

terials, in a manner calculated to combine lightness and buoyancy with strength.

First, The entire shell, (Pl. 35,) is one continuous *arch*, coiled spirally around itself in such a manner, that the base of the outer whorls rests upon the crown of the inner whorls, and thus the keel or back is calculated to resist pressure, in the same manner as the shell of a common hen's egg resists great force, if applied in the direction of its longitudinal diameter.

Secondly, besides this general arch-like form, the shell is further strengthened by the insertion of *ribs*, or transverse arches, which give to many of the species their most characteristic feature, and produce in all, that peculiar beauty which invariably accompanies the symmetrical repetition of a series of spiral curves. (See Pl. 37, Figs. 1—10.)

From the disposition of these ribs over the

occupied by the body of the animal after it had shrunk within its shell, at the moment of its death, leaving void the outer portion only of its chamber, from a. to b., to receive the muddy sediment in which the shell was imbedded.

I have many specimens from the lias of Whitby, of the Ammonites Communis, in which the outer chamber thus filled with spar, occupies nearly the entire last whorl of the shell, its largest extremity only being filled with lias. From specimens of this kind we also learn, that the animal inhabiting the shell of an Ammonite, had no ink bag; if such an organ existed, traces of its colour must have been found within the cavity which contained the body of the animal at the moment of its death. The protection of a shell seems to have rendered the presence of an ink bag superfluous.