disease was incurable and would further infect surrounding vital areas.⁴⁶

General therapeutics for circulatory disorders such as heart inflammations included: bleeding, blisters, cupping, low diet, purgatives to clear out the digestive tract, rest, and tonics. Special remedies employed singularly or in combination were: Aconite; Belladonna; Cannabis Indica; Colchicum, combination of Calomel, Squill, and Digitalis, or Nitrate of Potassa, or Cream of Tartar; Conium; Digitalis to quiet the action of the heart; Ergot; Hyoscyamus; Opium at bedtime to insure sleep; Strychnia or Veratrum Viride to calm cardiac irritabilities for short periods. Valvular diseases of the heart were treated by long-continued but moderate doses of Mercury, Iodine, and if Rheumatic a protracted use of the Alkalies with Colchicum. Counter-irritation by cups or blisters were also considered to be of some value. Inflamed and varicose veins were treated with bleedings, blisters, Lead-water applications, and partial bathing with medicated "fomentations." Varicocele,

(Con't.) change in the eye's arrangement. Lapis divinus was an eye-wash composed of Sulphate of Copper, Alum, and Nitrate of Potash, "heated in watery fusion with camphor, and subsequently congealed."

⁴⁶ Dunlison, A Dictionary of Medical Science, pp. 276, 665. Otorrhoea was characterized by fluid discharges.

a dilation of the scrotum and spermatic cord veins, was relieved by proper suspension or surgical correction. The heart disease called Aneurism, disease of artery walls, was almost always fatal, but bloodletting and a low diet were tried as therapy.⁴⁷

Respiratory diseases listed in the Union Army's formal disease classifications were: Asthma, Acute and Chronic Bronchitis, Catarrh, Dropsy of Chest, Haemorrhage from Nose, Inflammations of Larynx, Lungs, and Pleura, and Haemorrhage from Lungs. Therapeutic medicines were much the same for all the diseases in this order. Medicines which were used to promote the evacuation of mucus, etc., from the bronchi, trachea, and larynx were the expectorants Ammoniac, Assafoetida, Benzoic Acid, Carbonate of Ammonia, Ipecacuanha, Myrrh, Senega, Squill, and many others. A number of paregoric medicines were employed to relieve irritability of the bronchial membranes. Some of these paregorics were Chloroform, Hemlock, Hydrochlorate of Morphia, Hyoscyamus, and Opium. Some of the antiasthmatic medicines used to relieve muscular spasm in the bronchial tubes were Assafoetida, Belladonna, Nitrate of Potash, Nitric Acid, and Stramonium. In cases of Lung Haemorrhage--astringents, Cod Liver Oil, and a good diet were employed. Remedies also employed for the Respiratory diseases were: counter-irritation; cupping; expectorants; extra diet; furloughs if possible or very

⁴⁷ Dunglison, A Dictionary of Medical Science, pp. 62, 955; M&SH, I. Part 3, p. 863; and Neill and Smith, Compendium . . . , pp. 924-930.

light duty; medicated gargles--Muriatic Acid and Alum; tonics containing Camphor, Liquorice, Morphine, Porter, Quinine, Sherry, Whiskey, Wild-cherry, and/or Wine; and inhalations, for difficult breathing cases, of Alcohol, Chloroform, Ether, Iodine, or Turpentine. The more popular of the specific medicaments were Dover's Powder, Ipecacuanha, Neutral Mixture, and Spirit of Nitre.⁴⁸

Listed under the order termed Diseases of the Digestive Organs were: Colic, Constipation, Abdominal Dropsy, Cholera Morbus, Cirrhosis of the Liver, Dropsy from Hepatic Disease, Dyspepsia, Diseases of Pancreas and Spleen, Fistula in Ano, Hernia, Prolapsus Ani, Haemorrhage of Stomach and of Bowels, Inflammations of Tonsils, Stomach, Bowels, Peritonaeum, and Liver, Jaundice, and Piles. Treatments of the ailments which comprised Digestive Diseases were very similar. Employed were anodynes to allay pain, antacids to relieve acidity of the stomach, and bowels, antemetics to relieve vomiting, astringents to diminish gastro-intestinal secretions, bleeding to relieve vascular burdens, carminatives to stimulate the gastro-intestinal canal and promote digestion, cholagogues to promote bile secretion, diaphoretics to increase cutaneous perspiration, diuretics to increase urine evacuations, emollients to diminish pain and tension of inflammations, external irritants for counter-irritation, laxatives and purgatives to clear the bowels, opiates

⁴⁸ M&SH, I, Part 3, pp. 726-818, 869-871, Neill and Smith, Compendium . . . , pp. 887-910.

for their narcotic powers, a regulated diet, stimulants to increase the action of the blood, stomachics to increase the appetite and assist digestion, styptics to repress haemorrhages, and tonics to increase or restore body strength. Popular remedies for these digestive order complaints included the ever-present panaceas of Calomel, Ipecacuanha, Opium, Quinine, Sulphate of Magnesia, and Tartar Emetic. Fistula in Ano and Piles were somewhat mitigated with Iodide injections and soothing ointments. In dealing with Acute Tonsillitis and Hernia it was almost universally accepted that correctional operations in most cases were necessary for complete recoveries.⁴⁹

Enumerated diseases of the Urinary and Genital Organs were Stone and Gravel, Diabetes, Bright's Disease, Diseases of Prostate and Testis, Inflammations of Kidneys and of Bladder, Incontinence of Urination, Hydrocele, Sarcocoele, and Non-syphilitic Ulcer of Penis. General medications for most of these diseases included: anodynes, astringents, demulcent drinks, diaphoretics, diuretics, irritants, proper diet, saline purgatives, stimulants, and tonics. The therapy for Urinary and Genital diseases also involved baths, cupping, and in some cases surgery. In Diabetes recourse was to a strict diet. Opiate enemmas soothed kidney and bladder inflammations. Sarcocoele was combated in part by the testicle being removed. For all the diseases

⁴⁹ Adams, Doctors in Blue, pp. 123, 136; Farrs, Manual of Materia Medica and Therapeutics, pp. 951-1011; M&SH, I, Part 3, pp. 872-881; and Neill and Smith, Compendium . . . , pp. 871-884, 936, 942-948.

under this order opiates had to be administered with a generous hand to aid in relieving pain.⁵⁰

The various diseases comprising the order concerned with bones and joints were: Anchylosis, Exostosis, Caries, Inflammations of Bones, Joints, and Periosteum, White Swelling, and Necrosis. In Anchylosis or "stiff joint," treatments were exercise, cold water applications, and relaxing oils. Medicines used to combat the Inflammations of Bones, Joints, and Periosteum, included opiates to relieve pain, Iodide of Potassium, Liquor, and Quinine. Topical therapy was to immobilize the affected part and apply cold water compresses. Treatments for Caries, Exostosis, and Necrosis, all fairly similar diseases, included the use of Cod Liver Oil, Iodine, stimulants, opiates, and in advanced cases surgery. In the latter three diseases it was considered most important to combat the primary disease, if caused by Syphilis, Scrofula, Gout, etc., in order to effect some secondary results for the bone disorders.⁵¹

Diseases of the Integumentary System embraced Abscess, Boils, Carbuncles, Ulcers, Skin Afflictions, and Whitlow.

⁵⁰ Dunglison, A Dictionary of Medical Science, pp. 472, 819; Neill and Smith, Compendium . . ., pp. 940, 947, 949-952; and M&SH, I, Part 3, pp. 382-384. Hydrocele was a collection of fluid in the serous covering of the testis or along the spermatic cord. Sarcocoele was Scirrhus or Cancer of the Testicle.

⁵¹ Adams, Doctors in Blue, pp. 143-144, and Dunglison, A Dictionary of Medical Science, pp. 67, 169-170, 362, 623. The disease called Exostosis was a tumor which formed on the bone or in the bone cavities. The disease called Caries was bone "death." Necrosis was mortification or death of the bone. The most common inflammation of the bones was a disease called Osteomyelitis usually caused by "the excision of bone wounds."

Therapeutics employed for these diseases were much the same: emollients were used to lessen the irritation and to soften; warm applications and leeches were employed; opiates were used to relieve pain; and the specific medical agents of Alum, Argenti Nitras, Arsenic, Bromine, Carbolic Acid, Corrosive Sublimate, Cupri Sulphas, Iodine, and Potassii Bromidum, were used as external applications.⁵²

6.

Wounds, Accidents, and Injuries

This general class was divided into four orders: Wounds, Accidents, and Injuries, Homicide, Suicide, and Execution of Sentence.⁵³ For Wounds, Accidents, and Injuries, during the Civil War there was a total of 408,120 cases, 37,686 deaths, and 48,374 discharges for white troops, and 24,337 cases, 1,505 deaths, and 1,479 discharges for colored troops.⁵⁴ There were

⁵² Dunglison, A Dictionary of Medical Science, pp. 21-22, 70, 409, 503, 681, 779, 884, 940, and Farre, Manual of Materia Medica and Therapeutics, pp. 951-1011. Whitlow was characterized by inflammatory tumors, near the fingernails, in the hands, and in the feet.

⁵³ M&SH, I, Part 1, pp. 636-648, 710-718. The items listed under the order entitled Wounds, Accidents, and Injuries were: Amputations, Burns, Contusions, Concussion of Brain, Compression of Brain, Drowning, Frost Bite, Sprains, Dislocations, Fractures, Simple Fractures, Compound Fractures, Gunshot Wounds, Incised Wounds, Lacerated Wounds, Punctured Wounds, Poisoning, and other Accidents and Injuries. The other orders were not subdivided.

⁵⁴ Ibid. The total number of cases, deaths, and discharges by order for white troops was: Wounds, Accidents, and

also 30,354 discharges for white troops and 1,913 discharges for colored troops because of developmental diseases like Atrophy, Hypertrophy, Deformities, Under Age, Old Age, Feebleness, and Stammering.⁵⁵

Burns and Contusions, the first two items listed in the class "Wounds, Accidents, and Injuries," were generally treated with such topical agents as Laudanum, lotions, Mercury, opiates, preparations of Mercury, and various emollients, e.g., Almond Oil, Collodion, Glycerine, Isinglass, Lard, Olive Oil, Spermaceti, and Wax.⁵⁶

Wounds and injuries of the chest were locally treated by stanching the bleeding, cleansing the parts, removing all foreign bodies, and finishing with a broad chest bandage. General treatments used for chest wounds and injuries were: a great deal of rest, a reclining position conducive to healing, and a judicious restriction of diet. A few of the pharmaceutical preparations employed in the general treatment of chest wounds were: Opium to quiet the nervous system; Calomel to guard against and combat

(Con't.) Injuries--400,933 cases, 36,688 deaths, and 48,374 discharges; Homicide--144 deaths; Suicide--301 deaths; and Execution of Sentence--104 deaths. There were also 7,187 cases and 449 deaths listed under Unclassified Diseases. Total number of cases, deaths, and discharges by order for colored troops was: Wounds, Accidents, and Injuries--24,337 cases, 1,427 deaths, and 1,479 discharges; Homicide--30 deaths; Suicide--nine deaths; and Execution of Sentence--39 deaths.

⁵⁵ Ibid.

⁵⁶ Farre, Manual of Materia Medica and Therapeutics, pp. 951-1011, and Neill and Smith, Compendium . . ., pp. 758-763. Emollients were topical agents which lessened irritations and caused a relaxation and softening of the living tissues.

Traumatic Pleuritis and Pneumonia; Tartrate of Antimony and Potash to aid in suppressing haemorrhages and to combat inflammations, Veratrum Viride to control circulation; Aconite to aid in reducing haemorrhages and inflammations; Digitalis, Hyoscyamus, and Acetate of Lead were generally used in combination with Opium to combat Diarrhoea and/or Lung Haemorrhage; saline purgatives; Hydrochlorate of Ammonia; tonics to combat Malarial and Pyaemic complications and to aid in convalescence; stimulants to combat prostrations immediately after receiving the injury; epispastics to combat Trumatic Pneumonia; and infrequently leeches for bloodletting in Pleurisy and Cardiac complications.⁵⁷

In the treatment of wounds and injuries of the abdomen Opium, administered orally and in suppositories, was the main therapeutic. Some physicians also used mercurial preparations to combat local inflammations. Absolute rest was considered

⁵⁷ Mason, II, Part 1, pp. 642-650. On pages 497 and 498 Assistant Surgeon Benjamin Howard, U.S. Army, proposed a treatment for gunshot and penetrating wounds of the chest and abdomen in which suppuration had not commenced. He called the treatment "Hermetically Sealing." The idea was to make the chest cavity perfectly airtight or as near like it was before the wound. "The natural condition of the parts is now approximately restored; the lung is suspended in a closed cavity; the volume of air admitted while the wound was open soon becomes absorbed; and the lung is again at liberty to expand freely. The most distressing symptom, dyspnoea, is relieved immediately." From page 499 to 514 of this same volume are many case histories some successful and some failures. Throughout many of the reports a strong prejudice was manifested against Howard's plan of treatment. From a numerical statement on pages 599 of 20,607 cases of wounds and injuries of the chest, less than 981 undetermined cases, 5,404 of the cases died. The ratio of mortality of determined cases was 27.5%.

necessary along with the observance of a very strict and bland⁵⁸ diet.

Wounds and injuries incurred in the upper and lower extremities were dealt with by amputations in many cases and topically treated in others. The mode of treatment or disposition depended largely upon where the wound was located, how bad it was, and the convenience of the surgeon.⁵⁹ If the injury involved simple fractures of the bone, with few complications otherwise, a splint would be applied for immobility and eventual healing. Some of the compound fractures could be dealt with in a similar manner as for the simple type--more often compound fractures resulted in the amputation of a limb.

Shock was one of the major disagreeable secondary features of surgery, wounds, and violent injuries. The more popular medicines used to counteract shock were Brandy, Morphine, Opium pills, and Whiskey.⁶⁰

An important feature of convalescence for those recovering from surgery, wounds, and injuries was that of the antiseptical. The growth and action of microorganisms as related to infections

⁵⁸ Ibid., II, Part 2, pp. 207-208. Out of 3,717 cases of wounds and injuries of the abdomen, less the 242 undetermined cases, 3,031 died. The ratio of mortality of determined cases was 87.2%.

⁵⁹ Ibid., II, Part 2, pp. 423-1023.

⁶⁰ Adams, Doctors in Blue, pp. 116, 119-121. Some anesthetics were given during the Civil War years. According to Adams out of some 80,000 general anesthetics 76% were Chloroform, 14% Ether, and nine per cent Mixed. Thirty-seven deaths were attributed to Chloroform, four to Ether, and two to the Mixture.

was little known in the Civil War period. "An infection would be allowed to reach full and horrifying bloom before the antiseptic was applied."⁶¹ Some of the more widely used antiseptical agents were: Alcohol, Carbolic, Charcoal, Chlorine, Corrosive Sublimate, Hydrochloric Acid, Labarraque's Solution, Nitric Acid, Nitrous Acid, Permanganate of Potassa, and Sulphuric Acid. There were also some popular disinfectants which were used in latrines, bed pots, and wards. The principal disinfectants were Chlorine, Chlorinated Soda, Iodine, Lime, Chlorinated Lime, Chloride of Zinc, Creasote, Perchloride of Iron, Sulphate of Iron and Sulphate of Copper.⁶²

One absurdity in wound cleanliness was refuted by Confederate surgeons in a Union stockade. These surgeons had no bandages or supplies and had to leave their patients' wounds uncovered to the elements and the flies. Many of these Confederate wounds infested with maggots cleared up quickly, while the Union wounded which had better medicinal attention, along with the prevention or eviction of maggots, died in larger numbers.⁶³

The last item to be mentioned from the class "Wounds, Accidents, and Injuries," is poisoning because it is evident homicide, suicide, and execution of sentence had no medical cures

⁶¹ Ibid., p. 126.

⁶² Ibid., pp. 126-128; Farre, Manual of Materia Medica and Therapeutics, pp. 951-1011; and OR, Series I, Volume XXXVI, Part 1, p. 258.

⁶³ Adams, Doctors in Blue, p. 129.

unless they be psychological--an unpracticed form of therapy in this period. Agents which mitigated or rendered poisons harmless were called antidotes. Available in this period were: purgative, chemical, mechanical, dynamical, and eliminating antidotes.⁶⁴

Therapeutic uses of medicines on the supply tables have now been examined; and it remains to the conclusion which follows to synthesize the meaning of this chapter with the significance of the preceding chapters.

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Farre, Manual of Materia Medica and Therapeutics, pp. 951-1011. Purgative antidotes removed the poison from the part to which it had been applied. A few of the purgative antidotes were: Castor Oil, Ipecacuanha, Mustard, Soap, Tartarated Antimony, and Sulphate of Magnesia. Chemical antidotes rendered the poison insoluble or converted it into a harmless soluble. Some of the chemical antidotes were: Animal Charcoal for Vegetable Alkaloids, Carbonic Acid for Caustic Alkalies, Sulphuric Acid for Carbonate of Lead, Soap for Mineral Acids, Lime for Arsenious Acid, and Chalk for Mineral Acids, Oxalic Acid, and Tartaric Acid, to mention a few. Mechanical antidotes sheathed the living part from contact with the poison. Magnesia, Gum Arabic, Linseed, Olive Oil, and Almond Oil were a few of the materia medica articles that were considered to be mechanical. Dynamical antidotes counteracted or relieved the effects of the poison. A few of the dynamical antidotes were: Ammonia for Hydrocyanic Acid, Digitalis, Tobacco, Poisonous Snake, and Insect Bites; Belladonna for Opium and Morphia; and Tobacco for Nox Vomica and Strychnia. Eliminating antidotes promoted the speedy removal of poisons from the system after their absorption. In this category were Sulphuric Acid, Sulphurated Potash, and Iodide of Potassium for Lead and Mercury.

CHAPTER IV

U. S. ARMY MEDICAL SERVICE AND SUPPLY TABLES-- ADEQUATE? EFFICIENT? EFFECTIVE?

Were the U. S. Army's Medical Service and Supply Tables adequate, efficient and effective? An answer to each of these controversial questions is affirmative for the greater portion of the War period. Conceded are the definite inadequacies of the unprepared and shortsighted Army Medical Department during the early embroiled months of conflict. These early problems were soon rectified by the dictates of necessity and sagacious men. Before passing an irretrievable judgement a querist must consider and make allowances for the period, what was known, what was practiced, and view with an unjaundiced eye the titan steps forward in military medicine made by Civil War Doctors William A. Hammond and Jonathan Letterman.

The U. S. Military Medical Department was totally unprepared for a conflict the size of the Civil War in 1861 as it was geared to garrison medical needs. After experiencing a number of early battle flascos and as the war progressed the Medical Department, under the competent guidance of "new blood," developed and expanded their organization's facilities, personnel, and mode of operation into the most serviceable the World had yet seen. In fact percentile computation totals for deaths

CONFIDENTIAL

U. S. ARMY MEDICAL DEPARTMENT

REPORT

Year 1944

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due to disease during the Civil War are much lower than many for previous wars and compare very favorably with those for the Spanish-American War 1898-1899 and World War I 1917-1918.¹

Surgeon General William A. Hammond and Jonathan Letterman, Medical Director of the Army of the Potomac, were the two men most responsible for the practical contributions and reforms necessary to reorganization of the U. S. Medical Department into an efficient and effective corps for medicinal assistance. These two men effected a highly developed ambulance and field-relief system to meet the needs of wound emergencies in the field, efficient evacuation to behind-the-lines hospitals for more detailed surgery, and then further transference to permanent hospitals for convalescence. They developed an effective, compact, and elastic, field medical supply service, reduced the amounts of medicines to be carried to what was necessary, and decreased the number of wagons to what was needed for efficient supply transportation. The genius of these two men in their organizational

¹ Mercer, Nelson, "Disease in Military Campaigns," The Military Surgeon, LXXVIII (February, 1936), 130-134. Comparisons are somewhat indicative of the quality of medicinal aid. Logically it would seem that lower percentages for those who died of disease would mean better medical care being utilized. Mercer in his article indicates that the various armies in contemporary campaigns lost a certain percentage of their total numbers of troops to death caused by disease: the French Army in the 1812 Campaign with Russia lost 84.0%, the Russian Army in the 1828-1829 Turkish Campaign lost 86.9%, the British and French Armies in the 1854-1856 Crimean War lost 33.5%, the French Army in the 1895 Madagascar Campaign lost 33.3%, the British Army in the 1899-1902 South African Campaign lost 3.6%, the American Army in the 1846-1847 Mexican War lost 10.1%, the Union Army in the 1861-1865 Civil War lost 9.1%, the American Army in the 1898-1899 Spanish-American War lost 1.7%, and the American Army in the 1917-1918 World War I lost 1.4%.

W. B. DUBOIS

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systems and ideas served as military-medical models for many later and modern armies. Surgeon General Hammond envisioned then started the collections of records, reports, and materials for the Medical and Surgical History of the War of the Rebellion and an Army Medical Museum. These two projects were carried forward and completed by Hammond's successor Joseph K. Barnes. Another doctor named John Shaw Billings, Deputy Surgeon General of the Army under Barnes, catalogued some 472 books of the Surgeon General's Office in 1864 which became the foundation of today's mammoth National Library of Medicine. Billings also began the Index-Catalogue of the Library of the Surgeon-General's Office . . . which is today a most complete and very valuable bibliography for medical literature.²

The Civil War provided surgical experience for a large number of "rural physicians" who otherwise would have referred many cases to their urban peers. This training was of great value in the dispersion of "operational surgery" within the United States. Out of this war also came men who were convinced,

² Ireland, M. W., "The Medical Corps of the Army and Scientific Medicine," The Military Surgeon, LXVIII (June, 1931), 721-734; Smith, Joseph T., "A Review of the Life and Work of Jonathan Letterman, M.D.," The Johns Hopkins Hospital Bulletin, XXVII (1916), 244; and Van Auken, H.A., "Some Contributions of Military Surgeons to Medicine," The Military Surgeon, LXXXIII (July, 1938), 88-92. According to G. W. Adams in his Doctors in Blue, on page 111 "Something approaching a trained Hospital Corps had replaced frightened musicians as stretchermen and callous teamsters as ambulance drivers. Field hospitals had progressed from tiny regimental affairs, through brigade and division units, to the smoothly working corps hospitals of 1864-1865. The designation of certain surgeons as operators had done a good deal to improve surgical technique. . . ."

by experience, of the necessity of preventive sanitation and because of their dedication to this idea gave impetus to the postwar public health movement. Another influence made by the war was that upon the chemical industry. Pharmacy was greatly expanded not only in physical size but in the number of medicinal preparations available to the consumer. A leading figure in Civil War pharmacy was Dr. E. R. Squibb. He was especially noted for his contributions in the purification and standardization of ether and chloroform for safer use in anesthetics.³

A quantitative analysis of materia medica used by the U. S. Army during the Civil War with special reference to the Standard Supply Tables was dealt with in Chapter II. Apparently the quantities as well as the qualities of the various medicaments of the Supply Tables satisfied a majority of the practicing U. S. Military Physicians. What they had difficulty in reconciling with the Supply Table authors were those articles which should be included. Quite a number of changes were effected from one year to the next as can be seen from examining the Supply Tables. Most of these changes were nothing more than experimentation seeking the greatest efficiency possible in military-medical logistics without a loss of effectiveness. A few changes, notably those concerning the omission of Calomel

³ Adams, Doctors in Blue, pp. 197-198, 228-230; Ashburn, A History of the Medical Department of the United States Army, p. 92; and Haynes, Williams, American Chemical Industry: Background and Beginnings, Volume I (New York: D. Van Nostrand Company, Inc., c1954), pp. 217, 319-320.

by experience, of the necessity of maintaining the
because of their inability to do so. The
postwar supply of the material. The
was that upon the material. The
expended not only in the material but in the
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a few changes, notably when the material was

3
Adams, Boston, Mass.
A History of the Supply Table
W. H. and Mary, 1877
Ground and Building
Company, Inc., 1877

and Tartar Emetic, were made with definite reasons to support the decisions. The Union Army's Standard Supply Tables indicated a judicious and thoughtful selection of galenicals as well as good judgment in their quantitative allowances.

The applications of Union Army's Standard Supply Table medicines and results thereof were described in Chapter III. Over-all net results of these medicines attest to the adroitness and capabilities of those in supply procurement and of those who employed the articles in therapeutics. These men of the Caduceus and the Hippocratic Oath were worthy of their profession's praise. A subject of this nature must always be considered in its proper perspective as to the period, what was known, and what was actually practiced. Military medicine made considerable progress as a direct result of the experiences and contributions of the Civil War doctor.

Those medicines used during the American Revolutionary Period were not as regularized or plentiful as they were by the mid-1800's and World War I. Conclusive quantities of drugs allowed or actually issued for this early period are impossible to determine with any degree of accuracy as the available information is too insufficient. The U.S. Army during World War I had a Standard Supply Table as definite and planned as those used by the Union Army. In reality a good deal of the medicines and official preparations were similarly applied, with very few major additions or deletions, from the Revolutionary Period

and later... the decision... called a... well as... The application... mentioned... Over-all... news and... those who... of the... protection's... considered... known, and... considerable... and... Those... Period... 1930's and... issued... to... formation is... I had a... used by the... and official... for major...

to the 1930's and the advent of the Sulfas.⁴

By December 17, 1864, there was a total bed capacity in Union general hospitals of 118,057 of which 83,409 were occupied. For the period beginning May-June, 1861, and ending June 30, 1866, there were 6,454,834 admissions of white and colored troops to sick call. Of this number between 300,000 and 360,000 were killed or died from disease. In this same period the Union Army Medical Department expended a total sum of \$47,351,982.24, exclusive of the medical officer's wages, for therapeutics and many of its ramifications.⁵ To recapitulate, the Union Army's Medical Department and medicinal supplies, considering the period, were more than adequate, very efficient, and effective.

⁴ Wolfe, Edwin P., "The Genesis of the Medical Department of the United States Army," Bulletin of the New York Academy of Medicine, V (1929), 823-844; Gibson, James E., Dr. Bodo Otto and the Medical Background of the American Revolution (Springfield: Charles C. Thomas, c1937), pp. 166-168; and Surgeon General, U.S. Army, The Medical Department of the United States Army in the World War, Volume I, Prepared under the Direction of Major General M. W. Ireland by Charles Lynch, et.al. (Washington: Government Printing Office, 1923), pp. 903-904.

⁵ Ashburn, A History of the Medical Department of the United States Army, p. 431; Cunningham, H. H., Doctors in Gray (Baton Rouge: Louisiana State University Press, c1958), p. 43; M&SH, I, Part 1, pp. 636-648, 710-718; Ibid., I, Part 3, p. 964; and Reasoner, M.A., "The Development of the Medical Supply Service," The Military Surgeon, LXIII (July, 1928), 19. According to G. W. Adams in his Doctors in Blue, pages 172-173, the Union Army's hospital system had an over-all bed capacity for 136,000. The seemingly inconsistency in totals between G. W. Adams and the M&SH may be rectified by the fact that the former figure was for an over-all total while the latter figure was for general hospitals. There were 5,825,480 admissions for white troops and 629,354 admissions for colored troops to sick call.

in the 1930's and 1940's, and the 1950's and 1960's. The 1970's and 1980's saw a significant increase in the number of troops deployed to Vietnam. The 1990's saw a decrease in the number of troops deployed to Vietnam, but a significant increase in the number of troops deployed to other parts of the world. The 2000's saw a significant increase in the number of troops deployed to Afghanistan and Iraq. The 2010's saw a decrease in the number of troops deployed to Afghanistan and Iraq, but a significant increase in the number of troops deployed to other parts of the world.

A report by the U.S. Department of Defense, released in 2010, estimated that the total number of U.S. troops who served in Vietnam was 1.5 million. The report also estimated that the total number of U.S. troops who served in Afghanistan and Iraq was 1.5 million. The report also estimated that the total number of U.S. troops who served in other parts of the world was 1.5 million.

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APPENDIX I. QUANTITIES OF MEDICINES ISSUED DURING THE WAR

| ARTICLES | QUANTITY |
|--|-----------------|
| Acaciae pulvis, in $\frac{1}{2}$ -lb. bottles | oz. 869,070 |
| Acidum aceticum, in $\frac{1}{2}$ -lb. g.s. bottles | oz. 353,477 |
| citricum | oz. 331,801* |
| muriaticum | oz. 373,065* |
| nitricum | oz. 323,403* |
| phosphoricum dilutum | oz. 37,301* |
| sulphuricum | oz. 657,896* |
| aromaticum | oz. 395,708 |
| tannicum, in 1-oz. bottles | oz. 83,550 |
| tartaricum, in 8-oz. bottles | oz. 399,977 |
| Aether fortior, in $\frac{1}{2}$ -lb. g.s. bottles and $\frac{1}{2}$ -lb. tins | oz. 1,002,045 |
| Aetheris spiritus compositus, in $\frac{1}{2}$ -lb. g.s. bottles | oz. 357,372 |
| nitrici, in $\frac{1}{2}$ -lb. g.s. bottles | oz. 1,610,361 |
| Alcohol fortius, in 32-oz. bottles | bottles 483,930 |
| Aloes pulvis | oz. 84,767* |
| Alumen | oz. 404,907* |
| Ammoniae carbonas | oz. 331,446* |
| liquor, in $\frac{1}{2}$ -lb. g.s. bottles | oz. 1,237,627 |
| murias | oz. 356,796* |
| spiritus aromaticus | oz. 175,885* |
| Antimonii et potassae tartratis pulvis | oz. 17,259* |
| Argenti nitras, in 1-oz. g.s. bottles | oz. 42,185 |
| fusus, in 1-oz. bottles | oz. 35,818 |
| Arsenitis potasse liquor | oz. 81,008* |
| Assafoetida | oz. 86,160* |
| Bismuthi subcarbonas | oz. 85,790* |
| Camphora, in 8-oz. bottles | oz. 924,184 |
| Cantharidis pulvis | oz. 58,054* |
| ceratum | oz. 427,005* |
| Capsici pulvis | oz. 209,623* |
| Catechu | oz. 113,210* |
| Cera alba | oz. 472,343* |
| Ceratum adipis (simple cerate), in 1-lb. pots | lbs. 210,880 |
| resinae, in 1-lb. pots | lbs. 51,049 |
| Cinchonae calisayae pulvis | oz. 175,235* |
| sulphas | oz. 374,746* |
| Chlorinium, (the materials for preparing) in a package | no. 10,705* |
| Chloroform | oz. 1,146,982 |
| Collodium | oz. 28,992* |
| Copaiba | oz. 1,292,129* |
| Creasotum | oz. 79,033* |
| Creta preparata, in $\frac{1}{2}$ -lb. bottles | oz. 243,048 |
| Cubebae oleo-resina, (ext. cubebae, Fl. U.S.P. 1850) | oz. 182,789* |
| pulvis | oz. 140,000* |
| Cupri sulphas | oz. 56,087* |
| Extractum aconiti radice fluidum, in $\frac{1}{2}$ -lb. bottles | oz. 218,326 |
| belladonnae, in 1-oz. pots | oz. 28,243 |
| buchu fluidum, in $\frac{1}{2}$ -lb. bottles | oz. 309,896 |
| cinchonae fluidum (with aromatics) | oz. 518,957 |

| ARTICLES | | QUANTITY |
|---|---------|----------|
| Extractum colchici seminis fluidum | oz. | 165,860* |
| colocynthis compositum, in 8-oz. pots | oz. | 188,030 |
| conii, in 1-oz. pots | oz. | 13,524 |
| ergotae fluidum | oz. | 22,471* |
| gentianae fluidum, in $\frac{1}{2}$ -lb. bottles | oz. | 347,173 |
| glycyrrhizae | oz. | 818,485* |
| hyoscyami, in 1-oz. pots | oz. | 20,534 |
| ipecacuanhae fluidum, in $\frac{1}{2}$ -lb. bottles | oz. | 313,739 |
| nucis vomicae, in 1-oz. pots | oz. | 11,989 |
| pruni virginianae fluidum, in $\frac{1}{2}$ -lb. bottles | oz. | 307,323 |
| rhei fluidum, in $\frac{1}{2}$ -lb. bottles | oz. | 258,009 |
| senegae fluidum, in $\frac{1}{2}$ -lb. bottles | oz. | 315,633 |
| spigeliae fluidum | oz. | 81,675* |
| valerianae fluidum, in $\frac{1}{2}$ -lb. bottles | oz. | 170,525 |
| veratri viridis fluidum | oz. | 48,759* |
| zingiberis fluidum, in $\frac{1}{2}$ -lb. bottles | oz. | 506,380 |
| Ferri chloridi tinctura, in $\frac{1}{2}$ -lb. bottles (g.s.) | oz. | 616,474 |
| iodidi syrupus, in $\frac{1}{2}$ -lb. g.s. bottles | oz. | 162,614 |
| et quinae citras, in 1-oz. bottles | oz. | 50,772 |
| persulphatis liquor, in 4-oz. g.s. bottles | oz. | 130,997 |
| pulvis, in 1-oz. g.s. bottles | oz. | 153,741 |
| sulphas, in 4-oz. bottles | oz. | 544,045 |
| oxidum hydratum. (the materials for, in a package) | oz. | 2,421* |
| pilulae, in 8-oz. pots | oz. | 277,808 |
| Glycyrrhizae pulvis | oz. | 137,796* |
| Glycerina | oz. | 385,422* |
| Hydrargyri chloridum corrosivum | oz. | 10,954* |
| mite | oz. | 127,027* |
| iodidum flavum | oz. | 6,710* |
| oxidum rubrum | oz. | 8,992* |
| pilulae | oz. | 313,647* |
| unguentum | oz. | 29,508* |
| nitratiss | oz. | 129,573* |
| Hydrargyrum cum creta, in $\frac{1}{2}$ -lb. bottles | oz. | 69,278 |
| Iodinium | oz. | 80,168* |
| Ipecacuanhae pulvis, in $\frac{1}{2}$ -lb. bottles | oz. | 328,029 |
| et opii pulvis, in $\frac{1}{2}$ -lb. bottles | oz. | 447,151 |
| Linum | oz. | 94,903* |
| Lini pulvis, in tins | lbs. | 415,996 |
| Magnesia | oz. | 69,867* |
| Magnesiae sulphas | lbs. | 515,828 |
| Morphiae sulphas, in 4-oz. bottles | oz. | 27,200 |
| Oleum cinnamomi | oz. | 22,157* |
| Olei menthae piperitae tinctura | oz. | 123,757* |
| Oleum morrhuae, in 32 oz. bottles | bottles | 114,596* |
| olivae, in 32 oz. bottles | bottles | 179,105* |
| ricini, in 32 oz. bottles | oz. | 220,334 |
| terebinthinae, in 32 oz. bottles | bottles | 94,824* |
| tiglli | oz. | 28,486* |

| ARTICLES | | QUANTITY |
|---|---------|-----------|
| Opii pulvis, in $\frac{1}{2}$ -lb. bottles | oz. | 552,196 |
| tinctura, in $\frac{1}{2}$ -lb. bottles | oz. | 828,258 |
| camphorata, in $\frac{1}{2}$ -lb. bottles | oz. | 993,311 |
| Pilulae camphorae, (gra.2), et opii, (gra.1) | doz. | 380,058* |
| catharticae compositae | doz. | 655,982* |
| opii, in g.s. bottles | doz. | 813,156 |
| quiniae sulphas | doz. | 178,050* |
| Plumbi acetas | oz. | 418,328* |
| Podophylli resina | oz. | 9,440* |
| Potassae acetas | oz. | 113,997* |
| bicarbonas | oz. | 326,295* |
| bitartras, in $\frac{1}{2}$ -lb. bottles | oz. | 556,488 |
| chloras, in $\frac{1}{2}$ -lb. bottles | oz. | 568,923 |
| nitras | oz. | 272,841* |
| permanganas cryst | oz. | 18,041* |
| Potassii iodidum, in $\frac{1}{2}$ -lb. bottles | oz. | 531,744 |
| Quinae sulphas, compressed in 5-oz. tins | oz. | 595,544 |
| Rheum | oz. | 64,094* |
| Rhei pulvis, in 4-oz. bottles | oz. | 132,552 |
| Sapo | lbs. | 269,938* |
| Scillae pulvis | oz. | 47,182* |
| syrupus, in 1-lb. bottles | lbs. | 183,582 |
| Sinapis nigrae pulvis | lbs. | 219,012* |
| Sodae chlorinatae liquor, in 1-lb. g.s. bottles | lbs. | 167,459 |
| bicarbonas, in $\frac{1}{2}$ -lb. bottles | oz. | 652,913 |
| boras | oz. | 132,850* |
| et potassae tartras, in $\frac{1}{2}$ -lb. bottles | oz. | 798,553 |
| Spiritus lavandulae compositus, in $\frac{1}{2}$ -lb. bottles | oz. | 404,117 |
| frumenti (whiskey), in 32-oz. bottles | bottles | 1,907,145 |
| vini gallici, in 32 oz. bottles | bottles | 582,187 |
| Sulphur | oz. | 309,726* |
| Strychnia | oz. | 1,232* |
| Vinum album (sherry), in 32-oz. bottles | bottles | 736,459 |
| Zinci acetas | oz. | 20,518* |
| carbonas | oz. | 19,788* |
| chloridi liquor, in 1-lb. g.s. bottles | oz. | 486,966 |
| sulphas, in 1-oz. bottles | oz. | 92,805 |
| Chloride of lime | lbs. | 364,551* |
| HOSPITAL STORES | | |
| Arrow root | lbs. | 62,226 |
| Barley | lbs. | 169,329* |
| Beef, extract of, in 2-lb. tins | lbs. | 570,980 |
| Candles, sperm or composition | lbs. | 113,425* |
| Cinnamon, powdered | lbs. | 15,471* |
| Cocoa, or chocolate, in tins or cakes | lbs. | 129,596 |
| Coffee, extract of, in $\frac{1}{2}$ -gal. tins | gals. | 25,317 |
| Corn-starch, in 1-lb. papers | lbs. | 218,708 |
| Desiccated egg | lbs. | 97,788* |

| ARTICLES | | QUANTITY |
|---|----------|-----------|
| Farina, in 1-lb. papers | lbs. | 251,837 |
| Gelatine, shred, in $\frac{1}{2}$ -lb. packages | lbs. | 13,067 |
| Ginger, powdered | lbs. | 18,898* |
| Milk, concentrated, in 1-lb. tins | lbs. | 479,014 |
| Nutmegs | lbs. | 15,076* |
| Pepper, black, ground | lbs. | 27,893* |
| Porter, in pint bottles | bottles. | 1,833,948 |
| Sugar | lbs. | 949,264* |
| Tea, black, in tins or original chests | lbs. | 429,695 |
| Tapioca, in tins | lbs. | 85,226 |

Compiled from M&SH, I, Part 3, pp. 964-966 and Report of the Secretary of War, Abstract "A", Volume III, House Documents, 39th Congress; 2nd Session, 1866, pp. 384-388.

ARTICLE

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Letter, 1937, 1938.

Letter, 1937, 1938.
Letter, 1937, 1938.

Letter, 1937, 1938.
Letter, 1937, 1938.

COLLECTION

ARTICLE

1937

APPENDIX II. STANDARD SUPPLY TABLE FOR GENERAL AND POST HOSPITALS 1861

| Articles. | | Quantities for one year for commands of | | | | |
|------------------------------------|-------|---|-----------------|-----------------|----------------|-----------------|
| Medicines. | | From
100-200 | From
200-300 | From
300-400 | 500
men | 1,000
men |
| Acaciae | lb. | 2 | 4 | 6 | 8 | 16 |
| Acidi acetici | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " arseniosi | oz. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " benzoici | oz. | 1 | 2 | 3 | 4 | 8 |
| " citrici | lb. | 1 | 2 | 3 | 4 | 8 |
| " muriatici | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " nitrici | lb. | 1 | 2 | 3 | 4 | 8 |
| " sulphurici | lb. | 1 | 2 | 3 | 4 | 8 |
| " aromatici | lb. | 1 | 2 | 3 | 4 | 8 |
| " tannici | oz. | 2 | 4 | 6 | 8 | 16 |
| " tartarici | lb. | 2 | 4 | 6 | 8 | 16 |
| Aetheris sulphurici loti | lb. | 2 | 4 | 6 | 8 | 16 |
| Alcoholis | bott. | 24 | 48 | 72 | 96 | 192 |
| Aluminis | lb. | $\frac{1}{2}$ | 2 | 3 | 4 | 8 |
| Ammoniaci | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Ammoniae carbonatis | oz. | 8 | 16 | 24 | 32 | 64 |
| " muriatis | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Anthemidis | lb. | 1 | 2 | 3 | 4 | 8 |
| Antimonii et potassae
tartratis | oz. | 3 | 6 | 9 | 12 | 24 |
| Argentii nitratis (crystals) | oz. | 1 | 2 | 3 | 4 | 8 |
| " " (fused) | oz. | 1 | 2 | 3 | 4 | 8 |
| Arnicae | lb. | 1 | 2 | 3 | 4 | 8 |
| Asafoetidae | oz. | 4 | 8 | 12 | 16 | 32 |
| Bismuthi subnitratis | oz. | 4 | 8 | 12 | 16 | 32 |
| Camphorae | lb. | 2 | 4 | 6 | 8 | 16 |
| Cardamomi | oz. | 8 | 16 | 24 | 32 | 64 |
| Catechu | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Cerise albae | lb. | 2 ^a | 4 ^a | 6 ^a | 8 ^a | 16 ^a |
| Cerati resinae | lb. | 2 | 4 | 6 | 8 | 16 |
| " simplicis | lb. | 8 | 16 | 24 | 32 | 64 |
| " zinci carbonatis | lb. | 2 | 4 | 6 | 8 | 16 |
| Chloroformi | lb. | 1 | 2 | 3 | 4 | 8 |
| Colloidi | oz. | 2 | 4 | 6 | 8 | 16 |
| Copaibae | lb. | 5 | 10 | 15 | 20 | 40 |
| Crescotti | oz. | 2 | 4 | 6 | 8 | 16 |
| Cretae preparatae | lb. | 1 | 2 | 3 | 4 | 8 |
| Cupri sulphatis | oz. | 2 | 4 | 6 | 8 | 16 |
| Emplastri adhaesivi | yds. | 5 | 10 | 15 | 20 | 40 |
| " cantharidis | lb. | 3 | 6 | 9 | 12 | 24 |
| " ferri | lb. | 1 | 2 | 3 | 4 | 8 |
| " hydrargyri | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " ichthyocollae | yds. | 3 | 6 | 9 | 12 | 24 |

*To be issued to posts where simple cerate cannot be sent without becoming rancid.

| Articles | | | Quantities for one year for commands of | | | | |
|---------------------------|----------------------|-------|---|---------|---------|----------------|-------|
| | | | From | From | From | 500 | 1,000 |
| | | | 100-200 | 200-300 | 300-400 | men | men |
| Extracti | belladonnae | oz. | 2 | 4 | 6 | 8 | 16 |
| " | bucca fluidi | lb. | 1 | 2 | 3 | 4 | 8 |
| " | colchici acetici | oz. | 1 | 2 | 3 | 4 | 8 |
| " | colocynthis comp | oz. | 8 | 16 | 24 | 32 | 64 |
| " | colombae fluidi | lb. | 1 | 2 | 3 | 4 | 8 |
| " | coni | oz. | 1 | 2 | 3 | 4 | 8 |
| " | cubebae fluidi | lb. | 1 | 2 | 3 | 4 | 8 |
| " | gentianae fluidi | lb. | 1 | 2 | 3 | 4 | 8 |
| " | glycyrrhizae | lb. | 6 | 12 | 18 | 24 | 48 |
| " | hyoscyami | oz. | 2 | 4 | 6 | 8 | 16 |
| " | ippecacuanhae fluidi | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " | piperis fluidi | oz. | 1 | 2 | 3 | 4 | 8 |
| " | pruni virg. fluidi | lb. | 1 | 2 | 3 | 4 | 8 |
| " | rhei fluidi | lb. | 1 | 2 | 3 | 4 | 8 |
| " | sarsaparillae | | | | | | |
| | fluidi | lb. | 2 | 4 | 6 | 8 | 16 |
| " | senegae fluidi | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " | sennae fluidi | lb. | 1 | 2 | 3 | 4 | 8 |
| " | taraxaci fluidi | lb. | 1 | 2 | 3 | 4 | 8 |
| " | valerianae fluidi | oz. | 8 | 16 | 24 | 32 | 64 |
| " | zingiberis fluidi | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Ferri iodidi | | oz. | 2 | 4 | 6 | 8 | 16 |
| " | et quinae citratis | oz. | 4 | 8 | 12 | 16 | 32 |
| " | sulphatis | oz. | 2 | 4 | 6 | 8 | 16 |
| Gambogiae | | oz. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Guaiaei resinae | | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Hydrargyri chloridi corr: | | oz. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " | " mitis | lb. | $\frac{1}{2}$ | 2 | 3 | 4 | 8 |
| " | cum creta | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " | iodidi | oz. | 1 | 2 | 3 | 4 | 8 |
| " | oxidi rubri | oz. | 1 | 2 | 3 | 4 | 8 |
| Iodinii | | oz. | 2 | 4 | 6 | 8 | 16 |
| Lini | | lb. | 4 | 8 | 12 | 16 | 32 |
| Liquoris ammoniae | | lb. | 4 | 8 | 12 | 16 | 32 |
| " | ferri iodidi | lb. | 1 | 2 | 3 | 4 | 8 |
| " | potass: arsenitis | oz. | 2 | 4 | 6 | 8 | 16 |
| " | sodae chlorinatae | bott. | 3 | 6 | 9 | 12 | 24 |
| " | zinci chloridi | bott. | 3 | 6 | 9 | 12 | 24 |
| Magnesiae | | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " | sulphatis | lb. | 25 | 50 | 75 | 100 | 200 |
| Massae pil: hydrargyri | | oz. | 8 | 16 | 24 | 32 | 64 |
| Mellis despumati | | lb. | 2 | 4 | 6 | 8 | 16 |
| Morphiae sulphatis | | dr. | 2 | 4 | 6 | 8 | 16 |
| Myrrhae | | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Olei anisi | | oz. | 1 | 2 | 3 | 4 | 8 |
| " cajuputi | | oz. | 1 | 2 | 3 | 4 | 8 |
| " caryophylli | | oz. | 1 | 2 | 3 | 4 | 8 |

| Articles | | | Quantities for one year for commands of | | | | |
|--------------------------|-----------|--|---|-----------------|-----------------|----------------|--------------|
| | | | From
100-200 | From
200-300 | From
300-400 | 500
men | 1,000
men |
| Olei cinnamomi | oz. | | 1 | 2 | 3 | 4 | 8 |
| " menthae piperitae | oz. | | 2 | 4 | 6 | 8 | 16 |
| " morrhuae | bott. | | 8 | 16 | 24 | 32 | 64 |
| " olivae | bott. | | 8 | 16 | 24 | 32 | 64 |
| " origani | oz. | | 4 | 8 | 12 | 16 | 32 |
| " ricini | qt. bott. | | 12 | 24 | 36 | 48 | 96 |
| " terebinthinae | qt. bott. | | 4 | 8 | 12 | 16 | 32 |
| " tigllii | dr. | | 2 | 4 | 6 | 8 | 16 |
| Opii | lb. | | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Picis abietis | lb. | | 1 | 2 | 3 | 4 | 8 |
| Plumbi acetatis | lb. | | 1 | 2 | 3 | 4 | 8 |
| Potassae acetatis | lb. | | 1 | 2 | 3 | 4 | 8 |
| " bicarbonatis | lb. | | 1 | 2 | 3 | 4 | 8 |
| " bitartratis | lb. | | 2 | 4 | 6 | 8 | 16 |
| " chloratis | lb. | | 1 | 2 | 3 | 4 | 8 |
| " nitratis | lb. | | 1 | 2 | 3 | 4 | 8 |
| " sulphatis | lb. | | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Potassii cyanureti | dr. | | 1 | 2 | 3 | 4 | 8 |
| " iodidi | oz. | | 8 | 16 | 24 | 32 | 64 |
| Pruni virginianae | lb. | | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Pulveris acaciae | lb. | | 2 | 4 | 6 | 8 | 16 |
| " aloes | oz. | | 4 | 8 | 12 | 16 | 32 |
| " cantharidis | oz. | | 2 | 4 | 6 | 8 | 16 |
| " capsici | lb. | | 1 | 2 | 3 | 4 | 8 |
| " cinchonae | lb. | | 1 | 2 | 3 | 4 | 8 |
| " ferri | oz. | | 2 | 4 | 6 | 8 | 16 |
| " " per sulphatis | oz. | | 1 | 2 | 3 | 4 | 8 |
| " glycyrrhizae | oz. | | 4 | 8 | 12 | 16 | 32 |
| " ipecacuanhae | lb. | | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Pulveris ipecacuanhae et | | | | | | | |
| opii | lb. | | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " jalapae | oz. | | 4 | 8 | 12 | 16 | 32 |
| " lini | lb. | | 8 | 16 | 24 | 32 | 64 |
| " opii | lb. | | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " rhei | oz. | | 4 | 8 | 12 | 16 | 32 |
| " sabinnae | oz. | | 1 | 2 | 3 | 4 | 8 |
| " sinapis nigrae | lb. | | 6 | 12 | 18 | 24 | 48 |
| " ulmi | lb. | | 2 | 4 | 6 | 8 | 16 |
| Quassiae | lb. | | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Quinae sulphatis | oz. | | 10-20 | 20-40 | 30-60 | 40-80 | 80-160 |
| Rhei | oz. | | 4 | 8 | 12 | 16 | 32 |
| Sacchari | lb. | | 20 | 40 | 60 | 80 | 160 |
| Saponis | lb. | | 4 | 8 | 12 | 16 | 32 |
| Scillae | oz. | | 4 | 8 | 12 | 16 | 32 |
| Serpentariae | lb. | | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Sodae bicarbonatis | lb. | | 2 | 4 | 6 | 8 | 16 |

| Articles | | Quantities for one year for commands of | | | | |
|----------------------------|-------|---|-----------------|-----------------|----------------|--------------|
| | | From
100-200 | From
200-300 | From
300-400 | 500
men | 1,000
men |
| Sodae boratis | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " et potass: tartratis | lb. | 3 | 6 | 9 | 12 | 24 |
| Spigeliae | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Spiritus ammon: aromatici | oz. | 2 | 4 | 6 | 8 | 16 |
| " aetheris compositi | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " " nitrici | lb. | 2 | 4 | 6 | 8 | 16 |
| " lavandulae comp: | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Spiritus vini gallici | bott. | 12 | 24 | 36 | 48 | 96 |
| Strychniae | dr. | 1 | 2 | 3 | 4 | 8 |
| Sulphuris loti | lb. | 1 | 2 | 3 | 4 | 8 |
| Syrupi scillae | lb. | 3 | 6 | 9 | 12 | 24 |
| Tincturae aconiti radiceis | lb. | 1 | 2 | 3 | 4 | 8 |
| " digitalis | oz. | 4 | 8 | 12 | 16 | 32 |
| " ergotae (Dublin) | oz. | 4 | 8 | 12 | 16 | 32 |
| " ferri chloridi | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| " veratri viridis | oz. | 4 | 8 | 12 | 16 | 32 |
| Unguenti hydrargyri | lb. | 1 | 2 | 3 | 4 | 8 |
| " " nitratis | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Veratriae | dr. | 1 | 2 | 3 | 4 | 8 |
| Vini colchici seminis | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Zinci acetatis | oz. | 1 | 2 | 3 | 4 | 8 |
| " sulphatis | oz. | 1 | 2 | 3 | 4 | 8 |

Hospital Stores**

| | | | | | | |
|--------------------------|------|---------------|----|----|----------------|-----|
| Arrow-root | lb. | 5 | 10 | 15 | 20 | 40 |
| Barley | lb. | 20 | 40 | 60 | 80 | 160 |
| Cinnamon | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Cloves | oz. | 4 | 8 | 12 | 16 | 32 |
| Cocoa | lb. | 10 | 20 | 30 | 40 | 80 |
| Farina | lb. | 5 | 10 | 15 | 20 | 40 |
| Ginger, ground (Jamaica) | lb. | $\frac{1}{2}$ | 1 | 2 | $2\frac{1}{2}$ | 5 |
| Nutmegs | oz. | 4 | 8 | 12 | 16 | 32 |
| Tea | lb. | 20 | 40 | 60 | 80 | 160 |
| Whisky, bottles of | doz. | 2 | 4 | 6 | 8 | 16 |
| Wine, bottles of | doz. | 2 | 4 | 6 | 8 | 16 |

Taken from United States War Department, Revised Regulations for the Army of the United States, 1861 (Philadelphia: J. B. Lippincott and Company, Publishers, 1861), pp. 292-297 and 303. Each General and Post Hospital in 1861 was also allowed: "... one ounce of brominium, with printed directions for preparing and administering Bibron's antidote to the poison of serpents. Also one bottle of liquor ferri per sulphatis, and one bottle of liquor ammoniae, in equal proportions, with printed directions for preparing speedily and for administering the hydrated sesqui-oxide of iron, as an antidote to poisoning by arsenic."

** Hospital stores are included in the quantitative analysis because, for the most part, they are considered medicinal.

APPENDIX III. STANDARD SUPPLY TABLE 1862

| ARTICLES. | ALLOWANCE FOR THREE MONTHS— | | | | | | |
|---|-----------------------------|-----------|-----------|-----------|-----------|-------------|--------------------------------|
| | For General Hospitals. | | | | | | For a Reg't or 1,000 troops. |
| | 100 Beds. | 200 Beds. | 300 Beds. | 400 Beds. | 500 Beds. | 1,000 Beds. | At Home or Port. In the field. |
| MATERIA MEDICA. | | | | | | | |
| Acacia Pulvis, in ½ lb. bottles | 20 | 56 | 80 | 104 | 128 | 320 | 30 |
| Acidum Aceticum, in ½ lb. g. s. bottles | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Citricum, in ½ lb. bottles | 16 | 32 | 48 | 64 | 80 | 160 | 16 |
| Muraticum, in ½ lb. g. s. bottles | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Nitricum, in ½ lb. g. s. bottles | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Phosphoricum Dilutum, in 2 oz. g. s. bottles | 3 | 6 | 9 | 12 | 15 | 27 | 3 |
| Sulphuricum, in ½ lb. g. s. bottles | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Aromaticum, in ½ lb. g. s. bottles | 16 | 32 | 48 | 64 | 80 | 160 | 16 |
| Tannicum, in 1 oz. bottles | 4 | 8 | 12 | 16 | 20 | 40 | 4 |
| Tarasicum, in 8 oz. bottles | 22 | 44 | 66 | 88 | 110 | 220 | 22 |
| Ether Formic, in ½ lb. g. s. bottles and ½ lb. tin, soldered | 64 | 128 | 192 | 256 | 320 | 640 | 64 |
| Aether Spiritus Compositus, in ½ lb. g. s. bottles | 16 | 32 | 48 | 64 | 80 | 160 | 16 |
| Natrii, in ½ lb. g. s. bottles | 40 | 80 | 120 | 160 | 200 | 400 | 40 |
| Alcohol Fortius, in 32 oz. bottles | 24 | 48 | 72 | 96 | 120 | 240 | 24 |
| Aloe Pulvis, in 2 oz. bottles | 2 | 4 | 6 | 8 | 10 | 20 | 2 |
| Alumen, in ½ lb. bottles | 16 | 32 | 48 | 64 | 80 | 160 | 16 |
| Ammonia Carbonas, in ½ lb. bottles | 16 | 32 | 48 | 64 | 80 | 160 | 16 |
| Liquor, in ½ lb. g. s. bottles | 80 | 160 | 240 | 320 | 400 | 800 | 80 |
| Murius, in ½ lb. bottles | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Ejusque Aromaticus, in 4 oz. g. s. bottles | 4 | 8 | 12 | 16 | 20 | 40 | 4 |
| Antimonii et Potassae Tartarus Pulvis, in 1 oz. bottles | 3 | 6 | 9 | 12 | 15 | 27 | 3 |
| Argent Nitrus, in 1 oz. g. s. bottles | 3 | 6 | 9 | 12 | 15 | 27 | 3 |
| Fusus, in 1 oz. bottles | 2 | 4 | 6 | 8 | 10 | 20 | 2 |
| Arseniate Potassae Liquor, in 4 oz. bottles | 4 | 8 | 12 | 16 | 20 | 40 | 4 |
| Asthma, in 4 oz. bottles | 4 | 8 | 12 | 16 | 20 | 40 | 4 |
| Bismuthi Subcarbonas, in 2 oz. bottles | 5 | 10 | 15 | 20 | 25 | 50 | 5 |
| Camphora, in 8 oz. bottles | 5 | 10 | 15 | 20 | 25 | 50 | 5 |
| Cantharidis Pulvis, in 2 oz. bottles | 5 | 10 | 15 | 20 | 25 | 50 | 5 |
| Fusum, in 5 oz. tin | 91 | 182 | 273 | 364 | 455 | 910 | 91 |
| Capivi Pulvis, in 8 oz. bottles | 2 | 4 | 6 | 8 | 10 | 20 | 2 |
| Cassia, in 4 oz. bottles | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Cera Alba, in paper | 32 | 64 | 96 | 128 | 160 | 320 | 32 |
| Ceratum Adipis, (simple Cerat,) in 1 lb. pot. | 16 | 32 | 48 | 64 | 80 | 160 | 16 |
| Basis, in 1 lb. pot. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Cinchona Calceola Pulvis, in ½ lb. bottles | 16 | 32 | 48 | 64 | 80 | 160 | 16 |
| Cinchona Sulphas, in 2 oz. bottles | 40 | 80 | 120 | 160 | 200 | 400 | 40 |
| Chlorisum, (the materials for preparing,) in a package | 1 | 2 | 3 | 4 | 5 | 10 | 1 |
| Chloroformum, in ½ lb. g. s. bottles and ½ lb. tin, soldered | 20 | 40 | 60 | 80 | 100 | 200 | 20 |
| Colloidalum, in 1 oz. bottles | 3 | 6 | 9 | 12 | 15 | 27 | 3 |
| Copaiba, in 1 lb. bottles | 64 | 128 | 192 | 256 | 320 | 640 | 64 |
| Cressatum, in 2 oz. g. s. bottles | 4 | 8 | 12 | 16 | 20 | 40 | 4 |
| Creta Preparata, in ½ lb. bottles | 16 | 32 | 48 | 64 | 80 | 160 | 16 |
| Cubeba, Oleo-resina, (ext. Cubeba Pl. U. S. P., 1856,) in 8 oz. g. s. bottles | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Capri Sulphas, in 2 oz. bottles | 2 | 4 | 6 | 8 | 10 | 20 | 2 |



STANDARD SUPPLY TABLE. 1862

| ARTICLES | ALLOWANCE FOR THREE MONTHS— | | | | | | |
|---|-----------------------------|---------|---------|---------|---------|-----------|---------------------------|
| | For General Hospitals | | | | | | For Reg't or 1,000 troops |
| | 100 Dr. | 200 Dr. | 300 Dr. | 400 Dr. | 500 Dr. | 1,000 Dr. | As com'd in Field |
| MAYNARD'S MEDICAL—Continued. | | | | | | | |
| Extractum Aconiti Radicis Fluidum, in 1 lb. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Balladonna, in 1 oz. pots.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Bacca Fluidum, in 1 lb. bottles.....oz. | 10 | 20 | 30 | 40 | 50 | 90 | 10 |
| Clapham Fluidum, (with aromatics,) in 1 lb. bottles.....oz. | 10 | 20 | 30 | 40 | 50 | 90 | 10 |
| Colchici Seminis Fluidum, in 1 oz. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Colocynthis Compositum, in 8 oz. pots.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Copa, in 1 oz. pots.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Erigeron Fluidum, in 2 oz. bottles.....oz. | 9 | 18 | 27 | 36 | 45 | 81 | 9 |
| Gentiana Fluidum, in 1 lb. bottles.....oz. | 10 | 20 | 30 | 40 | 50 | 90 | 10 |
| Glycerinum, in paper.....oz. | 64 | 128 | 192 | 256 | 320 | 576 | 64 |
| Hyocyanin, in 1 oz. pots.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Ipecacuanha Fluidum, in 1 lb. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Nuxi Vomica, in 1 oz. pots.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Pruni Virginiana Fluidum, in 1 lb. bottles.....oz. | 7 | 14 | 21 | 28 | 35 | 63 | 7 |
| Rhei Fluidum, in 1 lb. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Senega Fluidum, in 1 lb. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Spigelia Fluidum, in 1 lb. bottles.....oz. | 7 | 14 | 21 | 28 | 35 | 63 | 7 |
| Valeriana Fluidum, in 1 lb. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Veratri Viridis Fluidum, in 2 oz. bottles.....oz. | 2 | 4 | 6 | 8 | 10 | 18 | 2 |
| Zingiberis Fluidum, in 1 lb. bottles.....oz. | 10 | 20 | 30 | 40 | 50 | 90 | 10 |
| Petri Chinidi Tinctura, in 1 lb. g. v. bottles.....oz. | 10 | 20 | 30 | 40 | 50 | 90 | 10 |
| Indici Symplicis, in 1 lb. g. v. bottles.....oz. | 10 | 20 | 30 | 40 | 50 | 90 | 10 |
| Quinini Citra, in 1 oz. bottles.....oz. | 4 | 8 | 12 | 16 | 20 | 36 | 4 |
| Phosphoricus Liquor, in 4 oz. g. v. bottles.....oz. | 4 | 8 | 12 | 16 | 20 | 36 | 4 |
| Potris, in 1 oz. g. v. bottles.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Sulphur, in 4 oz. bottles.....oz. | 4 | 8 | 12 | 16 | 20 | 36 | 4 |
| Oxidum Hydratum, (the mineral,) in packages.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Glycerinum Pulvis, in 1 lb. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Glycerinum, in 1 lb. g. v. bottles.....oz. | 10 | 20 | 30 | 40 | 50 | 90 | 10 |
| Hydrargyri Chloridum Corrosivum, in 1 oz. g. v. bottles.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Hydrargyri Chloridum Corrosivum, in 1 lb. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Iodatum Flavum, in 1 oz. bottles.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Iodatum Rubrum, in oz. bottles.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Potris, in 2 oz. pots.....oz. | 2 | 4 | 6 | 8 | 10 | 18 | 2 |
| Uranium, in 1 lb. pots.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Nitrate, in 4 oz. pots.....oz. | 4 | 8 | 12 | 16 | 20 | 36 | 4 |
| Hydrargyri Chloridum Corrosivum, in 1 lb. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Iodatum, in 1 oz. g. v. bottles.....oz. | 4 | 8 | 12 | 16 | 20 | 36 | 4 |
| Iodatum, in 1 lb. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Opus Pulvis, in 1 lb. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Linum, in 1 lb. bottles.....oz. | 4 | 8 | 12 | 16 | 20 | 36 | 4 |
| Lini Pulvis, in 1 lb. bottles.....oz. | 10 | 20 | 30 | 40 | 50 | 90 | 10 |
| Magnesia, in 4 oz. bottles.....oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Magnesia Sulphur, in 1 oz. papers and 1 lb. line.....oz. | 10 | 20 | 30 | 40 | 50 | 90 | 10 |
| Morphia Sulphur, in 1 oz. bottles.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Oleum Cinnamonum, in 1 oz. g. v. bottles.....oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Olei Mentha Piperitis Tinctura, in 1 lb. bottles.....oz. | 10 | 20 | 30 | 40 | 50 | 90 | 10 |



STANDARD SUPPLY TABLE. 1862

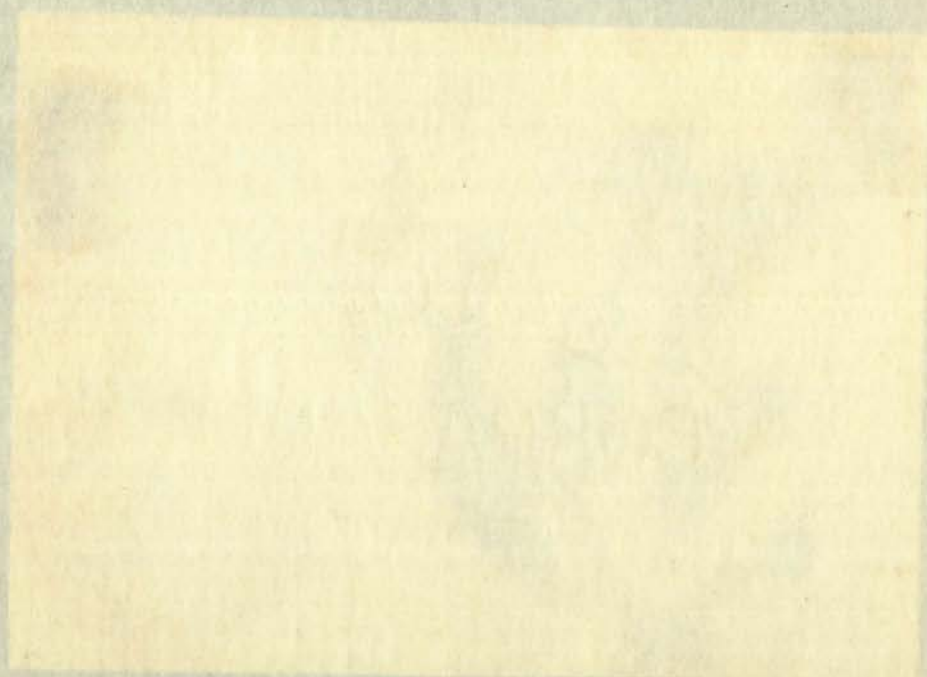
| ARTICLES. | ALLOWANCE FOR THREE MONTHS— | | | | | | | |
|---|-----------------------------|-----------|-----------|-----------|-----------|-------------|------------------------------|---------------|
| | For General Hospitals. | | | | | | For a Reg't or 1,000 troops. | |
| | 100 Beds. | 200 Beds. | 300 Beds. | 400 Beds. | 500 Beds. | 1,000 Beds. | At Post or Fort. | In the field. |
| MATERIA MEDICA—Continued. | | | | | | | | |
| Oleum Morhuæ, in 32 oz. bottles | bottles. | 10 | 15 | 20 | 25 | 30 | 55 | 10 |
| Oliva, in 32 oz. bottles | bottles. | 4 | 8 | 12 | 16 | 20 | 36 | 4 |
| Ricini, in 32 oz. bottles | bottles. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Terebinthina, in 32 oz. bottles | bottles. | 2 | 4 | 6 | 8 | 10 | 18 | 2 |
| Tigli, in 1 oz. g. s. bottles | oz. | 1 | 1 | 2 | 2 | 3 | 5 | 1 |
| Opi Pulvis, in 1 lb. bottles | oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Tinctura, in 1 lb. bottles | oz. | 16 | 32 | 48 | 64 | 80 | 144 | 16 |
| Camphorata, in 1 lb. bottles | oz. | 16 | 32 | 48 | 64 | 80 | 144 | 16 |
| Pilule Camphoræ (gr. 2) et Opi, (gr. 1,) in g. s. bottles | doz. | | | | | | | 8 |
| Cathartica Composita, in g. s. bottles | doz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Opi, in g. s. bottles | doz. | | | | | | | 8 |
| Plumbi Acetas, in 1 lb. bottles | oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Podophylli Resina, in 1 oz. bottles | oz. | 1 | 1 | 2 | 2 | 3 | 5 | 1 |
| Potasse Acetas, in 1 lb. bottles | oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Bleebonæ, in 1 lb. bottles | oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Rhatras, in 1 lb. bottles | oz. | 16 | 32 | 48 | 64 | 80 | 144 | 16 |
| Chilena, in 1 lb. bottles | oz. | 16 | 32 | 48 | 64 | 80 | 144 | 16 |
| Nitras, in 1 lb. bottles | oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Potassi Iodidum, in 1 lb. bottles | oz. | 24 | 48 | 72 | 96 | 120 | 216 | 24 |
| Quina Sulphas, compressed in 5 oz. tins | oz. | 20 | 40 | 60 | 80 | 100 | 180 | 20 |
| Rheum | oz. | 4 | 8 | 12 | 16 | 20 | 36 | 4 |
| Rhei Pulvis, in 4 oz. bottles | oz. | 4 | 8 | 12 | 16 | 20 | 36 | 4 |
| Sapo, in paper | lbs. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Scilla Pulvis, in 1 oz. bottles | oz. | 4 | 8 | 12 | 16 | 20 | 36 | 4 |
| Syrupus, in 1 lb. bottles | lbs. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Buapla Nigra Pulvis, in 1 lb. tins | lbs. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Soda Chlorinate Liquor, in 1 lb. g. s. bottles | lbs. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| Bleebonæ, in 1 lb. bottles | oz. | 16 | 32 | 48 | 64 | 80 | 144 | 16 |
| Borna, in 1 lb. bottles | oz. | 8 | 16 | 24 | 32 | 40 | 72 | 8 |
| ex Potasse Tarras, in 1 lb. bottles | oz. | 32 | 64 | 96 | 128 | 160 | 288 | 32 |
| Spiritus Lavandulæ Compositus, in 1 lb. bottles | oz. | 16 | 32 | 48 | 64 | 80 | 144 | 16 |
| Frumenti, (whisky,) in 32 oz. bottles | bottles. | 75 | 150 | 225 | 300 | 375 | 675 | 75 |
| Vin Gallici, in 32 oz. bottles | bottles. | 15 | 30 | 45 | 60 | 75 | 135 | 15 |
| Sulphur, in 1 lb. bottles | oz. | 16 | 32 | 48 | 64 | 80 | 144 | 16 |
| Erythra, in 1 oz. bottles | oz. | 1 | 1 | 2 | 2 | 3 | 5 | 1 |
| Vinum Album, (sherry,) in 32 oz. bottles | bottles. | 24 | 48 | 72 | 96 | 120 | 216 | 24 |
| Zinci Acetas, in 1 oz. bottles | oz. | 2 | 4 | 6 | 8 | 10 | 18 | 2 |
| Carbonis, in 1 oz. bottles | oz. | 1 | 2 | 3 | 4 | 5 | 9 | 1 |
| Chloridi Liquor, in 1 lb. g. s. bottles | oz. | 62 | 124 | 186 | 248 | 310 | 558 | 62 |
| Sulphas, in 1 oz. bottles | oz. | 2 | 4 | 6 | 8 | 10 | 18 | 2 |
| HOSPITAL STORES. | | | | | | | | |
| Barley, in tins | lbs. | 10 | 15 | 20 | 25 | 30 | 55 | 10 |
| Beef, extract of, in 1 lb. tins | lbs. | 24 | 36 | 48 | 60 | 72 | 135 | 24 |
| Candles, Sperm or Compositæ, half length, in boxes | lbs. | 2 | 4 | 6 | 8 | 10 | 18 | 2 |
| Cinnamon, powdered, in 1 lb. bottles | lbs. | 1 | 1 | 2 | 2 | 3 | 5 | 1 |
| Cocoa or Chocolate, in tins or cakes | lbs. | 10 | 15 | 20 | 25 | 30 | 55 | 10 |



STANDARD SUPPLY TABLE. 1862

| ARTICLES. | ALLOWANCE FOR THREE MONTHS— | | | | | | | |
|---|-----------------------------|-----------|------------|------------|------------|------------|------------------------------|---------------|
| | For General Hospitals. | | | | | | For a Reg't or 1,000 troops. | |
| | 100 Beds. | 500 Beds. | 1000 Beds. | 2000 Beds. | 3000 Beds. | 4000 Beds. | At Per'm't Posts. | In the Field. |
| HOSPITAL STORES—Continued. | | | | | | | | |
| Coffee, extract of, in $\frac{1}{4}$ gallon tins | | | | | | | | 4 |
| Corn Starch, in 1 lb. papers | 10 | 15 | 20 | 25 | 30 | 35 | 10 | |
| Farina, in 1 lb. papers | 10 | 15 | 20 | 25 | 30 | 35 | 10 | |
| Gelatin, steril, in $\frac{1}{4}$ lb. packages | 1 | 1 | 2 | 2 | 3 | 4 | 1 | |
| Ginger, powdered, in $\frac{1}{4}$ lb. bottles | 1 | 1 | 1 | 2 | 2 | 4 | 1 | |
| Milk, concentrated, in 1 lb. tins | | | | | | | | 15 |
| Nutmegs, in $\frac{1}{4}$ lb. bottles | 1 | 1 | 1 | 1 | 1 | 2 | 1 | |
| Pepper, black, ground, in $\frac{1}{4}$ lb. bottles | 1 | 1 | 2 | 2 | 3 | 5 | 1 | |
| Porter, in pint bottles | 96 | 168 | 240 | 312 | 384 | 456 | 96 | |
| Sugar, white, crushed, kilo-dried, in boxes or tins | 24 | 48 | 72 | 96 | 120 | 144 | 24 | 12 |
| Tea, black, in tins or original chests | 15 | 25 | 35 | 45 | 55 | 65 | 12 | 5 |
| Tapioca, in tins | 8 | 12 | 16 | 20 | 24 | 28 | 8 | |

Taken from Surgeon General, U.S. Army, . . .
Standard Supply Table, 1862, pp. 7-10.



APPENDIX IV. QUANTITATIVE COMPARISON BETWEEN THE SUPPLY TABLES FOR 1861 AND 1862

| A three-month period
allowance of
Materia Medica | For a Regiment or 1,000 troops | | | |
|--|--------------------------------|--------------------|--------------------|-------------------|
| | at Permanent Posts | | in the Field | |
| | 1861 | 1862 | 1861 | 1862 |
| Acaciae pulvis | 4 lbs. | 2 lbs. | 1 lb. | $\frac{1}{2}$ lb. |
| Acidum sulphuricum arom. | 2 lbs. | 1 lb. | 1 lb. | $\frac{1}{2}$ lb. |
| Acidum tannicum | 4 ozs. | 4 ozs. | 2 ozs. | 1 oz. |
| Aetheris spiritus comp. | $1\frac{1}{2}$ lbs. | 1 lb. | 1 lb. | 1 lb. |
| Aetheris spiritus nitrici | 4 lbs. | 3 lbs. | 2 lbs. | 2 lbs. |
| Alumen | 2 lbs. | 1 lb. | 1 lb. | $\frac{1}{2}$ lb. |
| Ammoniae carbonas | 1 lb. | 1 lb. | 1 lb. | $\frac{1}{2}$ lb. |
| Ammoniae liquor | 8 lbs. | 6 lbs. | 4 lbs. | 2 lbs. |
| Antimonii et potassae tartras | 6 ozs. | 1 oz. | 2 ozs. | 1 oz. |
| Argenti nitras | 2 ozs. | 2 ozs. | 2 ozs. | 1 oz. |
| Argenti fusus | 2 ozs. | 2 ozs. | 2 ozs. | 1 oz. |
| Camphora | 4 lbs. | $\frac{1}{2}$ lb. | 4 lbs. | $\frac{1}{2}$ lb. |
| Cera alba | 4 lbs. | 2 lbs. | 2 ozs. | 4 ozs. |
| Ceratum adipis | 16 lbs. | 10 lbs. | 8 lbs. | 4 lbs. |
| Ceratum resinae | 4 lbs. | 2 lbs. | 2 lbs. | 1 lb. |
| Chloroformum | 2 lbs. | 2 lbs. | 2 lbs. | 2 lbs. |
| Copaiba | 10 lbs. | 4 lbs. | 2 lbs. | 1 lb. |
| Creasotum | 4 ozs. | 4 ozs. | 2 ozs. | 4 ozs. |
| Cupri sulphas | 4 ozs. | 2 ozs. | 4 ozs. | 2 ozs. |
| Extracti belladonnae | 4 ozs. | 1 oz. | 1 oz. | 1 oz. |
| Extracti buchu fluidum | 2 lbs. | 1 lb. | 1 lb. | 0 |
| Extracti senegae fluidum | $1\frac{1}{2}$ lbs. | $\frac{1}{2}$ lb. | $\frac{1}{2}$ lb. | $\frac{1}{2}$ lb. |
| Extracti zingiberis fluidum | $1\frac{1}{2}$ lbs. | 1 lb. | 0 | 1 lb. |
| Hydrargyri chloridum mite | 2 lbs. | $\frac{1}{2}$ lb. | 2 lbs. | $\frac{1}{2}$ lb. |
| Magnesiae sulphas | 50 lbs. | 16 lbs. | 20 lbs. | 8 lbs. |
| Morphiae sulphas | $\frac{1}{2}$ oz. | $\frac{1}{2}$ oz. | $\frac{1}{2}$ oz. | $\frac{1}{2}$ oz. |
| Olei menthae piperitae | 4 ozs. | 1 lb. | 2 ozs. | 0 |
| Oleum olivae | 16 bottles | 4 bottles | 8 bottles | 2 bottles |
| Oleum ricini | 24 bottles | 8 bottles | 12 bottles | 4 bottles |
| Oleum tigllii | $\frac{1}{2}$ oz. | 1 oz. | $\frac{1}{2}$ oz. | 1 oz. |
| Opii pulvis | $1\frac{1}{2}$ lbs. | $\frac{1}{2}$ lb. | 2 lbs. | $\frac{1}{2}$ lb. |
| Pilulae catharticae comp. | 0 | 8 doz. | 8 doz. | 8 doz. |
| Plumbi acetas | 2 lbs. | $\frac{1}{2}$ lb. | 2 lbs. | $\frac{1}{2}$ lb. |
| Potassae bicarbonas | 2 lbs. | $\frac{1}{2}$ lb. | 1 lb. | $\frac{1}{2}$ lb. |
| Potassae chloras | 2 lbs. | 1 lb. | 2 lbs. | $\frac{1}{2}$ lb. |
| Potassae nitras | 2 lbs. | $\frac{1}{2}$ lb. | 1 lb. | 0 |
| Quiniae sulphas | $1\frac{1}{2}$ -24 lbs. | $1\frac{1}{2}$ lb. | $1\frac{1}{2}$ lb. | $\frac{5}{8}$ lb. |
| Sodae bicarbonas | 4 lbs. | 1 lb. | 1 lb. | $\frac{1}{2}$ lb. |
| Whisky | 192 bottles | 72 bottles | 24 bottles | 24 bottles |
| Zinci acetas | 2 ozs. | 2 ozs. | 2 ozs. | 0 |
| Zinci sulphas | 2 ozs. | 2 ozs. | 2 ozs. | 1 oz. |

Articles not shown above have similar allowances.

APPENDIX V. DRUGS ADDED TO THE 1867 SUPPLY TABLE WHICH ARE NOT ON THE 1863 TABLE

| Allowances for three months | | | | | | | |
|--|-----------------------|---------------|---------------|---------------|-----------------------------------|-------|----|
| | For general hospitals | | | | For a regiment
or 1,000 troops | | |
| | Number of beds | | | | Perm. Posts | Field | |
| | 100 | 300 | 500 | 1,000 | | | |
| Antimonii et potassae tartratis
(Tartar Emetic), 1 oz. bott. oz. | 1 | 3 | 5 | 8 | 2 | | 0 |
| Brominii (Bromine), 1 oz. bott. oz. | 2 | 6 | 8 | 12 | 1 | | 0 |
| Digitalis tincturae (Tincture of
Fox-glove), 2 oz. bott. oz. | 2 | 6 | 10 | 18 | 2 | | 0 |
| Extracti cannabis purificati
(Purified Extract of Hemp),
1 oz. pots. oz. | 1 | 1 | 1 | 2 | 1 | | 0 |
| Ferri sulphatis exsiccatae
(Dried Sulphate of Iron),
4 oz. bott. oz. | 4 | 8 | 12 | 20 | 4 | | 0 |
| Hydrargyri chloridi mitis
(Calomel), 2 oz. bott. oz. | 2 | 6 | 10 | 16 | 2 | | 2 |
| Hydrargyri cum creta (Mercury
with Chalk), 2 oz. bott. oz. | 2 | 6 | 10 | 16 | 2 | | 0 |
| Morphiae acetatis (Acetate of
Morphia), $\frac{1}{2}$ oz. bott. oz. | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ | | 0 |
| Olei limonis (Oil of lemons),
1 oz. bott. oz. | 1 | 2 | 3 | 5 | 1 | | 0 |
| Olei theobromae (Coco-nut Oil),
16 oz. pots. oz. | 16* | 32* | 48* | 80* | 16* | | 0* |
| Opii tincturae deodoratae
(Deodorated Opium Tincture),
4 oz. bott. oz. | 4 | 8 | 16 | 24 | 4 | | 0 |
| Potassae permanganatis (Perman-
ganate of Potassa), 2 oz.
bott. oz. | 2 | 6 | 10 | 18 | 6 | | 4 |
| Potassi bromidi (Bromide of
Potassium), 2 oz. bott. oz. | 2 | 6 | 10 | 18 | 2 | | 0 |
| Potassi cyanidi (Cyanide of
Potassium), $\frac{1}{8}$ oz. bott. oz. | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | | 0 |
| Arrow-root (Maranta), tins. lb. | 5 | 10 | 15 | 25 | 5 | | 0 |

* One-fourth of these amounts may actually be the correct allowance. The amounts given above have to be used since authorization is not available to reduce by one-fourth.

APPENDIX VI. QUANTITATIVE COMPARISON BETWEEN THE SUPPLY TABLES FOR 1863 AND 1867

| A three month period
allowance of
Materia Medica | | For General Hospitals
(10000 beds) | | For a Regiment or
1,000 troops | | | |
|--|-------|---------------------------------------|---------------|-----------------------------------|------|--------------|------|
| | | 1863 | 1867 | at Perm. posts | | In the field | |
| | | | | 1863 | 1867 | 1863 | 1867 |
| Acidi muriatici | oz. | 40 | 24 | | | | |
| Acidi nitrici | oz. | 56 | 16 | | | | |
| Acidi phosphorici diluti | oz. | 7 | 8 | | | | |
| Acidi sulphurici | oz. | 40 | 16 | | | | |
| Acidi tartarici | oz. | 232 | 120 | 32 | 16 | | |
| Aetheris spiritus comp. | oz. | | | | | 16 | 8 |
| Aetheris spiritus nitrosi | oz. | | | | | 32 | 16 |
| Ammoniae aquae | oz. | 640 | 448 | 96 | 80 | 32 | 24 |
| Cerati cantharidis | oz. | 160 | 128 | 24 | 16 | | |
| Cinchonae Calisayae | | | | | | | |
| Pulvis | oz. | 88 | 48 | 16 | 8 | | |
| Chlorinii | oz. | 9 | 10 | | | | |
| Copaibae | oz. | 272 | 160 | 64 | 32 | | |
| Extract ergotae fluidi | oz. | | | 2 | 4 | | |
| Ferri chloridi tincturae | oz. | 120 | 160 | 16 | 24 | 8 | 16 |
| Ferri iodide syrupi | oz. | 64 | 32 | 16 | 8 | | |
| Ferri sulphatis | lb. | 14 | 120 | $\frac{1}{4}$ | 24 | | |
| Hydrargyri unguenti | lb. | 8 | 4 | | | | |
| Iodinii | oz. | 16 | 8 | 4 | 2 | 2 | 1 |
| Lini | lb. | 54 | 36 | 6 | 4 | | |
| Magnesiae sulphatis | lb. | | | | | 8 | 16 |
| Olei menthae piperitae | | | | | | | |
| tincturae | oz. | 88 | 16 | 16 | 4 | | |
| Opii tincturae camph. | oz. | 120 | 160 | 16 | 24 | 16 | 24 |
| Spiritus frumenti | bott. | 480 | 396 | 72 | 60 | | |
| Spiritus Vini Gallic | bott. | 72 | 144 | 12 | 24 | 6 | 12 |
| Sulphur | oz. | 88 | 48 | 16 | 8 | | |
| Strychniae | oz. | $\frac{1}{2}$ | $\frac{1}{8}$ | | | | |
| Zinci acetatis | oz. | 13 | 12 | | | | |
| Zinci sulphatis | oz. | 13 | 14 | | | | |
| Beef, extract of | lb. | 84 | 0 | 24 | 0 | | |
| Candles | lb. | 10 | 0 | 2 | 0 | | |
| Gelatine, shred | lb. | $5\frac{1}{2}$ | 5 | | | | |
| Pepper, black | lb. | $5\frac{1}{2}$ | 5 | | | | |

Articles not shown above have similar allowances.

APPENDIX VII. STANDARD SUPPLY TABLE FOR FIELD SERVICE 1861

| Articles | | Reg't.
3 mos. | Quantities | |
|--------------------------------|-----------|------------------|----------------|-----------------|
| | | | Bat.
3 mos. | Comp.
3 mos. |
| Medicines | | | | |
| Acidi acetici | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{2}$ |
| " sulph. aromatici | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{2}$ |
| " tannici | oz. | 2 | 1 | 1 |
| Alcoholis | bott. | 10 | 5 | 3 |
| Aluminis | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{2}$ |
| Ammoniae carbonatis | oz. | 16 | 8 | 4 |
| Antimonii et potass. tartratis | oz. | 2 | 1 | 1 |
| Argenti nitratis (crystals) | oz. | 2 | 1 | $\frac{1}{2}$ |
| " (fused) | oz. | 2 | 1 | $\frac{1}{2}$ |
| Brominii | oz. | 1 | 1 | 1 |
| Camphorae | lb. | 4 | 2 | 1 |
| Cerae albae | oz. | 2 | 2 | 1 |
| Cerati resinae | lb. | 2 | 1 | $\frac{1}{2}$ |
| " simplicis | lb. | 8 | 4 | 2 |
| Chloroformi | lb. | 2 | 1 | 1 |
| Copaibae | lb. | 2 | 1 | $\frac{1}{2}$ |
| Creasoti | oz. | 2 | 1 | 1 |
| Cupri sulphatis | oz. | 4 | 2 | 1 |
| Emplastrum adhaesivi | yds. | 10 | 5 | 3 |
| " cantharidis | lb. | 4 | 2 | 1 |
| " ichthyocollae | yds. | 10 | 5 | 3 |
| Extracti belladonnae | oz. | 1 | 1 | 1 |
| " buchu fluidi | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{2}$ |
| " colchici acetici | oz. | 2 | 1 | 1 |
| " colocynthis comp. | oz. | 16 | 8 | 4 |
| " glycyrrhizae | lb. | 2 | 1 | $\frac{1}{2}$ |
| " rhei fluidi | lb. | 2 | 1 | $\frac{1}{2}$ |
| " senegae fluidi | oz. | 8 | 4 | $\frac{1}{2}$ |
| " sennae fluidi | lb. | 2 | 1 | $\frac{1}{2}$ |
| Hydrargyri chloridi corrosivi | oz. | $\frac{1}{2}$ | $\frac{1}{2}$ | $\frac{1}{2}$ |
| " " mitis | lb. | 2 | 1 | $\frac{1}{2}$ |
| Iodini | oz. | 4 | 2 | 1 |
| Liquoris ammoniae | lb. | 4 | 2 | 1 |
| " potass. arsenitis | oz. | 4 | 2 | 1 |
| Magnesiae sulphatis | lb. | 20 | 10 | 5 |
| Massae pil: hydrargyri | oz. | 16 | 8 | 4 |
| Morphiae sulphatis | dr. | 4 | 2 | 1 |
| Olei caryophylli | oz. | 1 | 1 | 1 |
| " menthae piperitae | oz. | 2 | 1 | 1 |
| " olivae | bott. | 8 | 4 | 2 |
| " ricini | qt..bott. | 12 | 6 | 3 |
| " terebinthinae | qt. bott. | 8 | 4 | 2 |
| " tigllii | dr. | 2 | 1 | 1 |

Articles

Reg't.
3 mos.Quantities
Bat. 3 mos. Comp. 3 mos.

| | | | | |
|--------------------------------|-------|---------------|---------------|---------------|
| Pilul: cathartic: comp: (U.S.) | doz. | 8 | 4 | 2 |
| " opii (U.S.) | doz. | 8 | 4 | 2 |
| " quiniæ sulphatis (3 grs) | doz. | 8 | 4 | 2 |
| Plumbi acetatis | lb. | 2 | 1 | $\frac{1}{2}$ |
| Potassæ bicarbonatis | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{4}$ |
| " chloratis | lb. | 2 | 1 | $\frac{1}{2}$ |
| " nitratis | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{4}$ |
| Potassii cyanureti | dr. | 1 | 1 | 1 |
| " iodidi | oz. | 8 | 4 | 2 |
| Pulveris acaciæ | lb. | 4 | 2 | 1 |
| " " capsici | lb. | $\frac{1}{2}$ | $\frac{1}{4}$ | $\frac{1}{4}$ |
| " " ferri per sulphatis | oz. | 4 | 2 | 1 |
| " " ipecacuanhæ | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{4}$ |
| " " " et opii | oz. | 8 | 4 | 4 |
| " " lini | lb. | 16 | 8 | 4 |
| " " opii | lb. | 2 | 1 | $\frac{1}{2}$ |
| " " rhei | lb. | $\frac{1}{2}$ | $\frac{1}{4}$ | $\frac{1}{4}$ |
| " " sinapis nigrae | lb. | 12 | 6 | 3 |
| Quiniæ sulphatis | oz. | 24 | 12 | 6 |
| Sacchari | lb. | 10 | 5 | 2 |
| Saponis | lb. | 8 | 4 | 2 |
| Sodæ bicarbonatis | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{4}$ |
| Spiritus ammoniæ aromatici | oz. | 4 | 2 | 2 |
| " ætheris comp: | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{4}$ |
| " " nitrici | lb. | 2 | 1 | $\frac{1}{2}$ |
| " vini gallici | bott. | 24 | 12 | 6 |
| Strychniæ | dr. | 1 | 1 | 1 |
| Tincturæ aconiti radicis | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{4}$ |
| " ferri chloridi | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{4}$ |
| " opii | oz. | 16 | 8 | 6 |
| " veratri viridis | oz. | 8 | 4 | 2 |
| Unguenti hydrargyri | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{4}$ |
| " " nitratis | lb. | $\frac{1}{2}$ | $\frac{1}{4}$ | $\frac{1}{4}$ |
| Zinci acetatis | oz. | 2 | 1 | 1 |
| " sulphatis | oz. | 2 | 1 | 1 |

HOSPITAL STORES

| | | | | |
|------------------------|------|----|---------------|---------------|
| Arrow-root | lb. | 10 | 5 | 3 |
| Candles (sperm) | lb. | 2 | 1 | 1 |
| Farina | lb. | 10 | 5 | 3 |
| Ginger (fluid extract) | lb. | 1 | $\frac{1}{2}$ | $\frac{1}{4}$ |
| Nutmegs | oz. | 8 | 4 | 2 |
| Tea | lb. | 30 | 15 | 7 |
| Whisky, bottles of | doz. | 2 | 1 | $\frac{1}{2}$ |

Taken from United States War Department, Revised Regulations for the Army of the United States, 1861, pp. 304-307.

APPENDIX VIII. STATEMENT OF ARTICLES AND QUANTITIES OF MEDICAL AND HOSPITAL
PROPERTY CARRIED WITH THE ARMY OF THE POTOMAC ACROSS
THE RAPIDIAN, MAY 4, 1864

| Article | | In Reserve
Supply Train | In Brigade
Supply and
Hosp. Wagons | In Medicine
Wagons | In Ambulance
Boxes | Total
Army
Supply |
|--------------------------------|-------|----------------------------|--|-----------------------|-----------------------|-------------------------|
| Acacia pulvis | ozs. | - | - | 300 | - | 300 |
| Acid, sulphuric,
aromatic | lbs. | - | - | 25 | - | 25 |
| Acid, tannic | ozs. | 50 | - | 40 | - | 90 |
| Acid, tartaric | lbs. | - | - | 20 | - | 20 |
| Aeth. sulphuric | ozs. | 720 | 1440 | 1605 | - | 3765 |
| Aeth. spts. comp. | ozs. | - | 500 | 400 | - | 900 |
| Aeth. spts. nitrici | ozs. | 396 | 720 | 790 | - | 1806 |
| Alcohol | bott. | 96 | 100 | 480 | - | 676 |
| Alumen | ozs. | - | - | 300 | - | 300 |
| Ammonia, carb. | lbs. | 20 | - | 30 | - | 50 |
| Ammonia, liquor | lbs. | - | 100 | 100 | - | 200 |
| Ammonia, spts.
aromatic | ozs. | - | 150 | 120 | - | 270 |
| Argenti nitras | ozs. | 10 | - | 40 | - | 50 |
| Argenti nitras fus. | ozs. | 20 | - | 45 | - | 65 |
| Camphora | lbs. | - | - | 25 | - | 25 |
| Cantharides cerat. | lbs. | - | - | 22 | - | 22 |
| Cerat. adipis | lbs. | 110 | 175 | 140 | - | 425 |
| Chloroform | ozs. | 200 | 800 | 100 | - | 1100 |
| Collodium | ozs. | 50 | - | 70 | - | 120 |
| Copaiba | lbs. | - | - | 80 | - | 80 |
| Creosote | ozs. | 10 | - | 150 | - | 160 |
| Extract belladonna | ozs. | - | - | 40 | - | 40 |
| Extract colchici sem.
fluid | ozs. | - | - | 200 | - | 200 |
| Extract colocynth
comp. | ozs. | - | - | 350 | - | 350 |
| Extract ipecac.,
fluid | ozs. | - | - | 360 | - | 360 |
| Ferri chloridi,
tincture | lbs. | 145 | 60 | 30 | - | 235 |
| Ferri persulph. liq. | ozs. | 200 | - | 70 | - | 270 |
| Ferri persulph.
pulvis | ozs. | 60 | 720 | 40 | - | 820 |
| Hydrarg. pitula | ozs. | - | 400 | 200 | - | 600 |
| Ipecac. et. opii
pulvis | ozs. | 1080 | 2000 | 400 | - | 3480 |
| Lini pulvis | lbs. | 292 | - | 340 | - | 632 |
| Magnesia, sulphur | lbs. | 288 | 700 | 300 | - | 1288 |
| Morphia | ozs. | 215 | 176 | 26 | - | 417 |
| Oleum olivae | bott. | 52 | - | 82 | - | 134 |

| Article | In Reserve
Supply Train | In Brigade
Supply and
Hosp. Wagons | In Medicine
Wagons | In Ambulance
Boxes | Total
Army
Supply |
|-----------------------------|----------------------------|--|-----------------------|-----------------------|-------------------------|
| Oleum ricini | bott. 20 | - | 42 | - | 524 |
| Oleum terebinth | bott. 20 | - | 42 | - | 62 |
| Opii pulvis | ozs. 540 | 700 | 360 | - | 1600 |
| Opii tinctura | ozs. 100 | 100 | 700 | - | 900 |
| Pil. camph. et. opii | doz. 1152 | 360 | 345 | - | 1857 |
| Pil. cathart. comp. | doz. 1200 | 1080 | 400 | - | 2680 |
| Pil. opii | doz. 2080 | 360 | 340 | - | 2780 |
| Plumbi acetat | lbs. 42 | - | 41 | - | 83 |
| Potass. arsenit. liq. | ozs. - | - | 350 | - | 350 |
| Potass. iodide | ozs. - | 1440 | 300 | - | 1740 |
| Quininae sulph. | ozs. 200 | 2000 | 400 | - | 2600 |
| Quininae sulph. pills | doz. 1000 | 1000 | 370 | - | 2370 |
| Sapo | lbs. 284. | 176 | 350 | - | 810 |
| Scilla syrupus | lbs. - | 150 | 130 | - | 280 |
| Sinapis nigra pulvis | lbs. 180 | 270 | 280 | - | 730 |
| Sodae chlor. liq. | lbs. 50 | 250 | 40 | - | 340 |
| Sodae et. potass.
tart. | ozs. - | 500 | - | - | 500 |
| Sodae bicarb. | lbs. - | 100 | 20 | - | 120 |
| Spiritus frumenti | bott. 2400 | 1480 | 1100 | - | 4980 |
| Spiritus vini
gallici | bott. 96 | 1000 | 260 | - | 1356 |
| Vinum terragonae | bott. 120 | - | - | - | 120 |
| Jamaica rum | bott. - | - | - | - | - |
| St. Croix rum | cans - | - | - | - | - |
| Blackberry brandy | bott. - | - | - | - | - |
| Iodine | ozs. 20 | - | 100 | - | 120 |
| Hospital Stores | | | | | |
| Beef stock | barrels 400 | 2160 | - | 5300 | 7460 |
| Candles | lbs. 370 | 540 | 100 | 500 | 1510 |
| Farina | lbs. 298 | 460 | 500 | - | 1258 |
| Nutmegs | lbs. 10 | - | 14 | - | 24 |
| Sugar, white | lbs. 432 | 400 | 500 | - | 1332 |
| Tea, black | lbs. 100 | 460 | 180 | - | 740 |
| Condensed milk | lbs. 768 | 720 | - | - | 1488 |
| Canned peaches | cans 2280 | 800 | - | - | 3080 |
| Corn starch | lbs. - | 200 | - | - | 200 |
| Jellies, assorted
(cans) | doz. 200 | - | - | - | 200 |
| Lemons | boxes 10 | 10 | - | - | 20 |
| Dried fruit | lbs. - | - | - | - | - |

Taken from OR, Series 1, Volume XXXVI, Part I, pp. 222-223.

APPENDIX IX. ARTICLES AND HOSPITAL STORES WHICH HAD BEEN MADE AVAILABLE TO THE
ARMY OF THE POTOMAC BY THE SANITARY COMMISSION AND WERE
CARRIED ACROSS THE RAPIDAN, MAY 4, 1864

| Articles | | In Wagons of the
Sanitary Commission |
|------------------------|---------|---|
| Chloroform | ozs. | 20 |
| Morphia | ozs. | 45 |
| Sapo | lbs. | 100 |
| Sinapis nigra pulvis | lbs. | 25 |
| Spiritus vini gallici | bott. | 60 |
| Vinum terragonae | bott. | 120 |
| Jamaica rum | bott. | 60 |
| St. Croix rum | cans. | 40 |
| Blackberry brandy | bott. | 160 |
| <u>Hospital Stores</u> | | |
| Beef stock | barrels | 240 |
| Farina | lbs. | 450 |
| Sugar, white | lbs. | 155 |
| Tea, black | lbs. | 85 |
| Condensed milk | lbs. | 600 |
| Dried fruit | lbs. | 100 |

Taken from OR, Series I, Volume XXXVI, Part 1, pp. 222-223.

1. 100% pure
 2. 100% pure
 3. 100% pure

Article

Information

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

1. 100% pure
 2. 100% pure
 3. 100% pure

APPENDIX X. PANNIER 1862

Materia Medica

| | | | |
|------------------------------------|---------------------|-----------------------------|----------------------|
| *Acaciae Pulvis | oz. 33 | *Oleum Ricini | oz. 32 |
| *Acidum Sulphuricum Aromaticum | oz. 2 | Oleum Terebinthinae | oz. 16 |
| Acidum Tannicum | oz. 1 | *Oleum Tigllii | oz. 1 |
| *Aether Fortior | oz. 16 | Opii Pulvis | oz. 3 |
| Aetheris Spiritus Comp. | oz. 8 | Opii Tinctura | oz. 8 |
| Aetheris Spiritus Nitrici | oz. 16 | Opii Tinctura Camph. | oz. 8 |
| Alcohol Fortius | oz. 32 | Pil. Catharticae Comp. | doz. 50 |
| Alumen | oz. 5 | *Pil. Cinchoniae Sulphas | doz. 80 |
| Ammoniae Liquor | oz. 16 | *Pil. Copaibae | doz. 200 |
| Ammoniae Spiritus Arom. | oz. 8 | Pil. Ferri et Quiniae | |
| Antimonii et Potassae Tartras Pul. | oz. 2 | Citras (2 grains) | doz. 60 |
| Argenti Nitras, Cryst. | oz. 2 | Pil. Hydrargyri (3 grs.) | doz. 50 |
| Argenti Nitras. Fusus. | oz. 2 | Pil. Ipecac. et Opii | |
| Cantharidis Ceratum | oz. 4 | (5 grains) | doz. 50 |
| *Cera Alba | oz. 1 | Pil. Opii | doz. 80 |
| Ceratum Adipis | oz. 20 | Pil. Opii et Camphorae | doz. 50 |
| *Ceratum Resinae | oz. 4 | Pil. Quiniae Sulphas (3 | |
| Chloroformum | oz. 20 | grains) | doz. 90 |
| *Cinchoniae Sulphas | oz. 2 | Plumbi Acetas | oz. 6 |
| *Cupri Sulphas | oz. 2 | Potassae Bicarbonas | oz. 5 |
| Ext. Aconiti Radicis Fluidum | oz. 5 | Potassae Chloras | oz. 5 |
| Ext. Belladonnae | oz. 1 $\frac{1}{4}$ | Potassii Iodidum | oz. 5 |
| Ext. Cinchonae Fluidum (with | | *Quiniae Sulphas | oz. 2 |
| aromatics) | oz. 10 | Sapo | lb. $\frac{1}{4}$ |
| Ext. Colchici Seminis Fluidum | oz. 5 | Scillae Syrupus | oz. 32 |
| Ext. Ipecacuanhae Fluidum | oz. 8 | *Sinapis Nigrae Pulvis | lb. 4 |
| *Ext. Rhei Fluidum | oz. 5 | *Sodae Bicarbonas | oz. 4 |
| Ext. Valerianae Fluidum | oz. 5 | Sodae et Potassae Tartras | oz. 4 |
| *Ext. Veratri Viridis Fluidum | oz. 5 | Spiritus Frumenti | oz. 64 |
| Ext. Zingiberis Fluidum | oz. 8 | Spiritus Vini Gallici | oz. 64 |
| Ferri Persulphatis Pulvis | oz. 2 $\frac{1}{2}$ | *Zinci Chloridi Liquor | oz. 3 |
| Glycerina | oz. 6 | Zinci Sulphas | oz. 2 $\frac{1}{2}$ |
| *Hydrargyri Chloridum Mite | oz. 3 | <u>Hospital Stores</u> | |
| Hydrargyri Unguentum | oz. 8 | Beef, extract of | lb. 12 |
| Iodinii Tinctura | oz. 4 | Candles, sperm, half-length | lb. $\frac{1}{2}$ |
| *Lini Pulvis | lbs. 4 | Coffee, extract of | gal. 2 $\frac{1}{2}$ |
| *Magnesiae Sulphas | lbs. 6 | *Corn-starch | lb. 2 $\frac{1}{2}$ |
| Morphiae Sulphas, in solution, | | *Farina | lb. 2 $\frac{1}{2}$ |
| 16 grains to 1 ounce | oz. 8 | *Gelatine, shred | lb. $\frac{1}{2}$ |
| Morphiae Sulphas, in solution, | | Milk, concentrated | lb. 6 |
| 1 grain to 1 ounce | oz. 4 | *Nutmegs | lb. 1/16 |
| *Olei Menthae Piperitae Tinctura | oz. 8 | Sugar, white, crushed | lb. 3 |
| Oleum Olivae | oz. 16 | Tea, black | lb. 6 |

Taken from Surgeon General, U. S. Army, . . . Standard Supply Table, 1862, p. 18.

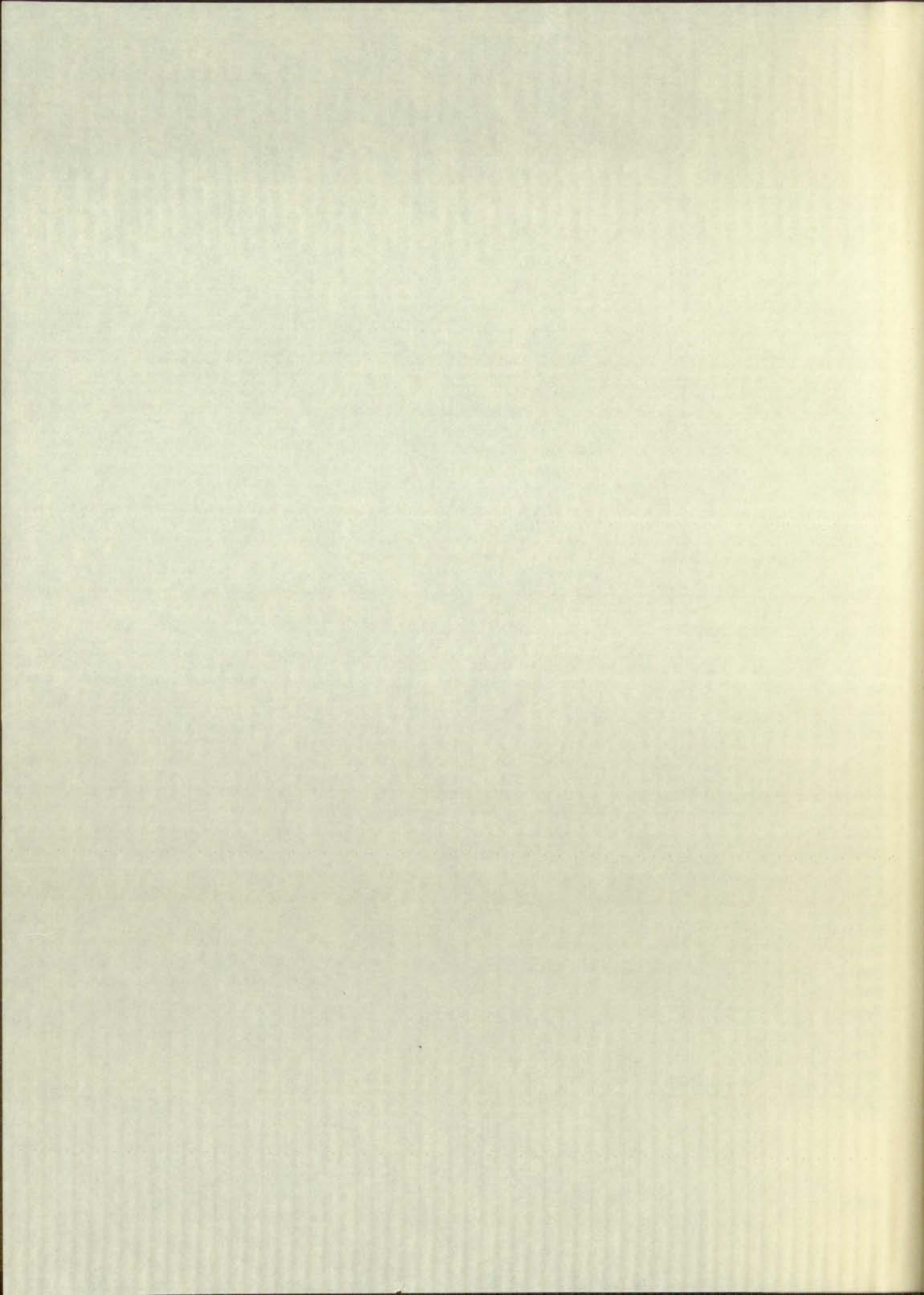
APPENDIX XI. DRUG CONTENTS OF THE 1867 MEDICINE WAGON

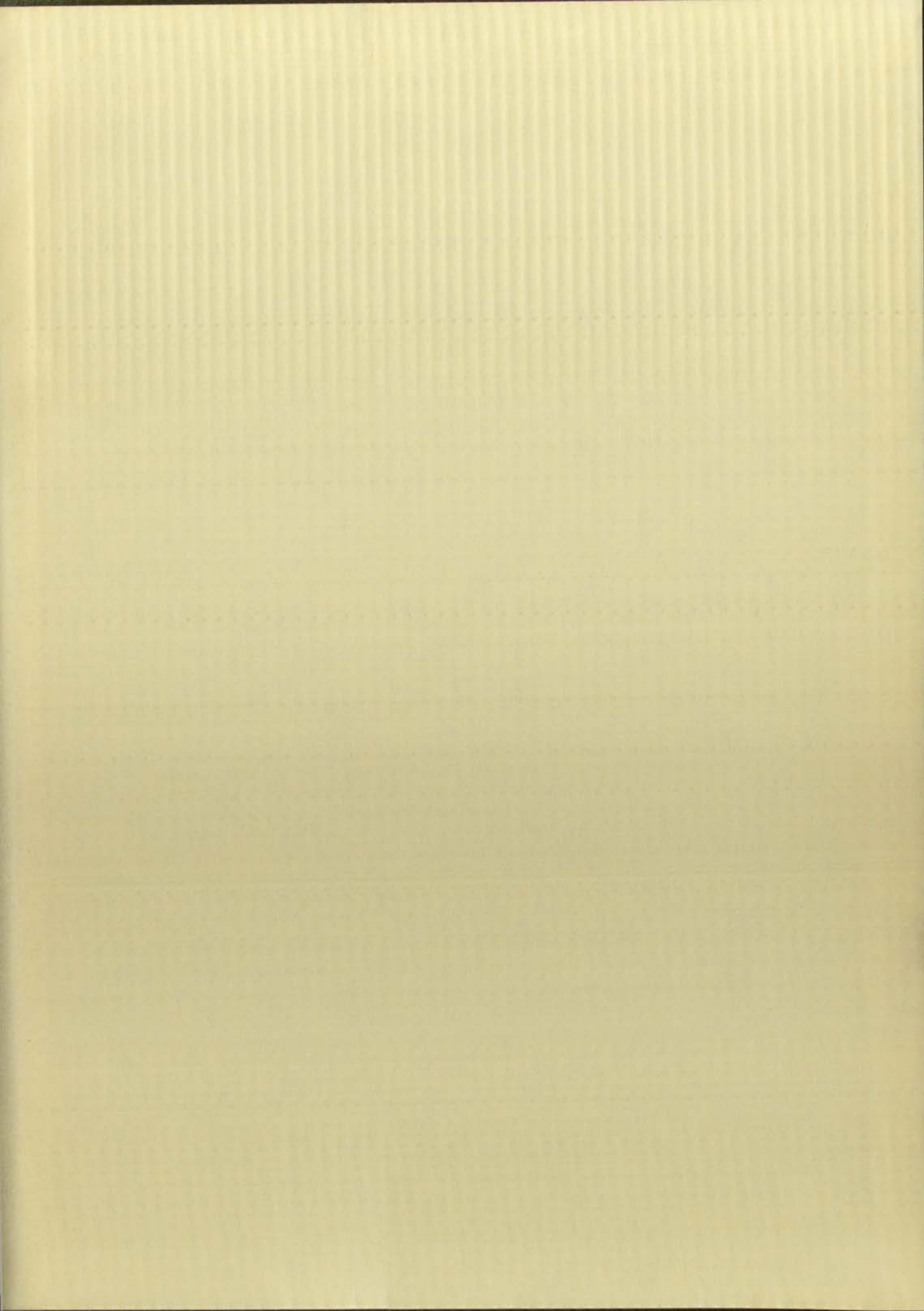
Medicines

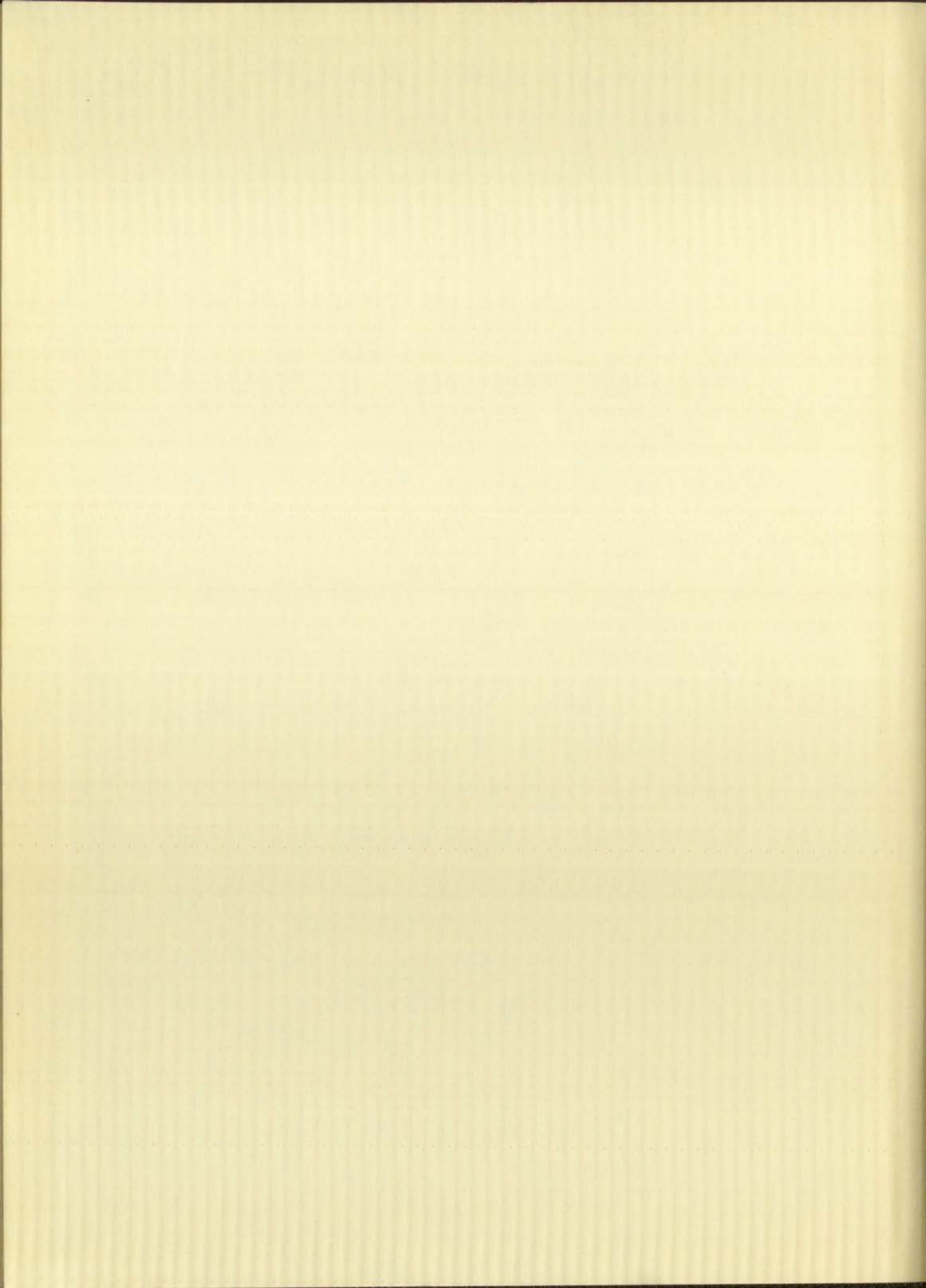
| | | | | | |
|---------------------------------|-------|----|-----------------------------|-------|----|
| Acaciae Pulveris | oz. | 8 | Hydrargyri Unguenti | oz. | 8 |
| Acidi Citrici | oz. | 8 | Hydrargyri Unguenti Nit. | oz. | 4 |
| Acidi Sulphurici Arom. | oz. | 8 | Iodinii | oz. | 1 |
| Acidi Tannici | oz. | 1 | Ipecac. Pulveris Comp. | oz. | 8 |
| Aetheris Fortioris | oz. | 64 | Lini Farinae | lb. | 4 |
| Aetheris Spiritus Compositi | oz. | 8 | Magnesiae Sulphatis | lb. | 8 |
| Alcoholis | bott. | 2 | Morphiae Sulphatis | oz. | 2 |
| Aluminis | oz. | 8 | Olei Cinnamomi | oz. | 1 |
| Ammoniae Aquae | oz. | 32 | Olei Olivae | bott. | 2 |
| Ammoniae Carbonatis | oz. | 8 | Olei Ricini | bott. | 4 |
| Ammoniae Spiritus Aromatici | oz. | 8 | Olei Terebinthinae | bott. | 1 |
| Antimonii et Potassae Tartratis | oz. | 1 | Olei Tigllii | oz. | 1 |
| Argenti Nitratis | oz. | 1 | Opii Pulveris | oz. | 8 |
| Argenti Nitratis Fusae | oz. | 1 | Opii Tincturae | oz. | 16 |
| Bismuthi Subnitratis | oz. | 4 | Opii Tincturae Camph. | oz. | 24 |
| Brominii | oz. | 1 | Opii Tincturae Deodor. | oz. | 6 |
| Camphorae | oz. | 8 | Pil. Camph. et Opii | doz. | 12 |
| Cerae Albae | oz. | 2 | Pil. Catharticae Comp. | doz. | 16 |
| Cerati Adipis | lb. | 3 | Pil. Ext. Colocyn. Comp. | | |
| Cerati Cantharidis | oz. | 8 | et Ipecac. | doz. | 16 |
| Cerati Resinae | lb. | 1 | Pil. Opii | doz. | 10 |
| Chloroformi Purificati | oz. | 64 | Pil. Quiniae Sulphatis | doz. | 12 |
| Colodii | oz. | 4 | Plumbi Acetatis | oz. | 8 |
| Copaibae | oz. | 32 | Potassae Acetatis | oz. | 8 |
| Creasoti | oz. | 4 | Potassae Arsenitis Liquor | oz. | 4 |
| Capri Sulphatis | oz. | 2 | Potassae Bicarbonatis | oz. | 8 |
| Extracti Aconiti Radicis Fl. | oz. | 4 | Potassae Permanganatis | oz. | 2 |
| Extracti Belladonnae | oz. | 1 | Potassii Iodidi | oz. | 16 |
| Extracti Cinchonae Fluidi | oz. | 16 | Quiniae Sulphatis | oz. | 15 |
| Extracti Colchici Seminis Fl. | oz. | 8 | Saponis | lb. | 8 |
| Extracti Colocynthidis Comp. | oz. | 8 | Scillae Syrupi | lb. | 4 |
| Extracti Gentianae Fluidi | oz. | 16 | Sinapis Nigrae Pulveris | lb. | 6 |
| Extracti Hyoscyami | oz. | 1 | Sodae Bicarbonatis | oz. | 8 |
| Extracti Ipecacuanha Fluidi | oz. | 8 | Sodae Chlorinatae Liquoris | lb. | 2 |
| Extracti Nucis Vomicae Alcohol | oz. | 1 | Sodae et Potassae Tartratis | oz. | 32 |
| Extracti Rhei Fluidi | oz. | 8 | Zinci Chloridi Liquoris | lb. | 2 |
| Extracti Senegae Fluidi | oz. | 8 | Zinci Sulphatis | oz. | 1 |
| Extracti Zingiberis Fluidi | oz. | 8 | | | |
| Ferri Chloridi Tincturae | oz. | 16 | <u>Hospital Stores</u> | | |
| Ferri et Quiniae Citratis | oz. | 2 | Beef, extract of | lb. | 16 |
| Ferri Subsulphatis Liquoris | oz. | 8 | Brandy | bott. | 12 |
| Ferri Subsulphatis Pulveris | oz. | 4 | Candles, sperm | lb. | 4 |
| Glycerinae | oz. | 16 | Corn Starch | lb. | 10 |
| Hydrargyri Chloridi Mitis | oz. | 8 | Farina | lb. | 10 |
| Hydrargyri Pilulae (Massae) | oz. | 8 | Milk, concentrated | lb. | 10 |
| | | | Nutmegs | oz. | 4 |
| | | | Sugar, white, crushed | lb. | 15 |
| | | | Tea, black | lb. | 10 |
| | | | Whisky | bott. | 24 |

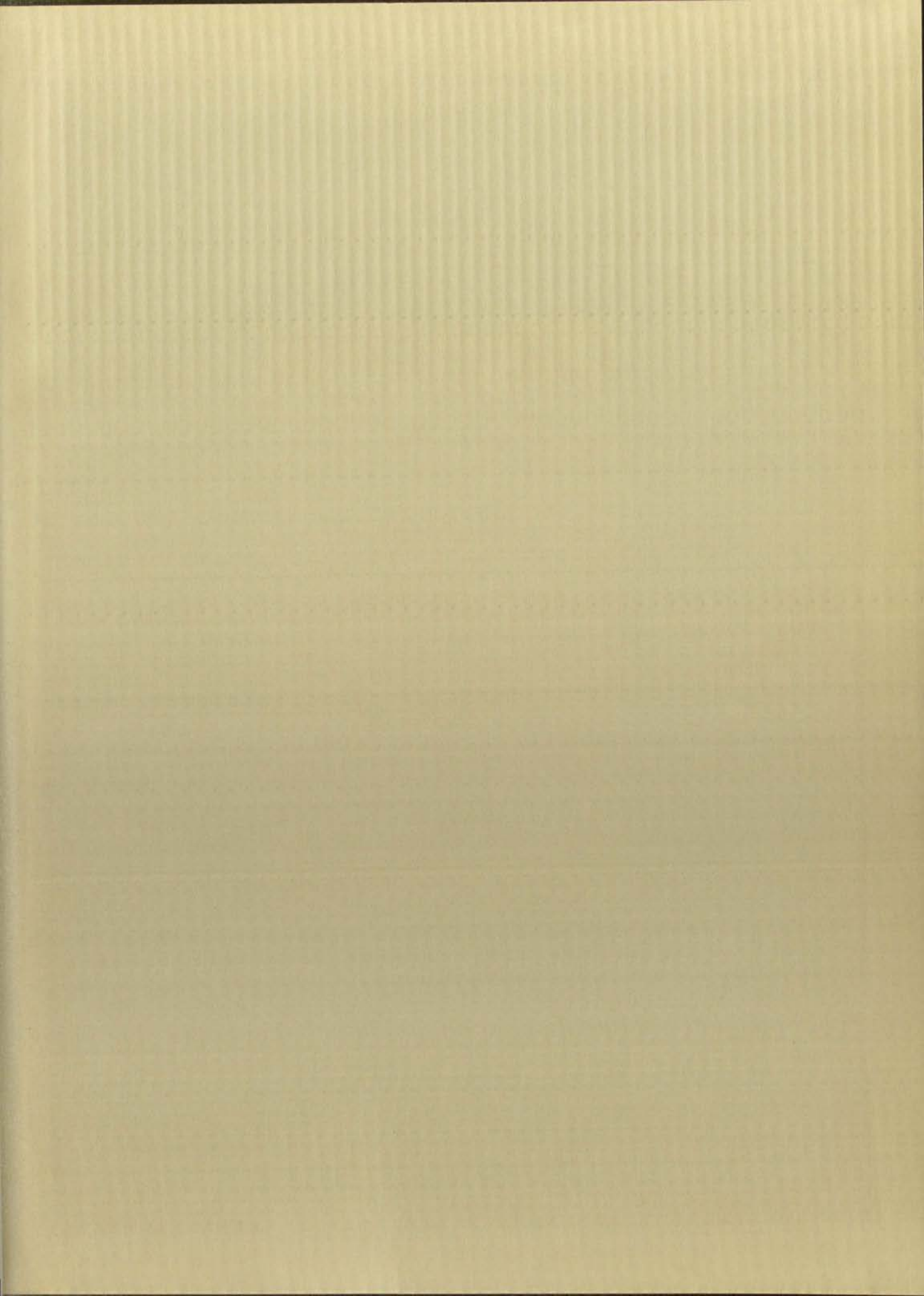
Taken from Surgeon General, U.S. Army, . . . Standard Supply Table. . .
1867, p. 15.

| List of Species | | Number of Specimens | |
|-----------------|-----------------------|---------------------|----|
| 1 | <i>Acacia saligna</i> | 10 | 10 |
| 2 | <i>Acacia saligna</i> | 10 | 10 |
| 3 | <i>Acacia saligna</i> | 10 | 10 |
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| 99 | <i>Acacia saligna</i> | 10 | 10 |
| 100 | <i>Acacia saligna</i> | 10 | 10 |









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