a uniform temperature throughout the deep layer also introduces materials, particularly nitrogenous matter from the surface—that is to say, indirectly from the coasts—which are favourable to the development of plant life. The plants were in consequence extraordinarily abundant. At Station 3 we found great quantities of diatoms, even in a haul with the closing net from 160 metres up to 100 metres.

On our way southwards from Station 7 we were prevented by the high sea from attempting any fishery experiments, so we had to content ourselves with making hydrographical observations (at Stations 8 and 9), and it was not till we were well down in the Bay of Biscay at Station 10 that the sea became calmer and the weather moderated. We sounded here and got 4700 metres, so that we now had an opportunity of trying our appliances in really deep water (see Fig. 40).

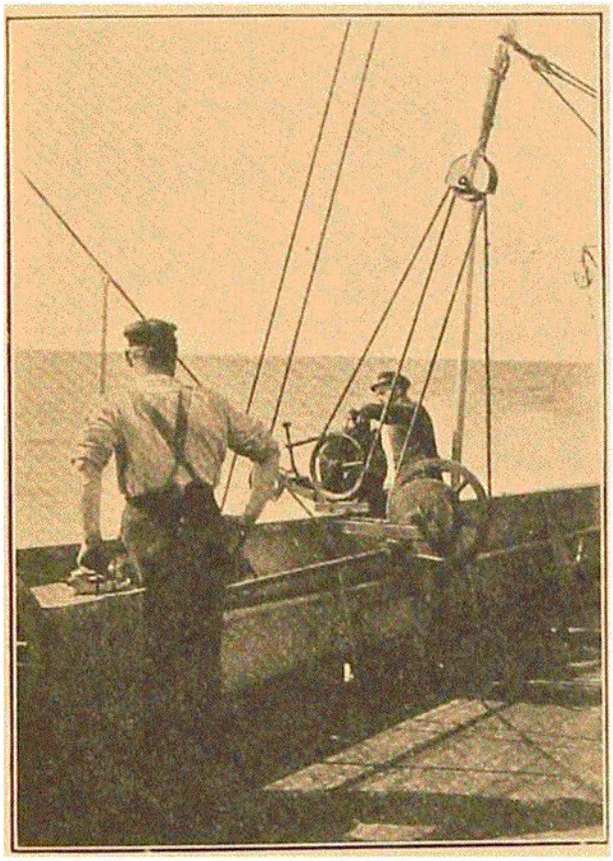

FIG. 40.—THE CAPTAIN SOUNDING IN 4700 METRES.

Vertical hauls.

We commenced at this station, while the ship was still hove to, by taking a series of twelve water-samples as far down as 4500 metres, and made a number of vertical hauls with the closing nets down to 1000 metres. Everything was found to work splendidly, and all these operations took only about three hours.

Temperatures were recorded by means of the best kinds of reversible thermometers, which give readings exact to within a few hundredths of a degree even at the greatest depths. At this station we found the temperature at 3000 metres to be 2.40° C. and at 4500 metres 2.56° C. It was thus apparently warmer near the bottom than 1700 metres (or nearly 1000 fathoms) above the bottom. It has often been thought that the water might derive a certain amount of heat from the sea-bottom, and this may have been the case here, but there is also another possibility, namely, that the water at 4500 metres had sunk from the upper layers and had been

Temperatures in deep water.