shattered rock, to discriminate between joints and those lines of division to which the term fissures is more usually restricted. Many so-called fissures may be merely enlarged joints. It is common to meet with traces of friction along the walls of fissures, even when no proof of actual vertical displacement can be gleaned. The rock is then often more or less shattered on either side, and the contiguous faces present rubbed and polished surfaces ("slickensides," p. 878). Mineral deposits may also commonly be observed incrusting the cheeks of a fissure, or filling up, together with broken fragments of rock, the space between the two walls. The structure of mineral veins in fissures is described in Part IX., "Ore Deposits."

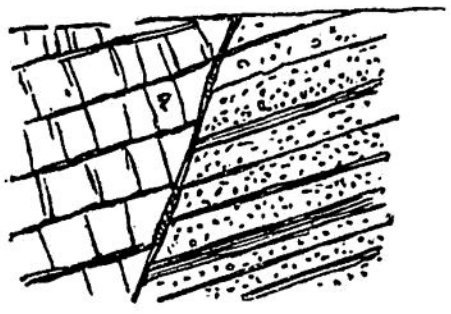

Fig. 260.—Section of sharply-defined Fault without contortion of the rocks.

Nature of Faults.—In a large proportion of cases, however, there has been not only fracture but displacement. The rents have become faults as well as fissures. The movement may have affected only one side of the fissure, or both sides. Sometimes it has consisted in a mere vertical subsidence of one side; in other cases one side has been pushed up, or while one side has moved upward the other has sunk downward, or both sides have been shifted up or down from their original position, but one more than the other. In ordinary faults the displacement is usually vertical or nearly so. But in some regions faults have been produced by a lateral thrust of one side of a fissure past the other side. This structure comes out with remarkable prominence in the gneiss district of western Sutherland, where dikes crossed by such lateral thrusts are disrupted and drawn out along