

procured at Gibraltar were a thorough success, and stopped the twisting in the trawl-warp and bridle. The bottom was everywhere well adapted for trawling.

At Station 23 we towed a small young-fish trawl at 1215 metres. It touched the bottom and brought up a quantity of empty pteropod shells which had been sifted out from the bottom deposit. It is extraordinary to find these deposits of shells belonging to plankton organisms only at certain relatively shallow and intermediate depths, for, when alive, the pteropods float over all depths.

Our trawlings further resulted in a fine collection of invertebrate animals; at Station 24, for instance, we found the trawl full of siliceous sponges.

These waters offer a good field for a thorough study of the distribution of animal life, for the nature of the bottom and the gentle slope permit of trawling at all depths. Our time unfortunately was too short to permit us to do more than obtain a general impression.

We next turned our attention to the hydrographical investigations, and steamed to the north side of the bay near Cadiz (Station 26), whence we ran a series of stations, at all of which careful hydrographical observations were made (Stations 26-30).

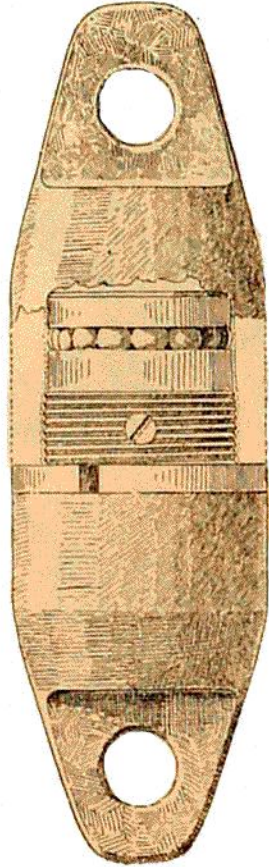


FIG. 50.—THE NEW SWIVEL.

At the conclusion of the "Challenger" Expedition Buchan showed that it was possible to trace the course of the comparatively warm Mediterranean water out into the North

Atlantic Ocean. In 1909 the Danish expedition in the "Thor" under Schmidt made some observations from the Strait of Gibraltar westwards, and secured extremely accurate determinations of temperature and salinity, showing that the Mediterranean water (in a very diluted state) makes its way out through the Spanish Bay, sinking down to a depth of 1000-1200 metres.

In our investigations we aimed at studying more closely the relation between Atlantic water and Mediterranean water, and we also endeavoured to become familiar with the currents on both the Spanish and Moroccan sides of the bay. Unfortunately we had to abandon our current measurements, but the variations of salinity and temperature from our many adjoining stations give a fairly good idea of the conditions. It is enough

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