chambers are closely and minutely perforated. The external surface of the wall is nearly smooth, and in particularly well-preserved tow-net specimens spines may be detected closely resembling those of *Globigerina* and *Orbulina*, but more thinly scattered and apparently somewhat more delicate. *Pulvinulina Menardii*, an example of which is here figured in the condition in which it is usually met with in the ooze (Fig. 48), has a large discoidal depressed shell, consisting of a series of flat chambers overlapping one another, like a number of coins laid down somewhat irregularly, but generally in a spiral; each chamber is bordered by a distinct somewhat thickened solid

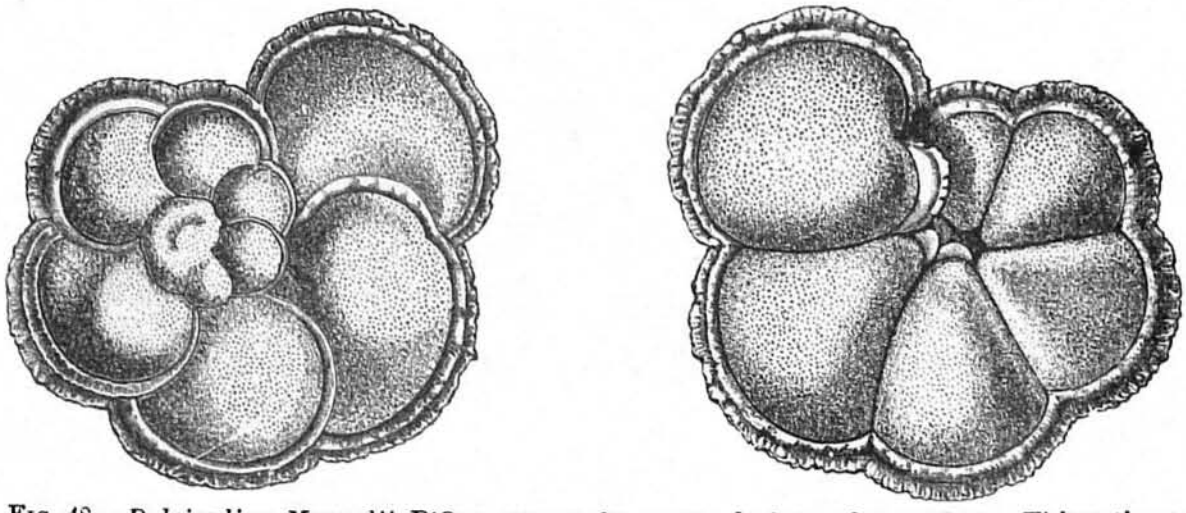

FIG. 48.—*Pulvinulina Menardii*, D'ORBIGNY, *a* the upper, *b* the under surface. Thirty times the natural size. Dead shells from the bottom, at a depth of 1900 fathoms.

rim of definite width. On the lower surface of the shell the intervals between the chambers are indicated by deep grooves. The large irregular opening of the final chamber is protected by a crescentic lip, which in some specimens bears a fringe of spine-like papillæ. This form is almost confined to the warmer seas. It is very abundant on the surface, and still more so during the day at a depth of ten to twenty fathoms in the Mid-Atlantic; and it enters into the composition of the very characteristic "globigerina ooze" of the "Dolphin Rise" in almost as large proportion as *Globigerina*. *Pulvinulina Micheliniana* is a smaller variety: the upper surface of the shell is flattened as in *P. Menardii*, but the chambers are conical and