

in 1755, a part of Lisbon; in 1812, a part of Caraccas. About the same time numerous earthquakes agitated the valley of the Mississippi, for an extent of 300 miles, from the mouth of the Ohio, to that of the St. Francis, whereby numerous tracts were depressed, and others elevated, lakes and islands were formed, and the bed of the Mississippi was exceedingly altered. There is a remarkable subsidence, twenty miles in length, and a mile in width just above the Falls, in Columbia river, in Oregon. Through the whole distance the trees are standing in the bottom of the stream, at an average depth of twenty feet. The region appears to be one of extinct volcanoes.

The most extensive elevation of land on record by means of earthquakes, took place on the western coast of South America, in 1822. The shock was felt 1,200 miles along the coast; and for more than 100 miles the coast was elevated from three to four feet; and it is conjectured that an area of 100,000 square miles was thus raised up.

In 1783, a large part of Calabria was terribly convulsed by earthquakes, over an area of 500 square miles. The shocks lasted for four years; in 1783, there were 949, and in 1784, 151. A vast number of fissures of every form were made in the earth, and of course a great many local elevations and subsidences; which, however, do not appear to have exceeded a few feet. In some sandy plains, singular circular hollows a few feet in diameter, and in the form of an inverted cone were produced by the water which was forced up through the soil. Some of these are exhibited on Fig. 122.

Fig. 122



*Holes formed by an Earthquake.*

The ocean is almost always agitated during earthquakes, thus producing waves of translation, often of great size and power. Their effects have been alluded too in the previous section.