

a bedded or fissile character. This structure, characteristically shown by phonolites, may also be detected among ancient porphyries (Fig. 228). Most massive rocks are traversed by two intersecting sets of chief or "master" joints, whereby the rock is divided into long quadrangular, rhomboidal, or even polygonal columns. A third set may usually be noticed cutting across the columns and articulating them into segments, though generally less continuous and dominant than the others (Fig. 229). When these last-

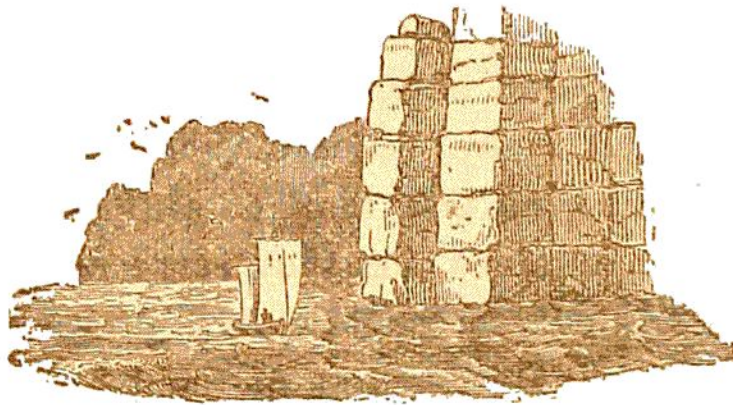


Fig. 229.—Jointed structure of Granite.

named cross-joints are absent or feebly developed, columns many feet in length can be quarried out entire. Such monoliths have been from early times employed in the construction of obelisks and pillars.

In large masses of granite, an outward inclination of the natural divisional planes of the rock may sometimes be observed, as if the granite were really a rudely bedded mass, having a dip toward and under the strata which rest upon its flanks. It is not a foliated arrangement of the constituent minerals analogous to the foliation of gneiss, for it can be traced in perfectly amorphous and thoroughly crystalline granite, but is undoubtedly a form of jointing by reason of which the rock weathers into large blocks piled one upon