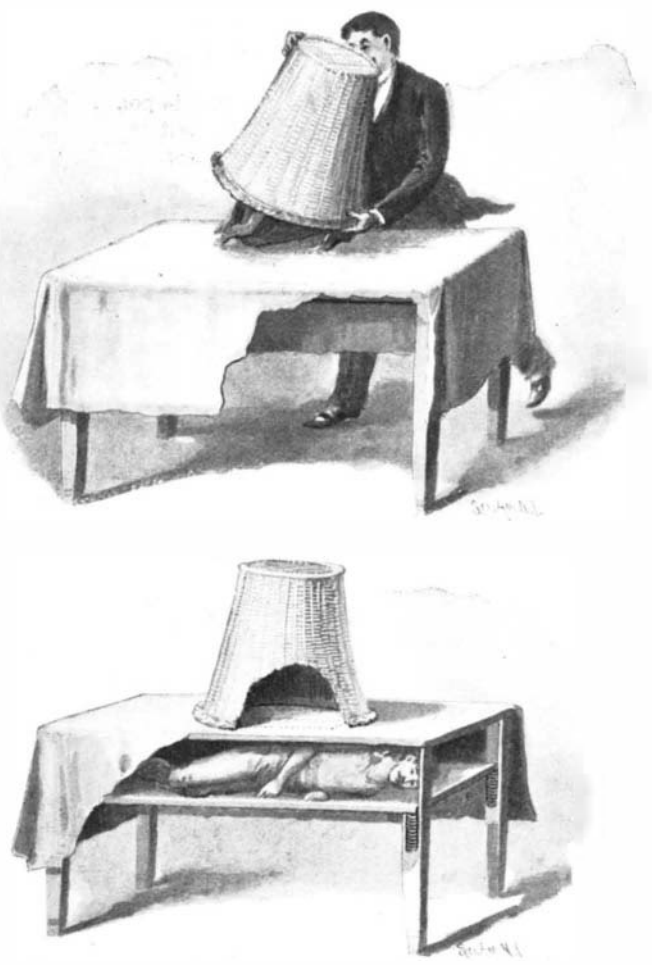
DISAPPEARING DEMON.

BY W. E. ROBINSON.

An excellent trick which never fails to please is known as the "Disappearing Demon." A couple of very clever acrobats and contortionists have been mystifying both continents with acrobatic feats and wonderful posturings, and then end their performance with a unique disappearing and appearing act. The only piece of apparatus which they have occasion to use is what appears to be an ordinary kitchen table, devoid of cloth. One of the performers suggests that they set the table for dinner. The cloth is spread over the table, coming some ten inches below the top. A dispute then arises who shall cook the dinner. Finally, one of the acrobats, who is dressed as Mephisto, jumps upon the table to get away from his companion, who follows him with a cone-shaped wicker basket, which he claps over his comrade's head and body, hiding him completely from view. In a few seconds the pursuing acrobat kicks over the cone, and the demon has disappeared. The cone is again placed upon the table, and immediately lifted, and it is found that the demon has returned. The trick can be readily understood by reference to our engravings. The table has a double top, the upper one being made fast to the legs and containing a well-concealed trap. The lower one is movable, working up and down in grooves in the table legs. It is kept in its normal position against the real top of the table by means of spiral springs in the hollow legs of the table. The cloth is slit on three sides of a square, and the other side is loosely basted, so that one pull on the thread will disjoint or free it. When the demon is covered over, he pulls out the thread in the cloth and passes through the trap in the table top, the lower part of the double top sinking down under the performer's own weight. During the time when he is lost to the view of the audience, he lies flat between the two table tops, and close to the trap. Of course, when the cover is removed, he has apparently disappeared. He makes his appearance in the reverse way.



THE DISAPPEARING DEMON.

Fish Poison.

The subject of fish poisons has for some years past attracted attention among chemists, and a useful contribution to the subject has just been completed by a corresponding member of the Pharmaceutical Society, Dr. M. Greshoff, the Director of the Chemical Laboratory at the Colonial Museum, Haarlem. It forms Part XXIX. of the Mededeelingen uit 'Slands Plantentuin, as published in Batavia. A good deal of the work was done in the celebrated Botanical Gardens at Buitenzorg, in Java, where Dr. Greshoff worked for some time. This volume is the second that has been issued, and the two form a complete résumé of all that is known on the subject, economical, botanical, and chemical. The poisonous action on fishes seems to be due chiefly to the following substances: Prussic acid, saponin, cumarin, cytisine, and andromedotoxin, although there are others, such as picrotoxin, derrid, and the acrid principles of the Euphorbiaceæ and Ranunculaceæ.

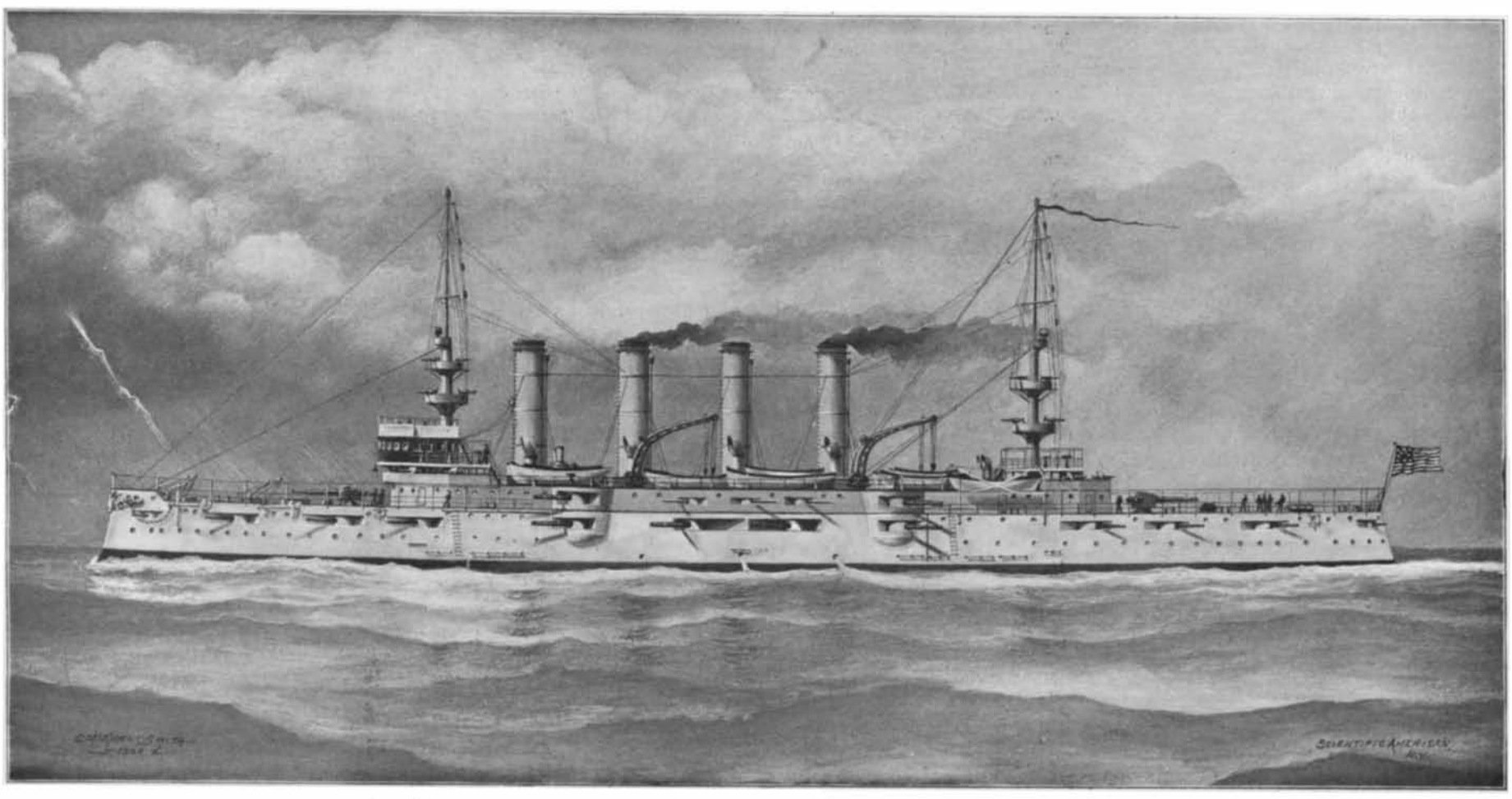
Antiseptic Properties of Bile.

A few years ago it was supposed that the bile had a considerable antiseptic power, and that one of its functions consisted in modifying the intestinal fermentations; later on, however, bacteriological research showed that the bile had no antiseptic power, but, on the contrary, it was in most cases an excellent medium for the culture of different microbes. But although the bile is not antiseptic, it acquires, under certain conditions, antitoxic and vaccinating properties. Robert Koch found that the bile of animals who had succumbed to the bovine pest could be used for the inoculation of other animals to protect them from the disease. The recent work of F. Neufeld has established a new property of the bile, namely, a bacteriolytic power toward the pneumococcus. If 1 part of rabbit's bile is taken and mixed with 10 or 20 parts of a bouillon containing the pneumococcus, it is found, upon examining the liquid in suspended drops, that at the end of a few minutes the contours of the pneumococcus lose their sharpness, becoming less and less visible, and finally disappear completely, being dissolved in the liquid; this action requires, in ordinary cases, about three or four minutes, but sometimes lasts as long as fifteen to twenty minutes. The rapidity with which the solution takes place varies, besides, with the more or less fluid state of the bile and the quantity of culture introduced; the bile may dissolve up to 300 times its volume of culture. The action is about the same at the ordinary temperature and at 38° C.; but is slower at 1° or 2° above zero. The dissolving of the pneumococcus does not involve the destruction of the vaccinant substances contained in the body of these microorganisms; in fact, a hypodermic injection of bile given to a rabbit, and having previously dissolved a culture of pneumococcus, gives it immunity, or at least increases considerably its resistance to this form of infection. The bile seems to act only against this particular form of micro-organism, and leaves intact the other pathogenic bacteria (typhus bacillus, streptococcus, diphtheria bacillus, etc.) This property is possessed not only by rabbit's bile, but in less degree by the human bile and that of different animals.

THE PROTECTED CRUISERS OF THE "ST. LOUIS" CLASS.

A point has been reached in the development of the new United States Navy in which we not only have ceased to follow the lead of other navies, but are producing original designs of ships and novel details which are being followed by foreign constructors. It is true that in size the United States Navy stands fourth among those of the world, but in design, material, equipment, and efficiency, it is the equal, if not the superior, of any other navy. This result is due largely to the ability and energy of the Bureau of Construction and Repair, which, under the Chief Constructor, Rear-Admiral Philip Hichborn, has been responsible for the design, construction, and maintenance in a state of efficiency of our new navy. The latest products of this Bureau are fourteen vessels, whose construction has recently been authorized, namely, five battleships, of about 15,000 tons displacement, six armored cruisers, of about 14,000 tons displacement, and the three protected cruisers which form the subject of the present article, of a little under 10,000 tons displacement.

The Protected Cruisers, to be named the "St. Louis," "Milwaukee," and "Charleston" (the latter to continue the name of the 3,700 ton vessel wrecked November 2, 1899, off Kamiguin Island in the Philippine group), compare favorably with their class in other navies. In fact, so closely do they approach the type of second-class armored cruisers that they might easily be



NEW UNITED STATES PROTECTED CRUISER "ST. LOUIS"—ALSO "MILWAUKEE" AND "CHARLESTON."

Displacement, 9,700 tons. **Speed,** 22 knots. **Bunker Capacity,** 1,500 tons. **Armor:** Side armor and partial belt, 4 inches; conning tower, 5 inches; gun positions, 4 inches; protective deck, 2½ inches. **Armament:** Fourteen 6-inch 50-caliber rapid-fire, eighteen 3-inch 50-caliber rapid-fire, twelve 3-poonders, twenty-four smaller guns. **Complement,** 564.