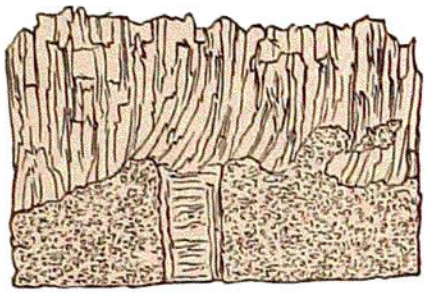
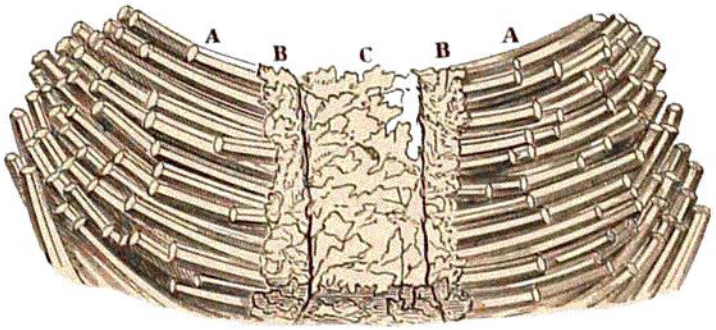
The vertical position shows that the cooling surfaces were (1) the rocks underneath and (2) the air above; and the regularity of position indicates remarkably equable progress through the mass in the cooling. Fig. 219, representing a dike and overflow from the same region, shows the effects of position in cooling surfaces; the dike, with vertical walls having *horizontal* columns, and the overflow, *vertical* columns. The rock intersected and overlaid is a conglomerate, and part of the latter is involved in the basalt.

219.



Dike with outflow, Kiama. D.

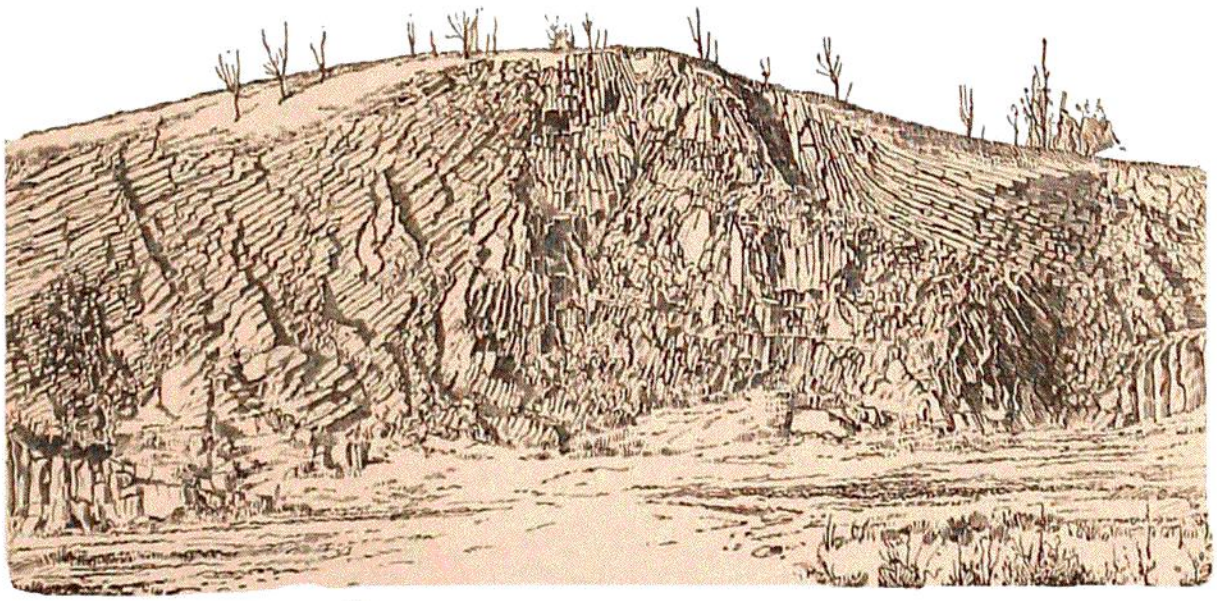
220.



Curved columns, Kiama. D. '49.

The effect of a small ridge (of conglomerate) in making curved columns is shown in Fig. 220. For a short distance the basalt is massive; then the columns — one to four feet in diameter and 30 long — begin abruptly. The low terminal plane of the column is flat; but *this plane is nearly horizontal whatever the obliquity of the prism*, the variation from it where greatest not exceeding 20°. The stream of basalt was 50 feet thick.

221.



Columnar Basalt, Orange, N.J. Iddings, '86.

The trap of the Triassic of eastern North America is usually more or less columnar; and in some places regularly so. At a quarry in Orange, N.J., west of the city, the columns are in groups which are in some parts