sions of a cone, for the fissures are not due to shrinkage, although doubtless the loosely piled fragmentary materials, in the course of their consolidation, develop lines of joint. Sometimes the lava has evidently risen in a state of extreme fluidity, and has at once filled the rents prepared for it,

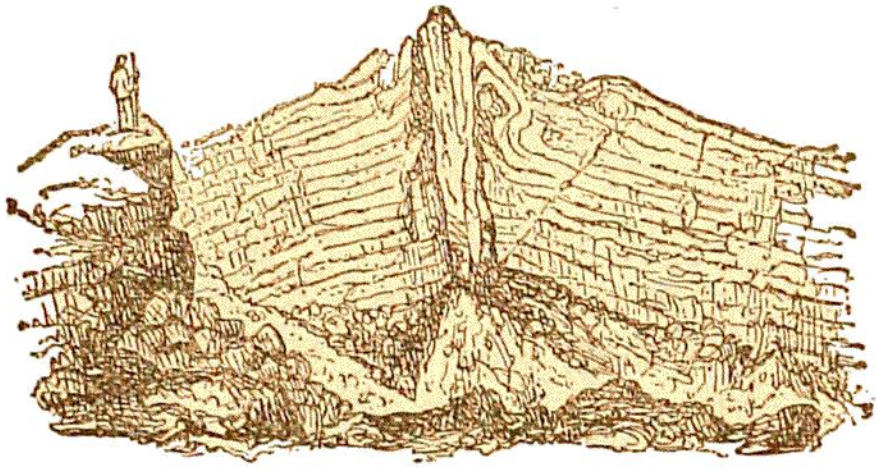

Fig. 43.—Dike contorting beds of tuff. Crater of Vesuvius (Abich).

cooling rapidly on the outside as a true volcanic glass, but assuming a distinctly crystalline structure inside (*ante*, p. 296). Dikes of this kind, with a vitreous crust on their sides, may be seen on the crater-wall of Somma, and not uncommonly among basalt dikes in Iceland and Scotland. In other cases, the lava had probably already acquired a more viscous or even lithoid character ere it rose in the fissure, and in this condition was able to push aside and even contort the strata of tuff through which it made its way (Fig. 43). There can be little doubt that in the architecture of a volcano, dikes must act the part of huge beams and girders (Fig. 44), binding the loose tuffs and intercalated lavas together, and strengthening the cone against the effects of subsequent convulsions.

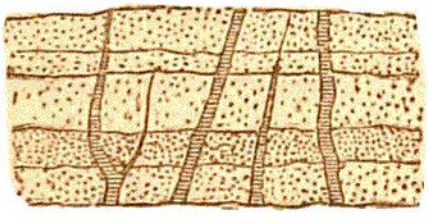

Fig. 44.—Section of Dikes of Lava traversing the bedded tuffs of a volcanic cone.