

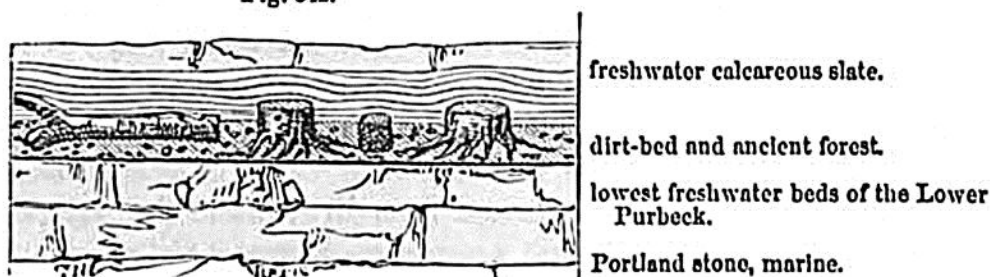
Fig. 841.

*Zamia spiralis.* Southern Australia.

These plants must have become fossil on the spots where they grew. The stumps of the trees stand erect for a height of from 1 to 3 feet, and even in one instance to 6 feet, with their roots attached to the soil at about the same distances from one another as the trees in a modern forest.\* The carbonaceous matter is most abundant immediately around the stumps, and round the remains of fossil *Cycadææ*.†

Besides the upright stumps above mentioned, the dirt-bed contains the stems of silicified trees laid prostrate. These are partly sunk into the black earth, and partly enveloped by a calcareous slate which covers the dirt-bed. The fragments of the prostrate trees are rarely more than 3 or 4 feet in length; but by joining many of them together, trunks have been restored, having a length from the root to the branches of from 20 to 23 feet, the stems being undivided for 17 or 20 feet, and then forked. The diameter of these near the roots is about 1 foot. Root-shaped cavities were observed by Professor Henslow to descend from the bottom of the dirt-bed into the subjacent freshwater stone, which, though now solid, must have been in a soft and penetrable state when the trees grew.‡

Fig. 842.



Section in Isle of Portland, Dorset. (Buckland and De la Beche.)

\* Mr. Webster first noticed the erect position of the trees and described the Dirt-bed.

† Fitton, Geol. Trans., Second Series, vol. iv. pp. 220, 221.

‡ Buckland and De la Beche, Geol. Trans., Second Series, vol. iv. p. 16. Professor Forbes has ascertained that the subjacent rock is a freshwater limestone, and not a portion of the Portland oolite, as was previously imagined.