

camps and hospitals were on the seashore, with good docks and landings convenient, hospital ships could handle with safety any class of patients with almost any degree of sickness. But unfortunately camps and hospitals must sometimes be inland, and the route to the sea must often be long and difficult. When disease invaded the United States Army in the tropics there came a cry from the friends of the soldiers to get the sick men north. It was a very natural but often a thoughtless call. Undoubtedly lives were sacrificed by the unnecessary moving of patients. Consider for a moment the actual conditions: At Santiago the patients we received had to be brought in army ambulances over from four to six miles of rough, rocky road, and then were only at the docks whence they had to be moved first to boats and then to the ship. All this consumes energy — priceless to men as sick as they. Again, accidents may happen. Ambulances were said to have broken down and even overturned when bringing the sick to the dock, and that meant delay and more moving. In Porto Rico transportation over eighteen miles of wretched road was necessary. In this eighteen miles were six or seven fords, which in an hour's time might have become impassable rivers — streams in that country rise from four to six feet in an hour. The possibilities may be imagined. Under such circumstances, is it at all wonderful that we received many men in a state of complete exhaustion and some in a state of collapse? The greatest judgment must be exercised in selecting cases for hospital ships. It is questionable whether it is not much better for very sick men to remain at a fairly good hospital, even in a tropical country, than to be carted over six to eighteen miles of rough road in order to reach even excellent hospital ships.

On the other hand, a hospital ship should not be turned into a mere transport by filling her up with convalescents — men who are practically well. Errors of judgment will creep in, however, and if they must be made, let them be rather in the direction of taking convalescents than of taking men who are too sick. For in taking the former you do no injury to the men themselves, and you aid the regimental surgeon by taking just so many men off his sick call and giving him so much more time for his hospitals.

In one way the *Bay State* did not have the opportunity of showing her entire usefulness. Had she been near the scene of an engagement the ship could have been of great assistance in caring for the wounded. Even if they were too far away for immediate transportation to the ship, yet, with our facilities for making a temporary shore camp, with our large store of surgical supplies and apparatus, we could have rendered good service. We would have been at our best, perhaps, if an engagement had taken place in our immediate neighborhood, for the ship had a fully-equipped operating-room, in which were two operating-tables and all facilities for doing aseptic surgical work.

As we look back on the whole incident, the thing, perhaps, that gives us the greatest pleasure and satisfaction is the fact that we never have heard of a patient complaining of his treatment while on the *Bay State*. The men were usually courteous and invariably grateful for even the slightest attention. We cannot but feel that any effort we made or any time we gave has been fully repaid by their appreciation.

THE DUTIES AND WORK OF THE PURSER OF THE MASSACHUSETTS HOSPITAL SHIP "BAY STATE."¹

BY MR. W. H. SEABURY, BOSTON,
Volunteer Purser.

You have paid me a great compliment in inviting me to appear before you this evening, to give you some idea of what my duties were as volunteer purser of the hospital ship *Bay State*.

I did such a small amount of work on the ship, in comparison to what others did, that I have found it rather difficult to make a paper containing anything of special interest. I said to Dr. Fitz that this would be an entirely new departure for me, but I felt that if I could say anything that would be of the slightest interest to you all I ought not to decline the polite invitation. He wishes me to tell you what I had to do, what I had to do with, and how I did it.

WHAT I HAD TO DO.

Make myself generally useful to our surgeon-superintendent, Dr. Burrell. Take charge of all the finances of the ship. Purchase all the supplies (those relating to the hospital department excepted). Pay all bills, wages of crew, etc. Receive requisitions for supplies of all kinds, from hospitals and troops, have them approved by the surgeon-superintendent, see that they were delivered and receipted for. To keep a general idea of what food supplies we had on hand, and say whether we could spare them from our stores or not. Receive the patients on shore in tents, or on the main deck of the ship. Give each one a number, take their names and temperatures, also their valuables. All this was recorded by me in a book at the time.

When a requisition for supplies was received (and nothing was delivered without a written requisition), it was divided into three different lists, one for medical supplies, one for clothing, and one for the food. These were handed to the heads of departments, and they saw that the articles were issued and turned over to me. I saw them delivered and receipted for.

WHAT I HAD TO DO WITH.

Everything in a commissary's department that I could think of or that others could suggest. I was not limited as to expenditure, nor hampered in the slightest degree. My instructions were, obtain what you think best, and have it all of the first quality. And what pleasure it was for me to labor under such instructions!

The food supplies were stored in six of the eleven large storerooms, or lockers, in the lower hold, the other five being used for a part of the hospital supplies. On the deck over these storerooms there was a large space enclosed with an iron grating, which I called the grocery shop. Our daily wants were supplied from this.

Our supplies consisted of in part, that is, for one trip, 10,000 pounds fresh beef, 500 pounds mutton, 600 pounds poultry, 2,000 eggs, 500 pounds fresh butter, fresh vegetables and fruits in variety, all kinds of canned goods, evaporated cream. Twenty-five to fifty loaves of bread were baked each day. Sixty gallons of ice cream (this kept in perfect condition, and the last was distributed to the patients the day before our arrival home). Our ice machine made three tons a day. Temperature of freezing-room about 28; cold

¹ Read before the Boston Society for Medical Improvement, November 21, 1898.

storage, 34. Liquors of all kinds, mineral waters, ginger ale, pipes, tobacco and cigarettes. The supply of fresh beef was reduced somewhat on the second and third trips.

HOW I DID IT.

System of Receiving Patients.—At Santiago we had three tents on shore (thanks to Maj. L. C. Carr, Volunteer Surgeon from Ohio, who was of the greatest assistance to us in providing the tents, and locating them for us). The patients came to us in ambulances from the hospital near San Juan Hill. (Some of these ambulances were upset or broke down on the way. The road was almost impassable, and as there were two tiers of stretchers in each ambulance, the patients were terribly shaken up.) They were brought into my tent first; here Drs. Manahan or Bottomley questioned them or their officers in regard to their previous condition. If a patient was very ill he was given an odd number, which signified a lower berth on the ship, that he might be more easily attended, otherwise he was given an even number, which called for an upper berth. These numbers were small nickel tags on a cord, which was passed over the patient's head and hung about his neck. This number corresponded to his berth number on the ship.

It was not customary in speaking of a patient to mention his name, he was known by his number. His temperature was taken by Miss Galt, his valuables taken and put in an envelope marked with his number. He was then given a canvas bag, the number of which corresponded to the number already given him. This bag contained a complete outfit, consisting of a brown duck suit, underclothes, slippers and soft hat. He was then taken with his bag into either one of the other tents, where he was stripped, given a sponge bath of corrosive sublimate by a bayman (there were two in each tent), his new outfit put on, his uniform put back into his bag (which was sterilized later on the ship), and he was sent aboard the ship in the launch.

It took us eight minutes on the average from the time a patient entered my tent until he was off for the ship. This system of receiving the patients, so simple yet so perfect, the rapidity with which it was accomplished, astonished the army officers who witnessed it, and they complimented us highly.

When the ship reached Boston the patients were returned their valuables and canvas bags, which they took with them when they left.

At Arecibo this work was done on the ship, as the patients were received late in the day, and it was thought best to get them on board as soon as possible.

At Ponce we took on nine patients only, and our work was carried on in one of the rooms of the Custom House.

And now, Mr. President, just a word or two about our surgeon-superintendent. He has said so many kind things of those under him that I cannot let this opportunity go by without expressing my opinion of our "General," as we called him. While giving due credit to all others connected with the ship for their noble work, I must say that it was to the wonderful executive ability of Dr. Herbert L. Burrell that the record made by the *Bay State* will serve as a standard for all relief expeditions of this kind. He went forth with the well-defined purpose of doing all the good possible as speedily and as directly as it could be accomplished. Zeal was supplemented with brains.

THE NURSING CARE ON A HOSPITAL SHIP.¹

BY MISS C. W. CAYFORD, BOSTON.

THE problem of the amount and character of the nursing force on a hospital ship was unique. The factors entering into this problem for consideration were: the uncertainty of the length of time the patients would be on board ship; the question as to the character of the illness, whether surgical or medical, and the entirely unknown effect of sea-sickness. It was finally determined by the committee in charge of the selection of nurses, for a maximum capacity of 114 patients to have six nurses (women) and six baymen (male nurses). Before leaving Santiago harbor, and before the element of sea-sickness had made itself felt, it was evident that the working force was far too small, owing to the fact that through some misunderstanding no provision was made for the scullery work of the wards, and this had to be done by the nurses. Naturally this diminished the strength of the nursing force. Later this work was done by mess attendants, who were engaged for service alone in the wards. So that on our last voyage, with 135 patients, the day force consisted of two nurses, two baymen and two mess attendants for each ward. The entire night work of both wards was done by one nurse and two baymen. This seems a small proportion of night nurses for medical work, but it was found to be sufficient, as on all three trips the wards were noticeably quiet at night, the patients sleeping remarkably well. The difficulty, or, more accurately speaking, the impossibility of properly caring for bed-patients in an upper berth was met by assigning these berths to convalescent patients. Even in the lower berths the bathing of patients and changing of linen was considered with misgiving by those of us trained to consider certain details of bed-making and in the handling of bed-patients as essential to good nursing. This was due to the limited space between the tiers of berths and the necessity of working, in most cases, entirely on one side, and the box-like effect given to the bed by the rolling rod when corded to the bed frames.

However, it became evident early on the first voyage that what was needed was the essential life-saving care of the patients. To the men taken from the field hospital of Santiago it mattered little that the under sheet was at times somewhat wrinkled. What they needed most were baths, good food, good water, and plenty of them. These we were able to give them. In fact, it is a question whether in some instances they did not have more than a sufficient quantity of food, owing to the necessity in the convalescent cases of depending largely upon the patient for a report as to his condition, — and naturally after a long period of limited rations he was not eager to furnish information that would be likely to cut down his food supply, — and occasionally, I fear, to the pleasure of seeing those hungry men eat at times overruling the better judgment of the nurse. The bathing could be carried out without discomfort to the patient, but was more or less of a strain on the back of the nurse, and was an especially trying thing to do when the nurse was sea-sick.

The ward clothing of the patients when not worn proved a great source of annoyance; when not on the bed — which was most of the time — they were on the floor, making the wards very disorderly and caus-

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