

or fences, of common rubble *without* mortar. Such is known as *dry rubble* walling. The stability of these walls is entirely dependent upon the careful interlocking and bonding of the stones.

(a) (ii) **RANDOM RUBBLE, BUILT TO COURSES** (B, Fig. 20).—This walling is similar to the above, excepting that the work is roughly levelled up to form courses varying from 12 to 18-in. thick. These courses usually coincide with the varying heights of the quoin and jamb stones.

In the construction of the wall, the quoins are built first (as for brickwork—see p. 31), the line is stretched level with the tops of the quoin stones, and the intervening walling is brought up to this level. One of the courses is shown numbered in the order in which the stones would be bedded. The stones are set in mortar and at every course the work is well flushed with mortar and pressed into the internal joints.

This forms a stronger wall than the uncoursed type (long continuous vertical joints being more readily avoided), although the somewhat regular horizontal joints at the courses detract from its appearance.

Provided the site and stone are satisfactory, one course of through stones at E (equal to twice the thickness of the wall) is a sufficient foundation for boundary walls, otherwise a double course (E and F) would be required as shown in the section.

Note.—Although the illustrated examples refer to boundary walls, this form of construction has been adopted in the erection of thousands of houses and farmsteads in various parts of the country.

(b) **SQUARED RUBBLE.**—The stone used is generally one which is found in quarries in thin beds, or in thicker beds of laminated stone which can be easily split into smaller units. Little labour is necessary to form comparatively straight bed and side joints; the stones are usually squared and brought to a hammered or straight-cut finish (see p. 36) although they may be given either tooled (see p. 36) or dragged (see p. 38) surface finishes.

Fig. 21 shows a gable wall (*i.e.*, an end wall which is continued up to and sometimes above the roof line and the upper portion of which conforms with the shape of the roof) of a building which may be constructed in any one of the three types of squared rubble. A portion of the wall is drawn to a larger scale in Fig. 22 and details of three varieties are shown. The stones forming the window may be given a smoother finish than that of the general walling so as to form a contrast. A description of the head, sill, mullions, transome and coping is given on pp. 47-51. Brick footings, as shown, would only be adopted if the stone is comparatively expensive. Where stone is readily available, the footings would be of stone as shown in Fig. 20.

(b) (i) **SQUARED RUBBLE, UNCOURSED** (F, Fig. 22).—This is often known as *Square-necked Rubble*. The stones are available in various sizes and are arranged on face in several irregular patterns. A very effective appearance results if the walling comprises a series of combined units consisting of four stones, *i.e.*, a large stone called a *riser* or *jumper* (generally a bonder or through stone), two thinner stones known as *levellers* and a small stone called a *sneck* or *check*.

Although uniformity is neither essential nor desirable, it is found that an extremely well-bonded wall of pleasing appearance results if the approximate depths of the snecks, levellers and risers are in the proportion of 1 : 2 : 3 respectively; thus, if the depth of the sneck is 3-in., that of the levellers would be about 6 in. and the depth of the riser would be approximately 9-in., as shown. The vertical joint between each pair of levellers is more or less centrally over a riser, and the snecks link up with the risers.

The snecks are characteristic of this class of wall (hence the name) and their object is to prevent the occurrence of long continuous vertical joints. As shown

