nized from fossil evidence. The most common of the fossils is a species of *Inoceramus* with coarsely fibrous shell, nearly $\frac{1}{4}$ inch thick, agreeing in size and shape almost exactly with the English *Inoceramus mytiloides* (Sow.), from which it differs in having the hinge-line rather longer, the anterior end more pointed, and the superior posterior angle rather more obtuse. This species I have named, in a paper read recently before the Royal Society of Victoria, *I. Carsoni* (M'Coy), in honour of one of the donors. The second most common fossil is a much larger and broader species of the same genus, which I at the same time named *Inoceramus Sutherlandi* (M'Coy), after the other donor of the specimens, which were so painfully carried, from the remote point indicated to the settled districts, on their saddle. This second species, in form, size, and concentric undulations of the surface, nearly agrees with the French and English common Cretaceous *I. Cuvieri*, but is less curved at the ventral margin near the beak.

The next shell is an Ammonite, in size, number and involution of whorls, shape, markings, and septa, so nearly identical with the very common *A. Beudanti* (Br.) of the French Lower Chalk, that, but for being slightly less compressed, and a slight difference in some of the septal lobes, it could scarcely be separated, even as a variety. I have named it *Ammonites Flindersi* (M'Coy), to call attention to the locality. It may be described as follows:—

Ammonites Flindersi.

Discoid, moderately compressed; periphery narrow, obtusely rounded; whorls $4\frac{1}{2}$, about one-fourth of the width of each exposed in an obtusely angular-edged, flat-sided umbilicus; surface crossed by obtuse sigmoid striæ, some of which are more prominent than the more numerous intervening ones. Diameter 6 inches, proportional thickness $\frac{29}{100}$, width of last whorl $\frac{49}{100}$. Seven much divided lobes in the septa of each side, two of which are within the edge of the umbilicus.

With these shells three vertebræ of a large Teleosteous fish occur.

The matrix of these specimens is an olive calcareo-argillaceous marl.

XXXIX.—*On a new Growing Slide for the Microscope.* By H. L. Smith, Kenyon College, U.S.*

In studying the growth and conjugation of the Diatomaceæ, I have felt the want of some means of keeping them alive for a long time under the microscope, and have devised for this pur-

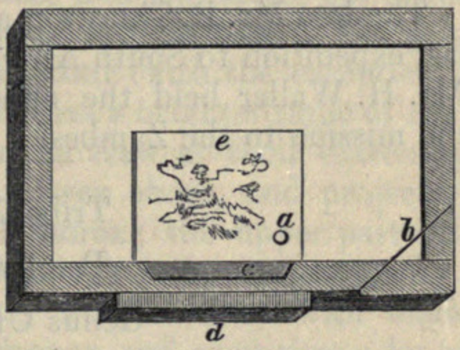
* From Silliman's American Journal of Science, September 1865.

pose the slide to be described, which appears fully to meet all requisitions; and, as it can be readily made by any tolerably expert microscopist, it will, I am certain, be considered a valuable addition to microscopical apparatus.

The whole slide, as I have constructed it, is a trifle more than $\frac{1}{8}$th of an inch in thickness. It consists of two rectangular glass plates, 3 × 2 inches and about $\frac{1}{25}$th of an inch thick, separated by thin strips of glass of the same thickness, cemented to the interior opposed faces, as shown in the figure.

This closed cell, ultimately destined to be filled with water, is not of such thickness as to prevent the use of the achromatic condenser—a very important requisite. The glass I use is such as is employed for the small cheap looking-glasses, and is easily obtained.

The upper plate has a small hole (*a*) drilled through it. This is effected by means of the ordinary writing-diamond and the sharp edge of a broken steel brooch or small rat-tail file. A hole can be drilled through glass of this thickness in a few minutes. One corner of the upper glass is removed, as at *b*, and a small strip of glass cemented at *c* serves to prevent the thin glass cover placed over the object from sliding. Another slip of glass is cemented on the lower side of the cell at *d*, but not extending as far as the removed part at *b*. The object of this is to prevent the water in the cell from being removed by capillary attraction, in case the slide in the neighbourhood of *b* should be a little wetted. This strip is not, however, absolutely necessary.



To use the slide, fill the space between the two plates with clean water, introduced at *b* by means of a pipette, and also place a drop on *a* to remove the air. The object being put on the top of the slide and wetted, is now to be covered with a large square of thin glass, *e*, at the same time covering the hole *a*. The slide can now be placed upright, or in any position, as no water can escape. It is, in fact, only a new application of the old principle of the bird-fountain. As the water evaporates from under the cover, more is supplied through the hole *a*, and from time to time an air-bubble enters at *b*; thus a constant circulation is maintained. A cell of the size named will need replenishing only about once in three days, and this is readily effected without disturbing the object. I have been enabled to make observations by means of this slide which it would have been very difficult, if not impossible, to have made without it.