volcanic, as the internal fires show themselves where the crust is weakest. From this figure we see that the amount of lateral action claimed is very great, as the heights E E on the scale adopted correspond to elevations more than twelve miles above the sea level.

Fig. 126.

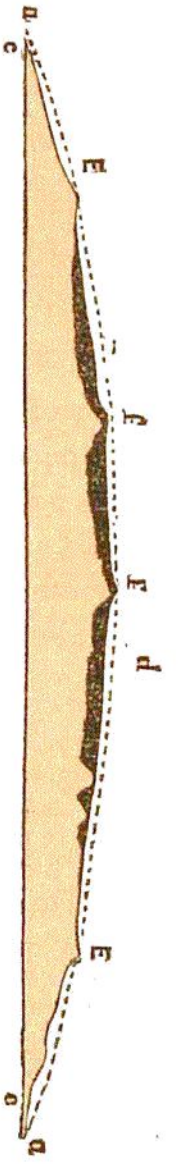

Fig. 1, of our first section, illustrates these principles in the Atlantic Ocean. The West Indies Islands at the west end of the section may be regarded as a part of the western continent, as their position shows them to belong to the continental area. Fig. 126 corresponds more nearly with the arrangement of land and water in and about the Pacific Ocean.

VERTICAL MOVEMENTS OF CONTINENTS.

It is a well established fact, that large tracts of land, and even continents, are now undergoing vertical movements, both of elevation, depression, and as the result, sometimes a see-saw movement. These changes of level can not have been produced by earthquakes.

Examples of Elevation.—The most certain example of elevation of an extensive tract of country, in comparatively recent times, is that of the northern shores of the Baltic, investigated with great ability by Von Buck and Lyell. Some parts of the coast appear to have experienced no vertical movement. But from Gothenburgh to Torneo, and from thence to North Cape, a distance of more than 1,000 geographical miles, the country appears to have been raised up from 100 to 700 feet above the sea. The breadth of the region thus elevated is not known, and the rate at which the land rises (in some places towards four feet in a century) is different in different places. The evidence that such a movement is taking place, is principally derived from the shells of the mollusca now living in the Baltic being found at the elevations above named; and some of the barnacles attached to the rocks. They have been discovered inland in one instance 70 miles.

In other countries similar proofs are relied upon to show elevation. In Scotland, England and Wales beaches containing existing sea-shells are found in many places at various altitudes, from a few feet to 2,300. In North America, as already mentioned, similar relics are abundant in the Northern States and along the southern coast as high as 540 feet. But it has been shown in Section IV. that our country has been elevated at least 2,500 feet during the alluvial period.

Mr. Darwin has shown, beyond all question, that the eastern part of South America has been raised in the most quiet manner, without disturbing the horizontality of the strata, from 100 to 1,400 feet, over an extent of 1,180 miles, since the drift period. It is difficult to explain such a movement by common earthquake action.

Example of Depression.—In the southernmost part of Sweden, in the province of Scania, there has been a loss instead of a gain in the land, amounting to several feet.

Examples of the See-saw Movement.—In Finmark, in Scandinavia, the terraces show that at one end of a district, forty geographical miles in extent, the land