

The arch at E differs from the two preceding examples, as it is only a single-ringed arch, each voussoir being moulded as shown at R. The general jointing is chamfered (see P) and the vertical joints of the voussoirs may be also chamfered as an alternative to the plain joints shown.

The application of a stepped extradosed arch to a segmental headed opening is shown at F; the voussoirs are shown coursing with brickwork on the left and, as an alternative, with squared rubble walling on the right. The bed joint of the lower voussoir or springer is below the springing line; this is necessary in order that the springer may be of satisfactory proportions.

Each of the openings shown in Fig. 37 may accommodate a pair of folding doors and a transome light, such as are faintly indicated at A and C.

Examples of six square-headed door openings are illustrated in Fig. 38. Enlarged details of this stonework are shown in Fig. 39.

The height of a classic door opening is at least twice its width, but this proportion is not habitually followed. The example at B and C, Fig. 38, is in accordance with tradition, whilst E and H show the height to be 4-ft. greater than the width, a proportion which conforms to that of most of the standard internal doors listed on p. 87, Vol. I.

The doorway shown in elevation at A, Fig. 38, suitable for a house, is provided with an entablature. The latter consists of a moulded architrave, frieze and cornice. The student is recommended to study a classic entablature, such as that shown at A and B, Fig. 43, in order to become conversant with the proportions of the traditional type. Whilst these general proportions are often departed from in current practice, such divergence should be strictly limited. Two alternative details of this entablature are shown at A and B, Fig. 39. That at A conforms most closely to the elevation; because of the cushion-shaped appearance of the frieze, which is said to be *pulvinated*, the centre of the arc forming the pulvination is obtained as shown at L, Fig. 41. A flat frieze is shown at B, Fig. 39; whilst this is of the same height as that at A, it is usual to make a pulvinated frieze three-quarters of the height of the architrave and a plain frieze equal to the architrave. In accordance with tradition, the width of an architrave is about one-sixth the width of the opening, and the cornice is from one and a quarter to one and a third the height of the architrave. Thus, the classical proportions of this doorway would be as follows: Architrave, $\frac{1}{6} \times 3$ -ft. 6-in. = 7-in. wide; frieze, $\frac{3}{4} \times 7$ -in. = $5\frac{1}{4}$ -in. high (if pulvinated) and 7-in. (if plain); and cornice, $\frac{5}{4}$ to $\frac{5}{3} \times 7$ -in. or about 9-in. (see also G, Fig. 40, and L and M, Fig. 41).

The elevation at A shows ashlar walling on the left and brickwork as an alternative on the right. The moulded jambs may be coursed as shown on the left, or the number of bed joints in the architrave may be reduced as indicated on the right; a bond stone in the architrave, shown by broken lines at S, may be used, or a good bond may be obtained if alternate jamb stones are shaped as shown by full lines at D, Fig. 44. In order to minimize awkward cutting of the brickwork at the cornice, the latter may be finished square as shown by broken lines at T.

A pedimented doorway¹ is shown in elevation at C and in section at B, Fig. 38. A pediment is a triangular feature which crowns a doorway, window, gable, etc.; its lower boundary being the horizontal corona and bedmould, and its sloping boundaries being the complete cornice; the triangular space between these horizontal and raking members is occupied by one or several stones and is called the *tympanum* or core. A modification of this triangular pediment is the segmental pediment, the cornice being curved to the shape of a segment.

The pediment is often made excessively high. This is avoided, and a satisfactory proportion obtained, if the geometrical construction shown at C is adhered to. Thus, with one end "a" of the fillet of the corona as centre and its whole length "ab" as radius, an arc is drawn to intersect the centre line at "c"; with "c" as centre and "cb" as radius an arc is struck intersecting the centre line at "d"; the latter should be the point of intersection of either the bottom of the raking corona as shown or the bottom of the raking bedmould.

It will be observed that the raking cornice consists of the crown mould comprising a cyma recta with fillet, the corona and bedmould. This is shown more clearly in the enlarged detail at C, Fig. 39, where P equals Q. The jointing of the stonework should be carefully studied. The lower end stone or *springer* comprises portions of the cornice, the horizontal corona and bedmould; it courses with the adjacent ashlar, forming top and bottom horizontal bed joints, a vertical joint at the end of the cornice, and the fourth boundary consists of a vertical joint at the horizontal corona and bedmould which is continued as a normal joint at the raking cornice; this latter joint coincides with the intersection between the bottom of the raking bedmould and the fillet of the horizontal corona. The apex stone is also coursed in with the ashlar, the cornice being stopped against the wall face and the upper bed coinciding with the horizontal bed joint of the ashlar. A departure from the latter bed joint is usually made if the stone pediment occurs in a brick wall; here the projecting sloping surface of each stone of the cornice is continued to the back and the brickwork is cut to intersect this raking surface.

A detailed section through the architrave is shown at S, Fig. 39, and a portion of the elevation is shown at R. The stonework at the principal entrance of an important building may be enriched by carving. Many existing examples show very elaborate enrichment, but owing to the high cost of such work, the present tendency is to economize in this direction. Where such decoration is applied, it is usual to limit it to the bedmould, one or two members of the architrave and occasionally to the crown mould. An example of ornamentation is indicated at R. Care should be taken to provide adequate material in the member for the carver to produce the required ornament. Thus, the bead U at S, Fig. 39, formed by the moulding machine (J, Fig. 36), is suitable for the carving of the *bead and real* ornament shown at R; similarly, the ovolo bedmould is suited to receive the *egg and dart* ornament indicated in Fig. 42. An alternative to this architrave

¹ This type is usually deferred to the third year of a course, and the pediment is therefore elaborated in Vol. IV.