

have remained filled with lava or with fragmentary matter. But unless subsequent denudation has removed the overlying cone, a vent lies buried under the materials which came out of it. So extensive, however, has been the waste of the surface in many old volcanic regions that the vents have been laid bare. In Fig. 296 two volcanic funnels are represented, one of them still buried under overlying formations, the other partially exposed by denudation. The study of volcanic Necks brings before us some of the more deep-

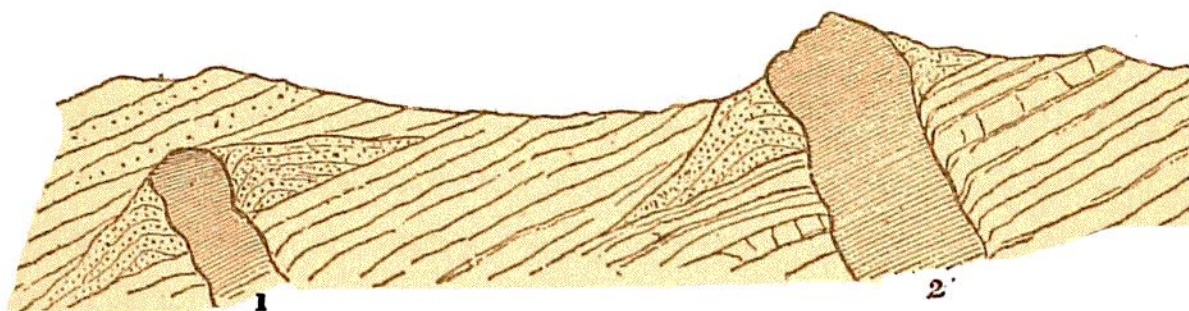


Fig. 296.—Diagram-section to show the structure of old volcanic vents, and how they may be concealed and exposed.

- 1, Tuff cone with basalt plug still buried under sedimentary accumulations;
- 2, Tuff cone and basalt plug partially exposed by denudation.

seated phenomena of volcanic action, that cannot usually be seen at a modern volcano.

A Neck is circular or elliptical in ground-plan, but occasionally more irregular and branching, and may vary in diameter from a few yards (Fig. 297) up to two miles, or even more. It descends into the earth perpendicularly to the stratification of the formation with which it is chronologically connected. Should rocks originally horizontal be subsequently tilted, a neck associated with them would of course be thrown out of the vertical (Fig. 296). As a rule, however, the vertical descent of necks into the earth's crust appears to have been comparatively little interfered with. In external form, necks commonly rise as cones or dome-shaped hills (Fig. 298). This contour, however, is