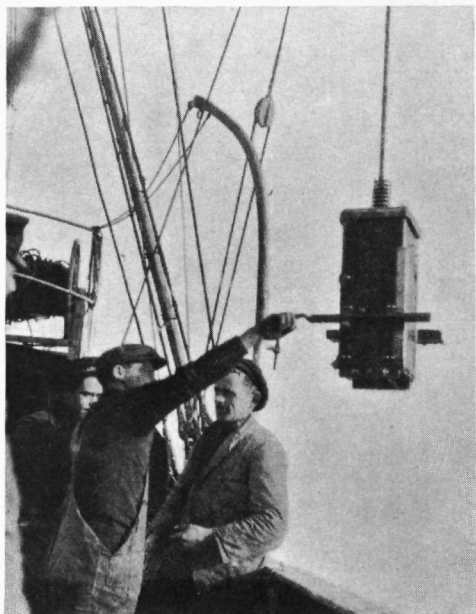


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A NEW APPARATUS FOR THE TAKING OF BOTTOM-SAMPLES

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AT the request of Dr Molander here follows a short description of the bottom-sampling apparatus invented by me in order to facilitate his research of the vertical distribution of the fauna of the bottomdeposits of the Sea. For reasons mentioned on p. 1 and 2 of the preceding paper Dr Molander wished to obtain samples consisting of a sharply defined column with a basal area of 400 cm² of the bottomdeposit without disturbing the sequence of their stratification.



The apparatus consists of a quadrangular tube of iron (20 × 20 cm.) which is lowered by wire from the ship. The moment it touches the bottom it is driven into the soil by the impact of a heavy weight (20 to 40 K²) which slides along

a shaft consisting of an iron tube 2½ meter in length, represented in the figure, and impinges upon the lid of the apparatus. The shock is elastic, a short steel spiral being interposed between "hammer and anvil", i. e. the weight and the lid of the apparatus, which thus becomes immersed into the soil to a certain depth determined by two plates of iron visible in the figure.

The apparatus then contains a parallelepipedon of bottom-deposit with undisturbed stratification which is brought up in its original state by the following device. The iron shaft which passes through a hole in the centre of the lid of the apparatus is connected inside it by strings of wire with a screen or shutter of very thin copper sheet (20 cm. broad) with a sharp knife-like edge of steel. When the apparatus goes down the shutter is kept close to its outside by guides. When the shaft is lifted the shutter is drawn horizontally through the clay or gravel of the soil and thus closes the apparatus cutting off its content of deposit.

The manner in which this bottoms sample is treated on board is described by Dr Molander on p. 1 of this paper. The details of the simple construction by which the shaft catches the strings combined with the shutter, which closes the apparatus when the shaft is lifted and the apparatus is hauled up, need no description. The Bohus Factory (Bohus Mekaniska Verkstad) in Göteborg makes the apparatus complete with weights, etc. at a price of Sw. Cr. 350 (round sum). The handling of the apparatus is the simplest possible since there is no running messenger etc. and it functions automatically. It can be used at any depth. Hitherto it has been tested at some of our sounding stations in the Skagerak at 500 to 600 M. In the future it will be found opportune to commence the routine work at a hydrographic station by taking a bottoms sample with this gear which operation at the same time gives an exact account of the depth in situ.

