

De-Scummer for Beche-de-mer Processing

By

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SEA cucumber other wise known as beche-de-mer of the species *Holothuria scabra* is found in abundance on the sea bed off the north western coast of Sri Lanka. These animals are picked up by divers from depths of 6 to 20 m. and are processed on a cottage industry level for export.

An improved method of processing sea cucumber is discussed in this paper. Details of a machine named de-scummer designed and tested by the authors for operation in this processing method are presented here.

Traditional Method

The outer surface of body wall of the sea cucumber is scum-laden, and this scum needs removal during processing. In the traditional method which is cumbersome, unhygienic and time-consuming the animals are boiled then buried in loose wet sand for ten to twelve hours (during which time bacteria action decomposes and softens the outer scum-laden layer) and are cleaned. They are again boiled before drying. For cleaning, the animals are transferred from burial pits to cane baskets, which are then immersed in the shallow sea and workmen wading knee deep in water remove the scum and surface layer by trampling the sea cucumber in the baskets. The practice of burying the animals in the wet loose sand of the sea shore, increases the possibility of fecal contamination and workers trampling with bare feet would make these products still more unfit for human consumption.

The Improved Method

The boiled sea cucumber are buried in clean sand contained in cement pits for periods of six to ten hours. The animals are next transferred to the de-scummer machine to remove the scum mechanically ; they are boiled again and dried.

De-scummer

The machine consists of a cylindrical trough (Fig. 3) with a lid and a movable base. The base is rotated about its central axis by an electric driven motor. Numerous finger-shaped short rods of rubber (Fig.2) project from the sides, base and the lid into the chamber. The trough is made of stainless steel. Water is led in through an inlet pipe on the lid and drained through the circular gap between the vertical sides and base on to a gutter and into the outlet pipe (Fig. 1 and 4).

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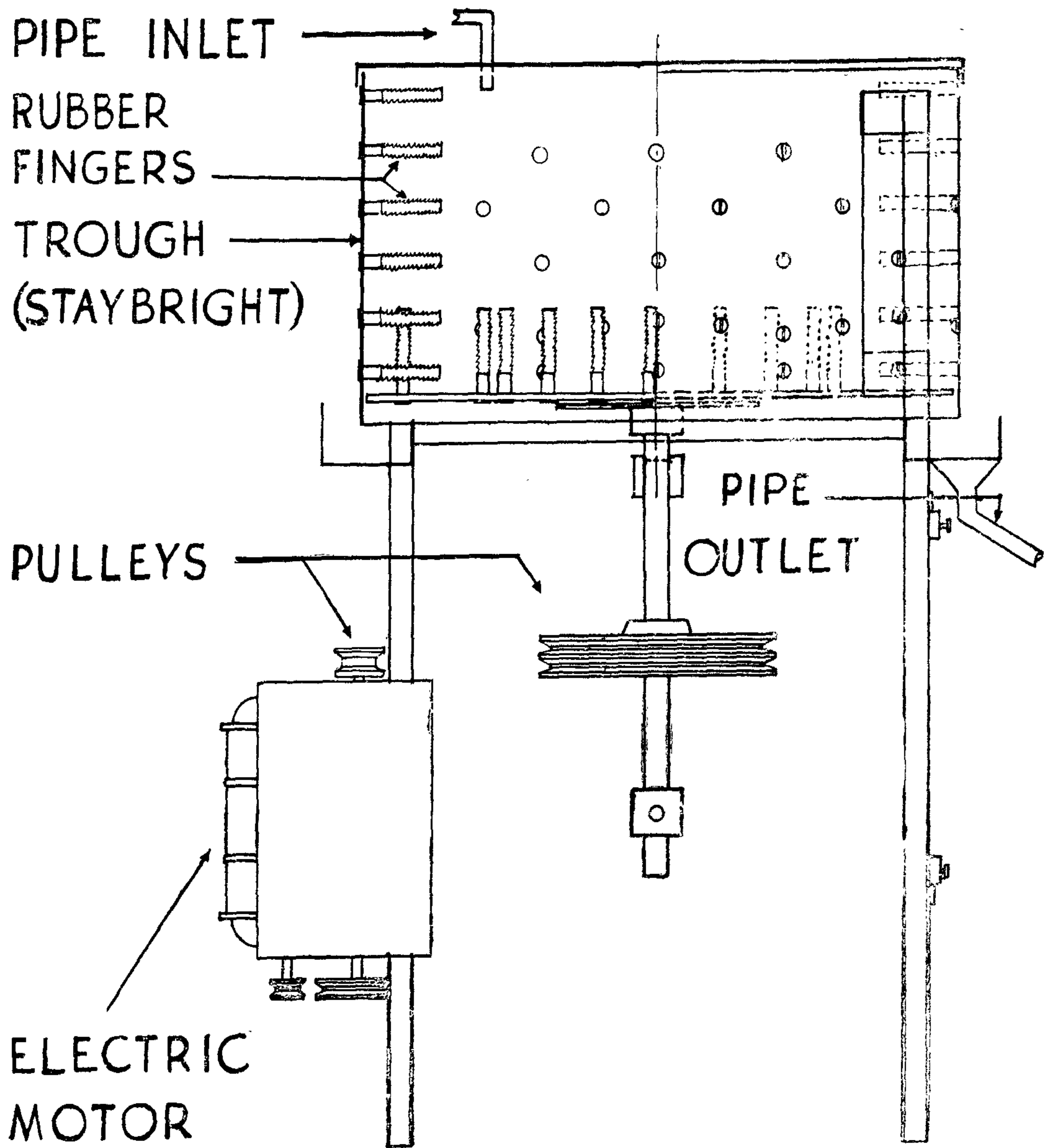


Fig. 1.—Part section and elevation of De-scummer.

RUBBER FINGERS

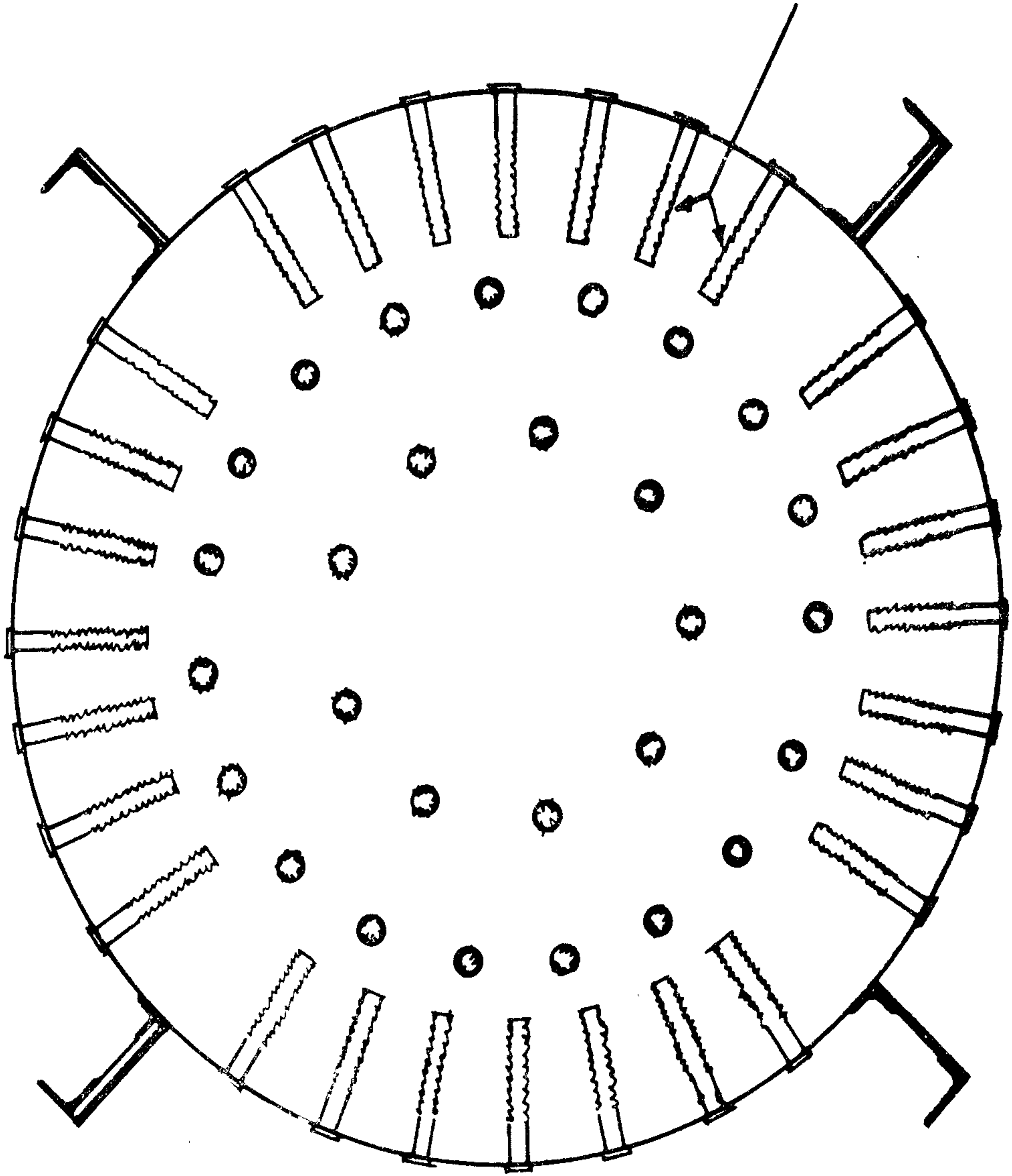


Fig. 2.—Sectional plan of De-scummer.

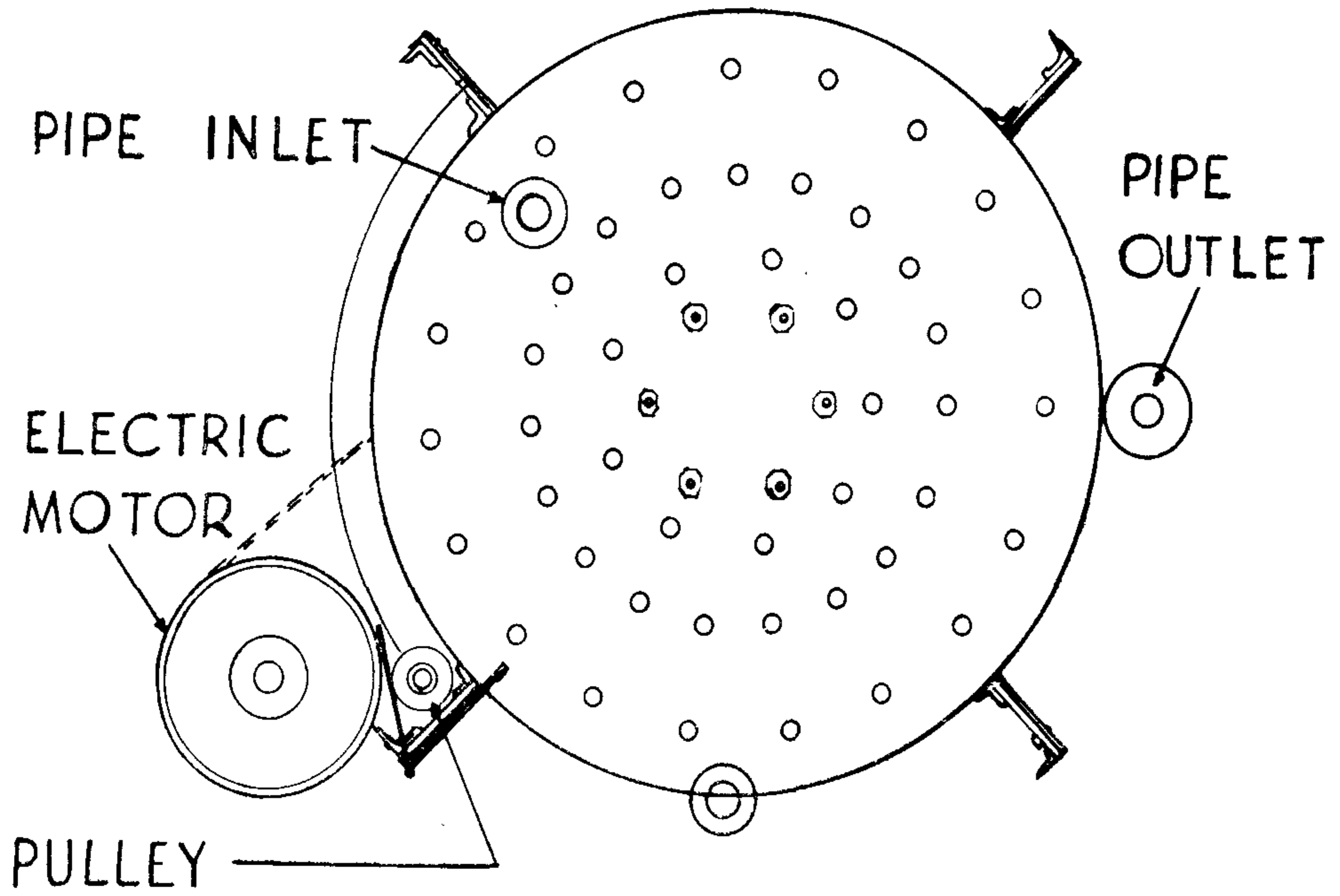
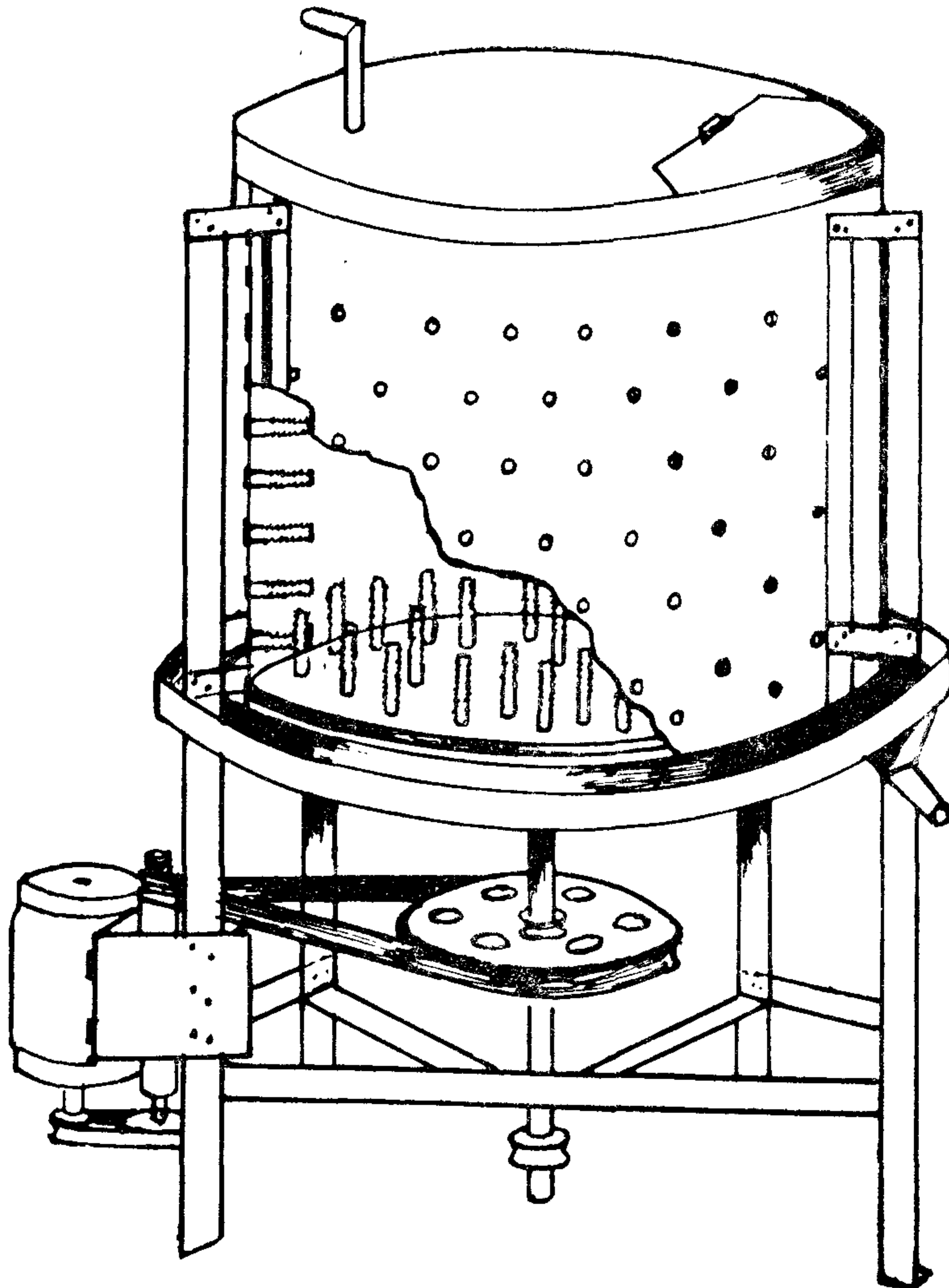


Fig. 3—Plan of De-scummer.



The machine (de-scummer) is fed with raw material, water is led into it and the motor switched on to rotate the base. The grooved rubber fingers rub against the decomposed outer surface of the animals to remove the scum. The scum is carried away with water flowing out of the de-scummer.

The size of the chamber and the horse power rating of the electric motor are factors influencing the capacity of the machine. About 100 sea cucumbers could be cleaned in 5 minutes using a de-scummer with a chamber 1 m. in diameter and 0.45 m. in height, and a base plate rotating at a speed of 120 revolutions per minute motivated by a 3 horse power electric motor.

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