

## CHAPTER XVIII.

### CONSTRUCTION OF A LARGE VENTILATOR

The manner in which a large ventilator is constructed and fastened to a wooden curb is shown in detail in Fig. 215, in which a half elevation and a half-constructive view are given. In the half-sectional view A shows the wooden curb, over which the flashing is set, as shown by B. The inner body of the ventilator is made up in one piece, as shown by C D, over which E F, the outer body, is set, thus leaving an air space X between the two.

This air space is allowed to create a suction. Semi-circular openings are cut in the lower part of the outer body, as partly shown by a and b in the elevation, Fig. 215. As the wind circulates the air through these openings from  $a^1$  to  $a^0$  in the section, a suction is created which carries off the foul air from the inside indicated by the arrows G. H. J. K. and L, also indicated in the front by  $a^v$   $a^t$ .

The cap or hood M is secured to the body of the ventilator E F before the outer body E F is soldered to the base N. On a large ventilator 16 braces are used, two on each side, the full brace being bolted, as shown from E to O, and the branch brace as shown from P to R. The 16 support braces shown from V to N are then bolted to the inner body, resting upon the curb as shown. When the ventilator is set on the curb, fastening straps are bolted at S and screwed to the curb at T and U.

When the curb is constructed of angle iron, as in fireproof structures, the base of the ventilator is

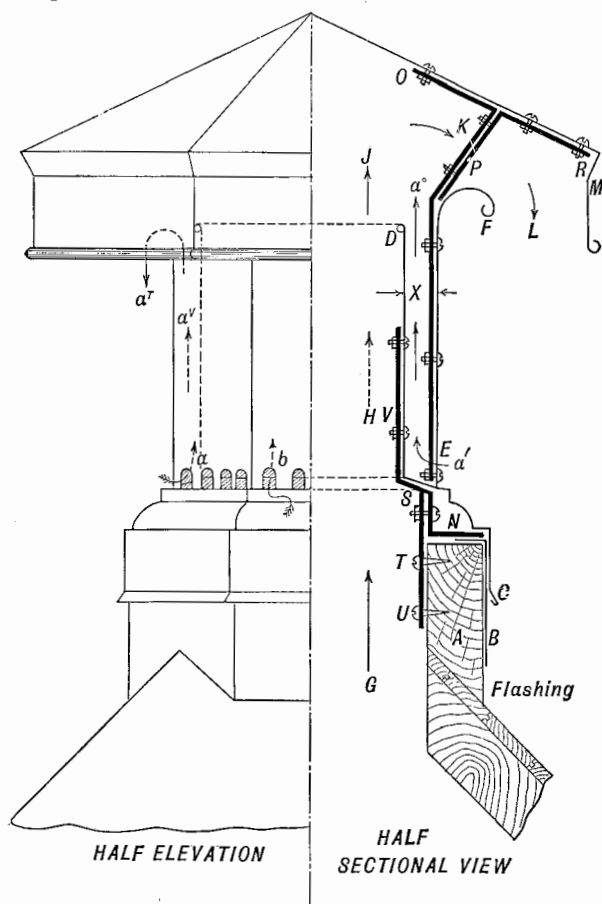


Fig. 215—Method of Constructing and Fastening Large Ventilator on Wooden Curb

secured, as shown in Fig. 216, where the brace of the ventilator is bolted at A to the angle iron curb B.

Where the bolts pass through the metal hood of the ventilator and through the wrought iron braces, the bolt heads are capped water tight, so as to avoid

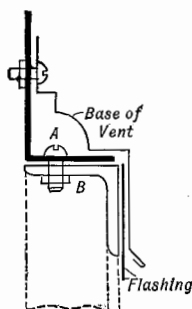


Fig. 216—Fastening the Ventilator to Angle Iron Curb

leakage. To make the caps use a one-inch hollow punch, and punch out of scrap metal a sufficient number of discs on a block of lead or wooden joist. By

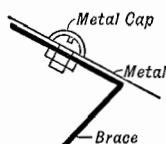


Fig. 217—Capping the Bolt Heads to Prevent Leakage

giving a heavy blow with the hammer when punching these discs, brings them to a concave shape, which should not be flattened. They are then soldered over the bolt heads, as shown in Fig. 217.