

This paper not to be published without prior reference to the authors.

Bibliothek
Mr. Fischer, Hamburg

C.M. 1972/L:7
Plankton Committee.

A DEVICE TO CATCH BOTTOM-DWELLING MACRO-PLANKTON.

By: C.H. Borghouts, Delta Institute for Hydrobiological Research,
Yerseke, Netherlands.

C.L. Deelder, Netherlands Institute for Fishery Investigations,
IJmuiden, Netherlands.

As bottom-dredgers do not give full information about the quality and the amount of the flora and fauna swimming in the waterlayers just above the bottom, a device was developed in Holland, which can be best described as: a plankton-net (A), fixed into a bottom-skimming frame (B).

The proto-type of the net was designed by the first author, with the purpose to use it in the aestuarine waters of Southern Netherlands, in close cooperation with C. de Booy, A.J.J. Sandee and W. Vader. The idea was taken over by the second author for investigations on the IJsselmeer. By experience the apparatus has been gradually modified; the description and figures given in this paper apply to the version provided with floats (C).

Practice has shown that the net renders good success and allows a better insight about the macro-planktonic organisms occurring just above and on the bottom. It may be stated here, however, that the net preferably should not be used just with every bottomtype. The bottom should in some cases possess some firmness, lest the net might dig into the mud.

To ensure that the apparatus will not come upside down on the bottom, a string of floats (C) at the upper side may be attached, but with careful lowering these floats are not necessary.

In order to locate the apparatus after the towline has snapped unexpectedly, it better has to carry a buoy as well, connected with a long enough line.

The frame has to be towed over the bottom at a low speed. To facilitate its towing it carries a roll (D) in front and a kind of sledge (E) at the end. The distance between roll and frame is covered by a strip of metal (D'), nearly touching the roll, to prevent as much

as possible the loss of animals.

Observations made by divers revealed that the roll stirs the upper bottomlayer, together with the animals occurring there. The divers moreover observed that in case of a too short towing line the roll starts to glide and does not rotate anymore.

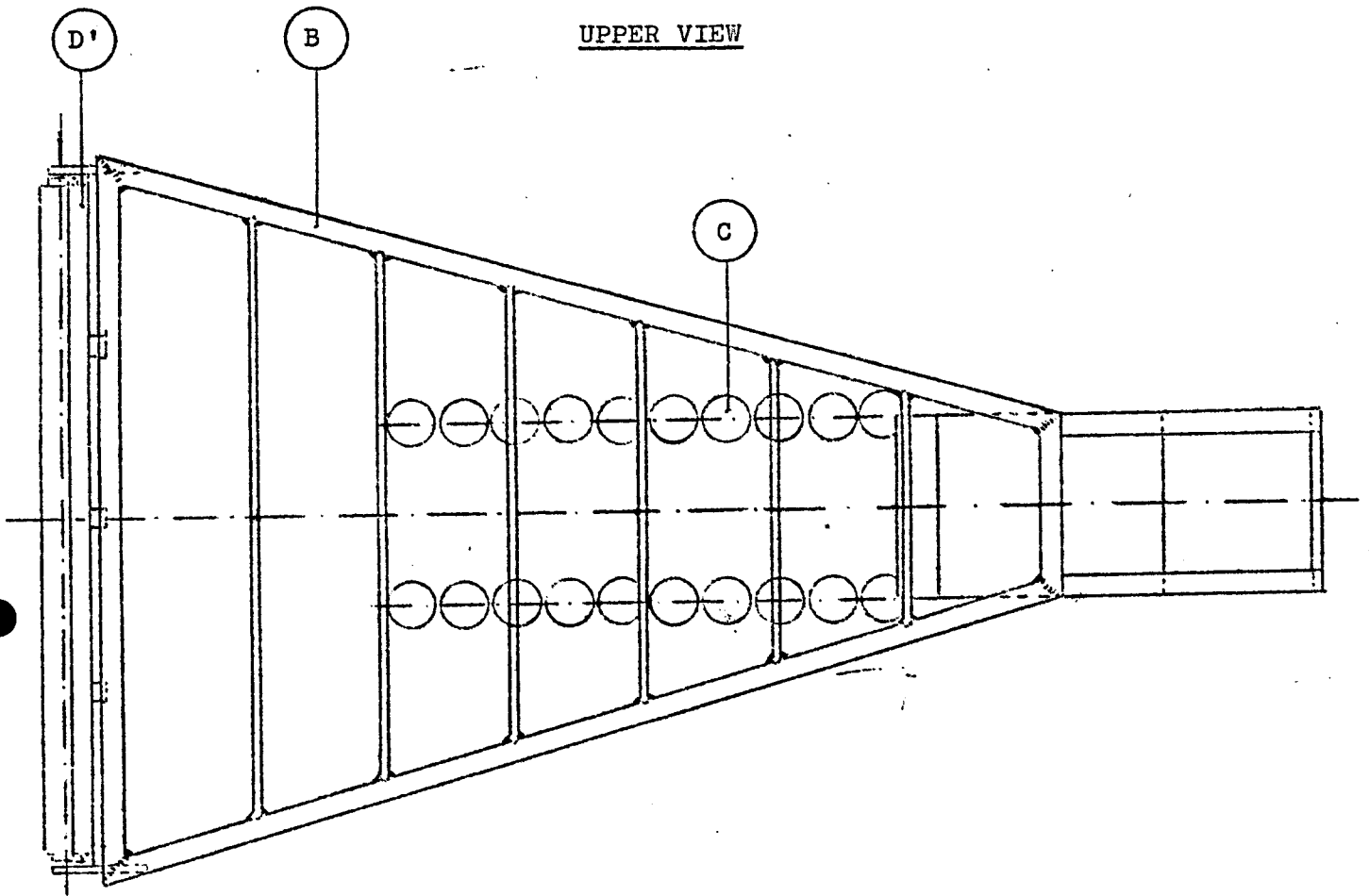
In order to prevent the clogging up of the planktonnet by stones, lumps of dirt a.s.o., a short funnel-shaped and wide meshed net (F) acting as dirt-collector is fixed into the opening of the planktonnet.

The meshsize of the planktonnet (A) is about: 1.1 x 1.1 mm; that of the dirt-collector (F) is at least 1.0 x 1.0 cm. The seams of the planktonnet may be reinforced with an elastic rubber-paste (e.g. "Formflex") to prevent tearing. The planktonnet itself ends into a tube, fixed to the frame and closely fitting into the final collecting tube (G), which is covered at the end by small-meshed gauze. This collecting tube is held in position by strings of elastic rubber (H), which enable an easy putting into position and taking off again before and after fishing. Ofcourse a bayonet-catch might be used here as well.

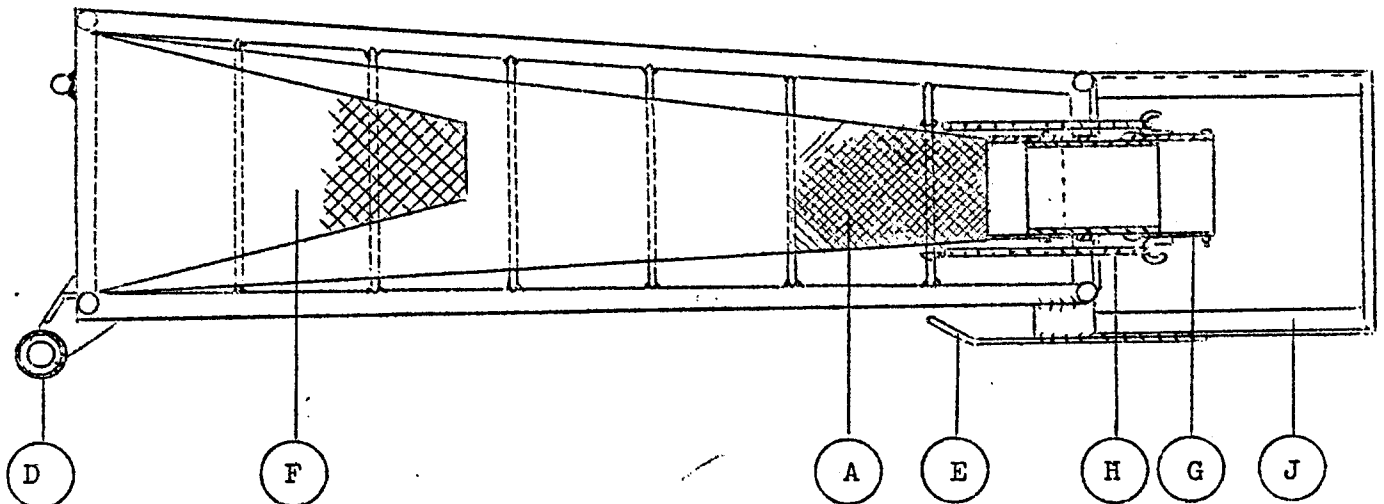
The frame has been provided with a protruding "tail" (J), which protects the collecting tube (G) and which moreover serves as a base when putting the frame upright after a haul has been completed. In that position the contents of the net can easily be washed down into the collecting tube, to be emptied subsequently.

o-o-o-o-o-o-o-o-o-o-o-o-o

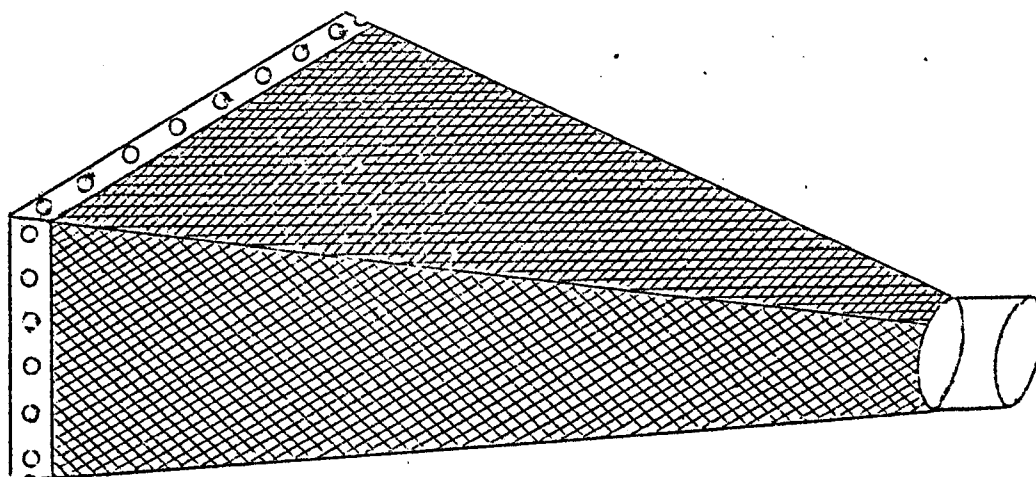
UPPER VIEW



SIDE VIEW



PLANKTON-NET



DIRT COLLECTOR

