chambered alveolus in the Belemnite, (Fig. 7. *b. b′.*) but has no Siphon. (Blainville.)

Fig. 4′. Longitudinal section of the apex of the shell of Sepia officinalis. This apex is composed of granular calcareous matter (*a.*), alternating with conical horny laminæ, which expand laterally into the horny margin (*e.*). (Original.)

Fig. 5. Longitudinal view of Fig. 4. The apex (*a.*) represents the apex of a Belemnite. The back of the shell (*e.*) the dorsal part of a Belemnite; and the alveolar portion (*b. b′.*) represents the internal chambered shell of a Belemnite. (Blainville.)

Fig. 6. Anterior extremity of the lamellæ, or alveolar plates, exposed by a longitudinal section in Fig. 5. In the mature animal these lamellæ are nearly 100 in number; a few of them only are here represented.

These alveolar plates form the internal chambers of the Sepiostaire, and represent the transverse plates of the Alveolus in Belemnites, and other chambered shells; but as the Sepiostaire has no siphuncle, its chambers seem not subservient, like those of the Belemnite, to the purpose of *varying* the specific gravity of the animal; the intervals between its plates are occupied by an infinite number of thin winding partitions standing perpendicularly between the lamellæ.

Figs. 6′. 6″. Thin calcareous partitions winding between, and supporting the alveolar plates of the Sepiostaire. The sinuous disposition of these partitions increases their efficacy in resisting pressure, on the same principle, as in the foliated edges of the transverse plates of Ammonites.* The sinuosity of the cal-

* Dr. Fleming has accurately described the structure of these partitions, as exhibiting perpendicular laminæ, waved and folded in brain-like gyrations which occasionally anastomose.