

in thickness, at other times they attain a breadth of twelve fathoms or more. The smaller or thinner dikes can seldom be traced more than a few yards; but the larger examples may be followed sometimes for many miles. Thus, in the south and west of Scotland, a remarkable series of basalt and andesite dikes can be traced across all the geological formations of that region, including the older Tertiary basalt-plateau. They run parallel to each other in a general northwest and southeast direction for distances of twenty and thirty miles, increasing in numbers toward the northwest, and they have been assigned to the great volcanic activity of Tertiary time. A dike of the same series crosses the north of England, from near the coast of Yorkshire for about 100 miles inland. A complex system of massive pre-Cambrian dikes occurs in N.W. Scotland.

Though the wall-like form is predominant among dikes, it may readily pass into vein-like ramifications and intrusive sheets (Figs.

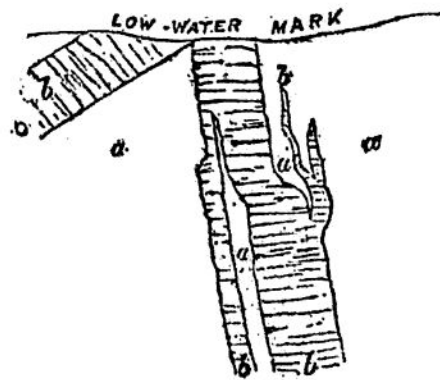


Fig. 295.—Plan of dikes (*b b*) cutting sandstone (*a a*); shore, Gourrock, Renfrewshire.

284, 288). The molten material took the channels that happened to be most available. If the fissure bent off at an angle from its previous trend, or if another adjacent fissure happened to be more convenient, the eruptive rock might change its course. Again, while the ascending lava, under the hydrostatic pressure of the mass below, rose in one main fissure, portions of it might find their way into neighboring parallel rents, and inclose wall-like portions of rock within the dike, as in Fig. 295, where the total breadth of the main dike, including the sandstone between the two arms, is about thirty feet, the sandstone being gently in-