

The head (see *k* and *o*) consists of an inner and an outer lining, a *head* or *soffit lining*, an inner bead and a parting bead, although the latter is sometimes omitted.

The solid sill, with staff bead, completes the frame.

As shown at *N* and *S*, the inner and outer linings are each ploughed with a $\frac{3}{8}$ -in. square groove to receive the tongues formed on the pulley stile; the outer lining projects $\frac{1}{2}$ to $\frac{5}{8}$ -in. beyond the face of the stile, and the edge of the inner lining is flush with the face of the stile. The upper end of the pulley stile is either housed or tongued to the soffit lining and its bottom end is housed and wedged to the wood sill (see *A*, *B*, *D*, *E* and *L*, Fig. 61). As shown at *A* and *B*, the lower end of the stile is about $\frac{1}{4}$ -in. below the outer edge of the weathering of the sill, and as indicated at *L*, the wedge is driven in from the inside between the stile and the vertical cut of the housing, and this wedge is securely nailed to the stile. The inner and outer jamb linings extend the full height of the frame (see *B*), the inner and outer head linings butt against the jamb linings at *x* and *y* (see *D*), and as shown at *B* and *E*, the oak sill is cut back at each side to receive the lower ends of the inner and outer jamb linings which are nailed to the sill, pulley stile throughout its length, soffit linings along the tongued and grooved joints and at the butt joints *x* and *y*.

The parting slip extends to within 4-in. (approximately) of the top of the sill and is suspended from the soffit lining. A slot is formed in the latter, the slip is passed through it and either a nail or wood wedge is driven through it as shown at *k* and *o*, Fig. 60, and *A*, *B* and *D*, Fig. 61. The centre line of the parting slip coincides with that of the parting bead.

The back lining extends from the soffit lining to the upper surface of the sill and is nailed to the jamb linings (see *A* and *C*, Fig. 61, and *N*, Fig. 60); occasionally one edge is housed into the jamb lining as shown at *S*, Fig. 60. As shown at *N*, Fig. 60, the clear space between the pulley stile and the back lining must be 2-in. as the diameter of the weights is usually $1\frac{1}{2}$ -in.

As the equivalent to a back lining is not provided at the head, the necessary stiffness is imparted by the use of 3 or 4-in. long triangular blocks spaced along the internal angles between the soffit lining and the inner and outer linings at intervals of from 3 to 6-in., with one placed across each butt joint between the jamb and soffit linings (see *k* and *o*, Fig. 60, and *A* and *D*, Fig. 61). These blocks are glued to the linings.

The inner bead is fixed all round the frame. This bead covers the joint between the inner lining and pulley stile or soffit lining (see *k* and *N*, Fig. 60); these beads are often rebated in good work as shown at *o* and *S*; they are moulded as required and the ends of each length are mitred. A slightly wider and bevelled inner or staff bead is fixed to the sill; the bottom rail of the sash is also bevelled to ensure a reasonably tight fit which prevents the sashes from rattling (see *M*). Alternatively, a deeper *sill bead* (see *Q*) is recommended. This allows the lower sash to be raised several inches to permit air to enter between the meeting rails of the sashes (see later); this incoming air is deflected upwards to minimize draughts and the latter are not caused at sill level. This is sometimes

called a *ventilating piece* or *draught bead*. Inner beads should be fixed with brass cups and screws (see *o*, Fig. 66) to permit of their ready removal when required, although they are more often just bradded (nailed).

The parting bead is fitted tightly into a $\frac{3}{8}$ -in. square groove ploughed in the stile and nailed. The details show a similar bead at the soffit, although this is often omitted in common work; when provided, it assists in excluding rain and draughts.

Access for Weights.—Provision must be made in each pulley stile for fixing weights; such is called a *pocket* and is situated just below the meeting rails of the sashes and extends to about 6-in. above the sill. Two forms of pockets are shown at *A*, *B*, *E*, *F* and *K*, Fig. 61.

Side Pocket.—The sketch at *F* shows this type which is indicated at *A* and *B*. The plan shows the width to extend from the back of the inner lining to the groove for the parting bead which it includes; it is about 1-ft. 3-in. long for average sized sashes and must be at least equal to the length of the weights; the bottom end of the pocket is bevelled at 60° and the top end is V-shaped and bevelled at 60° in both directions.¹ The *pocket-piece* is secured to the stile by a screw at the bottom end in addition to the parting bead which is fixed subsequently. The lower sash and parting bead completely cover this pocket and therefore any damage caused when the piece is removed for sash cord renewals is effectively concealed.

Central Pocket.—This is a less satisfactory form and is shown at *K*; it has a rebated joint at the bottom end and a rebated and bevelled joint at the top. This is not such a good type as that shown at *F* as the outer vertical joint and portions of the horizontal cuts are exposed and any damage caused to them on removal is conspicuous.

Sills.—The several forms of sills should be noted; that at *Q*, Fig. 60 is wider than the sill at *M* to allow the cover mould to finish on it. The water bar at *Q* is shown at the centre of the sill; it is often fixed with the outside of the groove in line with the back of the outer lining so that the bar will arrest any water before it has travelled more than 1-in.

Scantlings of Frame.—As the weight of the sashes is transmitted directly to the pulley stiles, it is customary to prepare the stiles out of thicker stuff than that for the linings. The nominal thickness of pulley stiles and soffit linings is either 1 or $1\frac{1}{4}$ -in., and that of inner and outer linings is either $\frac{3}{4}$ or 1-in. The sizes of the various members are figured upon the drawings.

Attention is drawn to the note in Fig. 60 which states that the details have been drawn to the finished dimensions, and that these are $\frac{1}{16}$ -in. less than the nominal sizes. It should be noted however that the members of the frame are often only planed on their exposed faces and thus the loss in dressing is reduced to $\frac{1}{8}$ -in.; the back lining is usually just dressed along its edges.

¹ The cuts made to form these bevels are made by the *pocket chisel* (see p. 128); the V-shaped top end is formed by making a second cut, and the small triangular piece which is removed is glued and nailed to the back of the stile (see Section *xx*) to form an abutment (cleat) for the pocket-piece.