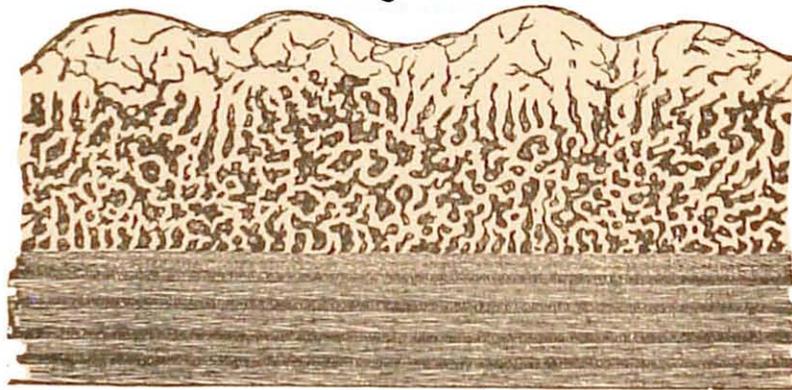


scales of *Holoptychius giganteus* may be selected as representative of those of the family to which it belonged. It consisted of three plates, or rather, like the human skull, of two solid plates, with a *diploe* or spongy layer between. The outer surface was curiously fretted into alternate ridges and furrows; and hence the name of the genus,—*wrinkled scale*; and these imparted to the exterior plate on which they occurred, and which was formed of solid bone, the strength which results from a corrugated or fluted surface. Cromwell, in commissioning a friend to send him a helmet, shrewdly stipulated that it should be a “fluted pot;” and we find that the *Holoptychius* had got the principle of the fluted pot exemplified in the outer plate of each of its scales, untold ages before. The spongy middle plate must, like the diploe of the skull, have served to deaden the vibrations of a blow dealt from the outside. It was a stratum of sand-bags piled up in the middle of a plank rampart. The innermost table was formed, like the outer, of solid bone, but had a different arrangement. It was properly not one, but several tables,

Fig. 100.



SECTION OF SCALE OF HOLOPTYCHIUS.
(Mag. eight diameters.)

in each of which the osseous fibres, spread out in the general plane of the scale, lay at a diverse angle from those of the table immediately in contact with it. The principle was evidently that of the double-woven cloth, or cloth of two in-