

ains one of the most remarkable gas-springs in the world. It is a deep, bosky hollow, from one small space on the bottom of which carbon-dioxide issues so copiously as to form the lower stratum of the atmosphere. Tigers, deer, and wild-boar, enticed by the shelter of the spot, descend and are speedily suffocated. Many skeletons, including those of man himself, have been observed.

As a distinct class of gas-springs, we may group and describe here the emanations of volatile hydrocarbons, which, when they take fire, are known as Fire-wells. These are not of volcanic origin, but arise from changes within the solid rocks underneath. They occur in many of the districts where mud-volcanoes appear, as in northern Italy, on the Caspian, in Mesopotamia, in southern Kurdistan, and in many parts of the United States. It has been observed that they frequently rise in regions where beds of rock-salt lie underneath, and as that rock has been ascertained often to contain compressed gaseous hydrocarbons, the solution of the rock by subterranean water, and the consequent liberation of the gas, has been offered as an explanation of these fire-wells.

In the oil regions of Pennsylvania, certain sandy strata occur at various geological horizons whence large quantities of petroleum and gas are obtained (p. 254). In making the borings for oil-wells, reservoirs of gas as well as subterranean courses or springs of water are met with. When the supply of oil is limited but that of gas is large, a contest for possession of the bore-hole sometimes takes place between the gas and water. When the machinery is removed and the boring is abandoned, the contest is allowed to proceed unimpeded and results in the intermittent discharge of columns of water and gas to heights of 130 feet or more.