

or *Ancylloceras*, which has been aptly described as an ammonite more or less uncoiled; also a furrowed *Nautilus*, *N. plicatus* (fig. 298), *Trigonia caudata*, likewise found in the Blackdown beds (see above, p. 251), and *Gervillia*, a bivalve genus allied to *Avicula*.

Fig. 299.

*Trigonia caudata*, Agass.

Fig. 300.

*Gervillia anceps*, Desh.

Fig. 301.

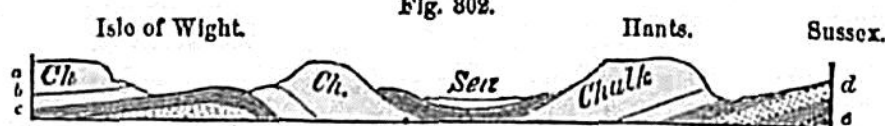
*Terebratulella sella*, Sow.

## WEALDEN FORMATION.

Beneath the Lower Greensand in the S. E. of England, a freshwater formation is found, called the Wealden (see Nos. 5 and 6, Map, fig. 320, p. 271), which, although it occupies a small horizontal area in Europe, as compared to the White Chalk and Greensand, is nevertheless of great geological interest, since the imbedded remains give us some insight into the nature of the terrestrial fauna and flora of the Lower Cretaceous epoch. The name of Wealden was given to this group because it was first studied in parts of Kent, Surrey, and Sussex, called the Weald (see Map, p. 271); and we are indebted to Dr. Mantell for having shown, in 1822, in his *Geology of Sussex*, that the whole group was of fluviatile origin. In proof of this he called attention to the entire absence of Ammonites, Belemnites, Terebratulæ, Echinites, Corals, and other marine fossils, so characteristic of the cretaceous rocks above, and of the Oolitic strata below, and to the presence in the Weald of Paludinæ, Melaniæ, and various fluviatile shells, as well as the bones of terrestrial reptiles and the trunks and leaves of land plants.

The evidence of so unexpected a fact as the infra-position of a dense mass of purely freshwater origin to a deep-sea deposit (a phenomenon with which we have since become familiar) was received, at first, with no small doubt and incredulity. But the relative position of the beds is unequivocal; the Weald Clay being distinctly seen to pass beneath the Lower Greensand in various parts of Surrey, Kent, and Sussex, and to reappear in the Isle of Wight at the base of the Cretaceous Series, being, no doubt, continuous far beneath the surface, as indicated by the dotted lines in the annexed diagram, fig. 302.

Fig. 302.



a. Chalk.    b. Greensand.    c. Weald Clay.    d. Hastings Sand.    e. Purbeck beds.