externally as shown in Fig. 25, or they may be weathered as indicated at C, Fig. 16 ; seatings, as shown at J, Fig. 22, are also formed for the mullions.

The sills are in one length, having a 6-in. wall-hold at each end. They should be solidly bedded *only* under the jambs—and mullions (Fig. 22)—with the intervening portion of each bed left perfectly clear of mortar until the building has completely settled and the mortar in the walling has set. The joint is then neatly pointed.

If this is not done, and the sill is bedded solidly throughout its length as the rest of the work proceeds, the sill may be fractured unless it is very thick and is of very hard stone. This damage is due to the unequal stress produced by the pressure transmitted from the jambs being concentrated only at the ends and not evenly distributed throughout the entire length of the sill ; this unequal pressure tends to cause the portions of the wall immediately below the ends of the sill to settle more than the portion under the centre of the sill. To prevent such damage, each sill is sometimes constructed of three stones as shown in Fig. 22, the two vertical joints (indicated by broken lines at K) being in the same vertical plane as that of the jambs. When this is done the central stone of the sill may be bedded solid.

The appearance of the sill shown in Fig. 22 (the face of which is flush with the wall) is sometimes preferred to that of the sills shown in Fig. 25 which project beyond the wall.

The latter type causes water to drip clear of the wall below, whereas when the face of the sill is in line with that of the wall, disfiguration of a building results (especially if it is faced with Portland or similar light coloured stone) by the staining of the walls immediately below the sills. This is due to the water (which collects dirt from the windows and dust from the weathered portions of the sills) passing down the walls. Further, unless the bed joint between each sill and the wall is well pointed, water proceeds through the joint to cause dampness on the internal face of the wall.

MULLIONS AND TRANSOMES.—The window shown in Fig. 22 is divided into six lights.[1] The vertical dividing stones are called mullions and the horizontal dividing stone is known as a transome. The mullions are rebated to receive the window frames and are chamfered to conform with the jambs, etc. They are connected at the bed joints to the head, transome and sill by *dowels* of either slate or gunmetal, which prevent displacement (see J and p. 52). The transomes are rebated for the window frames, they are weathered and the ends are stooled as for window sills. It is customary to divide a transome into units with a joint over each mullion, as a single stone may fracture if the settlement at the jambs exceeds that at the mullions.

STEPS.—Two steps are shown at the door opening in Fig. 24. The stone should be a hard wearing sandstone and should be carefully selected. Much of the description on p. 28 is applicable to these steps.

PLINTHS.—Brick plinths are described on p. 29. An enlarged detail of the upper portion of the plinth at M, Fig. 24, is shown at Q, Fig. 25, and alternative plinth mouldings are shown at R, S, T, U and V, Fig. 25. In each case the top of the projection is slightly weathered to prevent water lodging and passing through any defect in the joint. The names of the mouldings are stated in the figure.

[1] A window of this type is often provided with steel frames and leaded lights instead of wood frames and sashes. Metal windows are described in Chapter Two, Vol. III.

STRING COURSES.—A string course is a horizontal course of masonry (or brickwork) which usually projects and is provided as an architectural feature. A simple example is shown at E, Fig. 24, and this is detailed at D, Fig. 26. A larger string course is illustrated at B, Fig. 26 ; because of the greater projection, it is possible to incorporate a throat with the lower (ovolo) moulding which prevents water trickling down and staining the work below.

The upper portion of the façade (elevation) shown in Fig. 24 consists of a coping, parapet, cornice and frieze. These are described below in the order that they are constructed.

FRIEZE.—This is a stone course which is surmounted by a cornice. That at D, Fig. 26, is a detail of the frieze shown in Fig. 24. If there is not a projecting member immediately below the frieze (such as a string course or architrave) emphasis may be given to the frieze by projecting it slightly as shown at C, Fig. 26.

CORNICES.—A cornice is a comparatively large projecting moulded course which is fixed near to the top of a wall. Its object is to provide an architectural feature which will serve to discharge water clear of the building and thereby protect the *face* of the wall.

Cornices vary considerably in detail.[1] Two designs are shown in the sections A and C, Fig. 26, and A and D, Fig. 74, the two former being alternative details of the cornice shown in Fig. 24.

The projecting portion of a cornice consists of the *cymatium* and the *corona* (see C, Fig. 26). The cymatium is composed of two or more mouldings, that at C consisting of a narrow flat band or fillet and a cyma recta moulding which is separated by a second fillet from a cyma reversa or ogee moulding. The corona has a comparatively broad vertical face with a recessed soffit which stops water from travelling along it to the face of the wall. The lower portion of the cornice is spoken of as a *bed mould*, which at C consists of a fillet, ogee moulding and a bead.

The upper projecting portion of the cornice is weathered and the vertical joints are *saddled* to prevent water from penetrating them.[2] A saddle joint is shown at A, C, Q and M, Fig. 26. It is formed by rounding off the stone from the top bed to the weathering at each end ; this prevents rain from lodging on top of the joint. The saddle is rendered inconspicuous by bevelling it backwards from the front edge as shown.

The stones are joggle jointed at the ends to prevent any movement due to unequal settlement which would cause irregularity in the horizontal lines of the cornice. Such joggle joints (down which grouted mortar is poured) are shown by broken lines at A and C and by full lines at M. Metal cramps may

[1] See p. 97 concerning the importance of well designed mouldings.

[2] Weathered surfaces of cornices and similar projecting members built of comparatively soft stone should be protected with sheet lead or asphalt (see Fig. 74). Saddle joints are not required when this is done.