

CARE OF THE WOUNDED IN SEA FIGHTS.

The requirements of modern naval warfare make it impossible to pass easily from one section of the ship to another during an engagement. This has caused the medical service in some navies, notably the French, to be decentralized as much as possible on each ship, centralization being left for the hospital ships and shore hospitals. In the old days of wooden ships with flush gun and spar-decks, it was comparatively easy to transport the wounded to where they could receive every surgical attention. The surgical staff was a unit, and its work was brought to it; but now all this has been changed, and they must seek it. A modern battleship is practically an aggregation of steel cells, each containing its quota of the crew, all working harmoniously and in concert toward the destruction of the adversary.

Anyone familiar with the construction of a modern battleship will readily see the impossibility of caring for wounded men as in the days of wooden ships; for, of course, the object of making closed compartments is to utilize them in this form when in action, for when a ship clears for battle the bulkhead doors are closed, and the men isolated in groups, as much so in fact as if they were in separate ships; so that it will be seen that it is manifestly impossible to carry the wounded men to a sick bay until the fight has ended; but everything is done to save life until those injured can be carried where they may be properly attended to. The fighting space in modern war vessels is so limited, especially in the turrets, that the immediate removal of disabled or wounded men is of the utmost importance, for there are no unoccupied spaces in which they can be placed out of the way of the actives. The only practicable method of caring for the injured is to lower them to the partially cleared space at the base of the turret, either by the ammunition hoist or lashed in a hammock. Here the unfortunate must remain,

after receiving temporary aid, as the space is too limited for the performance of any operation, and it is doubtful if a surgeon could even reach him. But at the first favorable opportunity he is transferred to the sick ward, where proper medical attention is given, and he will be relegated to a cot, something similar to that in our illustration; but as soon as possible the wounded are transferred to a place where they can be still better cared for, such as is afforded by the ambulance ship "Solace," now with the fleet at Santiago, and which has already furnished efficient aid for many soldiers and sailors, ill or wounded.

As far as possible, each compartment of the ship is provided with emergency surgical appliances, and men rated as "nurses," under the direction of a surgeon's steward, do all possible to relieve the sufferings of the injured. The temporary surgical ward is usually a space especially set apart for this purpose. It may lie at the forward end of the berth deck, or in such other place as the exigencies of the situation may demand. Formerly the old operating room was the cockpit, which was considered the safest place on the ship; but now the table in the wardroom is usually assigned to the surgeons, as on Dewey's squadron during the battle of Manila. When there is a lull in the tide of battle, the wounded are brought as quickly as possible to the surgical table, where the necessary operations are taken in hand. Of course capital operations are only performed when delay would be fatal, and whenever possible those injured are transferred to a hospital ship or to a hospital on land, where they may receive plenty of light and air and proper nursing. With modern aseptic surgery, injuries which in the Civil War would have been fatal are now treated successfully.

Our engraving represents what is known as a hospital cot, and the cots which are used in the sick bays of war vessels usually partake of the characteristics of both a cot and a hammock. Of course, a cot of this kind would be used during cruises by those who became injured, so that the ordinary hammock would not answer. The cot consists of a frame covered with a mattress, and triangular pieces of canvas serve to attach it to the hammock hooks through the medium of ropes. Flaps hang down at the ends to prevent a draught from striking the patient. The blankets are placed on the cots in such a way that they may be thrown over the patient from each side, and are not used in the ordinary way. The peculiar form of cot shown in our engraving has been somewhat criticised

by medical men, who say that it embodies none of the advantages of either the true naval hammock or cot, since here the equilibrium of the patient is constantly endangered, which is not the case in either of the latter. The ordinary ship's hammock is suspended in such a way as to gather it about the body of the individual resting therein. The danger of falling out is infinitesimal,



A HOSPITAL COT ON A MAN-OF-WAR.

except, perhaps, to those suffering from delirium. The true naval cot is suspended from four corners, and a web of canvas protects the occupant, regardless of the changes of gravity. It is feared that the cot hammock here illustrated will tip at any disturbance of the center of gravity; hence it would be materially improved by providing two more points of suspension.

The "Solace" was formerly the "Creole," of the Cromwell line. She has a displacement of 3,600 tons, is 350 feet long on the load line, and has a speed of 14 knots. The ship carries powerful launches and barges for transferring the sick and wounded at sea. The idea is to have the "Solace" remain near the fleet while in action, and as soon as any ship withdraws, or at the close of the engagement, to take all the wounded on board and steam away for a naval hospital. Thus it will be seen that she is more properly an ambulance ship rather than a hospital ship. The injured are lowered into the steam launches and barges, and immediately on being received on board those requiring operation at once will be placed on the tables and then sent later to the wards.

infesting chamber for clothing. An ice machine and cold storage plant have also been supplied, as well as a large water distilling plant. The ship is equipped with three formaldehyd generators for disinfecting purposes. There are separate rooms for wounded officers, and the men are berthed in spacious wards in the forward and after part of the ship. There are four medical officers attached to the ship, three apothecaries, eight graduated nurses, laundrymen, cook, etc. The ship flies the Red Cross flag and is protected by the articles of the Geneva convention. She is painted white with a green stripe, as are each of her steam launches. It is the first war in which surgeons have had an opportunity to practice aseptic military surgery. There are seven hospital ships attached to the French navy, which has paid particular attention to this subject.

A Literary Treasure House.

The Genizah or treasure house of an ancient synagogue in Cairo is a windowless and doorless room at the end of a gallery, with an entrance through a big shapeless hole, reached by a ladder, says Biblia. Here, in obedience to the injunction upon the Jews not to destroy any of their sacred books, which finally came to include the preservation of all writings in the Hebrew characters, have been deposited, during the past two thousand years, worn-out and defective copies of such books, sound copies of "disgraced" books (that is, such as have once pretended to the rank of Scriptures, but have been authoritatively condemned as uninspired) and various Hebrew documents. Some parts of the immense mass, which includes books printed during the last four hundred years, are in a fair state of preservation; others are squeezed into unshapely lumps, while still others are "literally ground to dust in the terrible struggle for space." Dr. Schechter, of Cambridge, England, was able to

rescue about forty thousand fragments of manuscripts, which have been placed in the library of the University of Cambridge, and are now being carefully examined. They consist mainly of parts of the Old Testament, some going as far back as the tenth century, of Jewish liturgical works, of the two Talmuds, very many hymns, legal documents, letters, prescriptions, amulets, and fragments of miscellaneous works.

ROMAN WINE CASKS DISCOVERED AT SILCHESTER.

In the rooms of the Society of Antiquaries, Burlington House, may just now be seen, says The St. James's Budget, some of the finds made last year by the explorers on the site of the Romano-British town of Calleva, in the parish of Silchester, which is about ten miles from Reading. The archaeological value of the relics is great. At Burlington House one sees three venerable casks. Fifteen hundred years ago they held Italian wine. Some probes and other surgical instruments show that ancient Roman ideas on the form of such things were very like those of modern Englishmen. Then there are a fine bronze necklet and an eagle's

head of the same metal from the top of a Romano-British staff. There are a few fragments of Samian pottery. The value of these potsherds lies in the clearness with which the maker's name still appears on them. There is a piece of imitation Samian "marble" which formerly decorated a mantelpiece. A stone jar, standing conspicuously in the middle of the room, is supposed to have been used as a store pot. It was found unbroken, built into the wall of a house. The collection also includes well preserved portions of querns, fragments of flint glass, pestles, and mortars.

Opening of the Harlem Speedway.

The new Harlem Speedway, which extends along the Harlem River from 155th Street to Dyckman Street, was opened to the public on July 2, without public ceremony of any kind. The driveway was opened last fall, but the speedway was closed again, as it was not completed and the road was in a bad condition. Plans for the construction of the speedway were approved in February, 1894. The



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The operating room measures 30 by 30 feet and is well lighted and equipped with aseptic hospital furniture of the best pattern, and the outfit of instruments, sterilizers, etc., is complete in every detail. The floor of the operating room has even been paved with tiling. On the engine room deck is a fully equipped steam laundry and drying room and a dis-

work was let in two sections, one from 155th Street to High Bridge and the other from High Bridge to Dyckman Street. The second or upper section was finished first. The total cost of the driveway is \$3,075,000. We have already described the speedway. See SCIENTIFIC AMERICAN for March 31, 1894, October 27, 1894, February 6, 1897, February 13, 1897.