

ditions on which they depend. It was therefore necessary to have a vessel capable of making investigations similar to those carried on by oceanic expeditions, and at the same time suitable for practical fishery experiments, which are every year becoming of more and more importance in the work of scientific research. A ship of this kind, however, had to be small, otherwise it was impossible to reckon on sufficient means for its upkeep. Accordingly the size we selected was that of a first-class fishing trawler. Her length is 125 feet between perpendiculars, and she is of 226 tons burden; her engines indicate 300 horse-power, and can give her a uniform speed of 10 knots; her coal consumption is small, being about 5 tons per twenty-four hours when going at the rate of 9 knots, and she can carry in her bunkers about 80 tons. As will be seen from Fig. 20 there is plenty of space on deck forward of the engines. The big winch is placed here just abaft the hatch of the storeroom, in which there is cold storage for 10 tons of fish, and stowage for appliances, instruments, cases of glass bottles, etc. Forward of this storeroom are the cabins of the engineers and mates and the quarters of the crew. Aft the engines there is a laboratory on deck, and below there are cabins and a messroom for the scientists. The deck is perfectly clear on either side of the deck-house, so that there is ample room for working with appliances and instruments.

If we compare Figs. 20 and 21 we shall get a good idea of the appearance of the deck of the "Michael Sars." On the starboard side there are two small winches, the forward one of 3 horse-power and the aft one of 1 horse-power. The forward winch (2), by means of a long axle (see

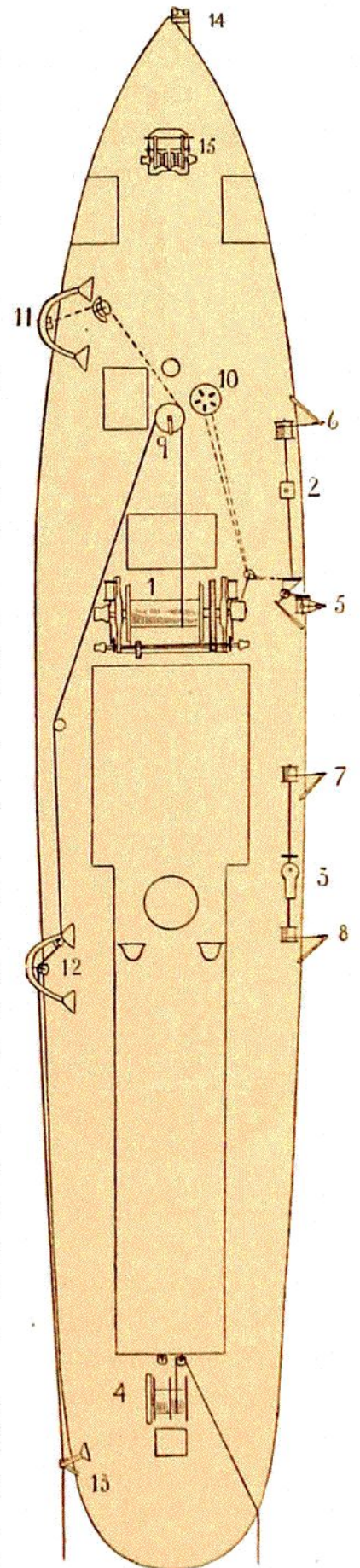


FIG. 20.—DECK ARRANGEMENT ON BOARD THE "MICHAEL SARS."

Methods
employed
on board.