

The apron is secured by lead wedges (see A and B). Lead tacks are provided as shown at A to secure the free edge, although these are not necessary if the apron is short and especially if the ends are tailed down by slates as indicated at B; the tacks may be continued vertically and let into the joint (as shown) or they may be short and nailed at their upper ends to the top batten.

Long lengths may consist of two pieces, *i.e.*, an apron with a 4-in. upturn and 6-in. dressed over the slates, and a 6-in. wide cover flashing similar to that shown at M, Fig. 72.

(2) *Sides*.—The leadwork at each side of the stack may consist of (a) soakers with a continuous stepped cover flashing, (b) soakers with stepped cover flashing in single steps or (c) a single continuous stepped flashing.

(a) *Soakers with Continuous Stepped Flashing* (see A, F, G and N).—Soakers (see p. 143) are prepared by the plumber and placed in position by the slater; they have a 2½ to 3-in. upturn with 3½ to 4-in. width between slates. Their length equals the gauge plus lap plus 1-in. if the slates are head-nailed and 1-in. less if the slates are centre-nailed; in addition, the length (excepting the upturned portion) is increased by 1-in. for nailing to the roof boarding (see M) or for hooking over the head of the slate when secured to a batten (see C). As shown at A, F, N and O, each soaker laps that above or below it by an amount equal to that of the slates. The stepped cover flashing is formed out of a 6 or 7-in. wide strip to the shape shown at N; the 1-in. wide upper horizontal edges being let into the mortar joints and each is secured with one or two wedges; the size of the steps depends upon the thickness of the bricks and the pitch of the roof, but the distance from the "water line" (see F) to the lower edge should not be less than 2-in. (at F and N, this is shown to be 2½-in.).

A raking cover flashing (see p. 143) is adopted for stone chimney-stacks as the absence of horizontal joints at from 2 to 3-in. apart preclude the use of stepped cover flashings.

The above continuous flashings are not so liable as those described below (b) to be dislodged by the wind.

(b) *Soakers with Stepped Flashing in Single Steps* (see B and C).—The soakers are as described above. The cover flashing is made of scrap pieces of lead to the shape shown at C to give a 2 to 3-in. lap; it is because of this lap that this method is preferred to (a) above, as water does not readily find access between the cut backs and the wall; each step is secured with one or two wedges and the joints which receive the turn-ins of the steps should be well pointed as before described. Sometimes the pieces are shaped with vertical front edges and not cut back as shown. These are not so attractive in appearance as those shown.

(c) *Single Continuous Stepped Flashing*.—Soakers are not used, and in lieu of them the stepped flashing is continued and dressed 6-in. over the slates. In appearance, therefore, the lower portion resembles the apron at L, whilst the upper portion is similar to the flashing at N. This method is not as sound as either (a) or (b), as water may be blown between the slates and wings of the

flashing or it may enter by capillary attraction, and it does not look well. Its use is on the decrease, except where pantiles or similar interlocking tiles are used as a roof covering.

(3) *Back*.—The leadwork here consists of a gutter and cover flashing. As shown at E, the angle at the intersection is blocked by a triangular piece of wood which is shaped and given a slight fall in both directions from the centre (see O and the broken line at G). A tilting fillet should also be provided (although this is often omitted) and this should be tapered as indicated at O and K in order to prevent the slates immediately above the ends of the gutter from riding. The sketch at K shows the piece of lead which has been bossed (or lead-burned) to the required shape before fixing. The 6-in. wide cover flashing is shown at E and the ends are returned (see A and F).

*Finish at Ridge* (see B).—The end piece of lead ridge covering is turned 2-in. up the wall and the central piece of cover flashing—called a *saddle-piece*—is turned over the ridge to form a cap.

GENERAL.—A roof is made watertight at the intersection between its slope and brickwork or stonework (as at J and M, Fig. 36) by using an apron flashing with cover flashing. Similarly, any of the three types of flashings (a), (b) and (c) is used to exclude water at the intersection between roofs and gable walls (such as that shown in Fig. 21). In inferior work, *cement mortar fillets* are used instead of leadwork at such intersections; these are triangular fillets formed on the slates and against the brickwork or stonework; this is a very unsound substitute, as sooner or later the fillets crack (and sometimes fall away), causing the roof to leak.

PROTECTION OF STONE CORNICES AND STRING COURSES.—It is especially necessary to protect the upper projecting courses of stonework against the action of rain-water which is converted to diluted acid in polluted atmospheres. The two materials generally used for this purpose are (a) lead and (b) asphalt.

(a) A lead-covered cornice is shown at A and C, Fig. 74, 5 or 6-lb. lead being used. A raglet, about ½-in. wide and ¾-in. deep, is cut along the face of the stone parapet to receive the edge of the upturn which is secured either by burning-in or wedges (see pp. 143 and 144). If the parapet is of brickwork, the upturn is secured by wedges in the usual way. Exceptionally wide cornices should have free upturns which are protected by cover flashings. The lower edge of the lead is doubled and dressed over the fillet or nosing to project about ¼-in. to allow water to drip clear of the moulded stonework (similar to that at B). The transverse joints between pieces of the lead (which are 7 to 9-ft. long) are welts similar to that shown at D, Fig. 73. *Lead dots* (also known as *dowels*, *rivets* or *buttons*) are used to secure the covering against the action of the wind; dovetailed square or circular holes are formed in the cornice at about 3-ft. centres (see C); the lead after being bossed is holed, with the edge of each hole turned up slightly, and a metal dot mould (see B', Fig. 76) is then used to form the dot by pouring molten lead through the small hole in the mould (see A and C); sometimes the "cup" of the mould is semispherical to form dots having curved