PHYSICAL OCEANOGRAPHY

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metres; Petersen found that in the neighbourhood of Capri a Petersen. plate was influenced by the rays at a depth of 550 metres. Luksch made some investigations in the eastern part of the Luksch. Mediterranean, exposing his plate for fifteen minutes, and found that the limit of the light-rays must be drawn at 600 metres. In these experiments the influence of the collected rays on an ordinary photographic plate was studied.

In order to make some investigations on this subject in the



FIG. 171.—HELLAND-HANSEN'S PHOTOMETER. On the left, as it is sent down; in the middle, open for exposure; on the right, closed and ready for hauling up.

"Michael Sars" Atlantic Expedition, the author constructed a Hellandnew kind of photometer, which is represented in Fig. 171. the centre figure-at the lower part-is seen a brass cube; the four sides and the top have square "windows," and on each of them a small square frame with a similar window $(2 \times 2 \text{ cm.})$ can be screwed fast; the screws and openings are seen in the figure. The cube rests on a larger brass plate, or rather on an india-rubber mat covering the brass plate. The plate and cube are fastened inside a frame, along which they can be moved up and down. At the top of the central figure is seen a larger

In Hansen's photometer.