June 1, 1926. 1,586,519

A. A. CRAIG

WINDOW VENTILATOR

Filed April 3, 1922

Fig. 1

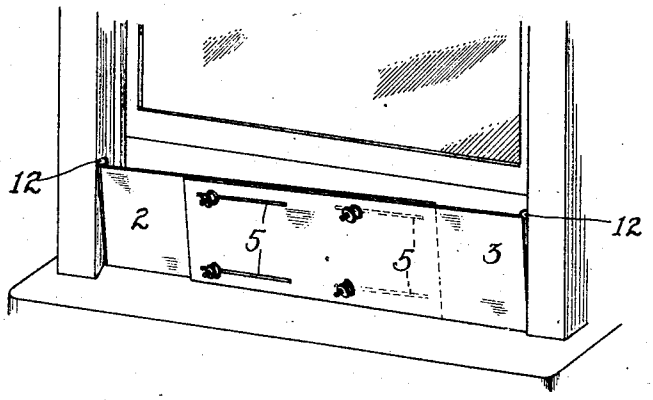


Fig. 3

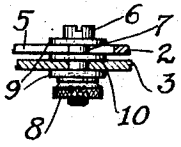


Fig. 2

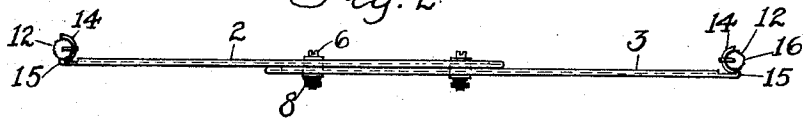


Fig 4

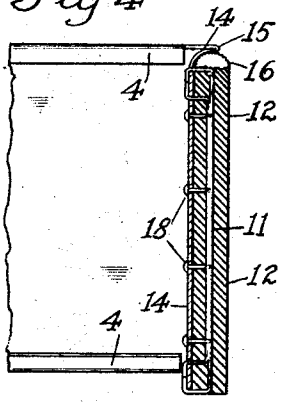
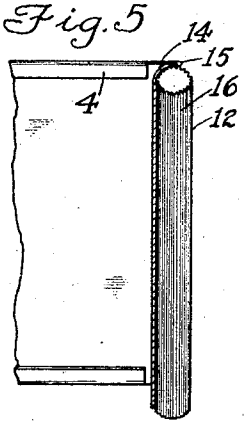


Fig. 5



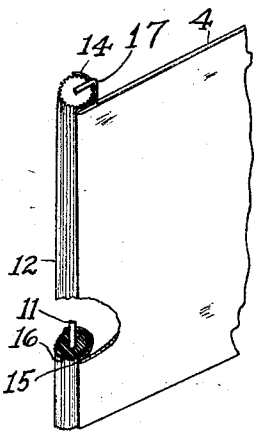


Fig. 6

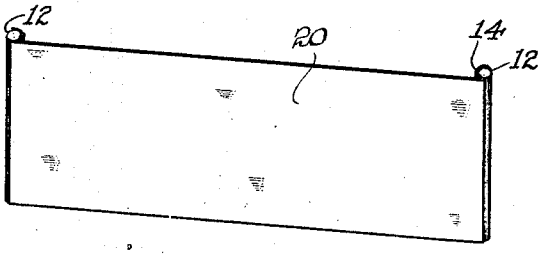


Fig. 7

Inventor
Arthur A. Craig
By Brown, Boettcher & Dienner
Attorneys

Patented June 1, 1926. 1,586,519

UNITED STATES PATENT OFFICE.

ARTHUR A. CRAIG, OF CHICAGO, ILLINOIS.

WINDOW VENTILATOR.

Application filed April 3, 1922. Serial No. 548,973.

My invention relates to ventilators.

More particularly my invention relates to that type of ventilator disclosed in my copending application, Serial No. 501,083 filed September 6, 1921. In this application I have illustrated a plurality of panels assembled in extensible relation, having frictional gripping members at the window engaging ends, so that upon extending the panels the frictional engagement securely holds the ventilator in position in the window.

In the development of window ventilators, simplicity of design, cheapness of construction, and universality of adaptation are the most important factors. A substantial construction usually can be obtained, but never at such cost as to make the device practical and useful in almost every case wherever a ventilator is desirable. I find that in some instances, the use of holding devices attached directly to the window frame by nails or bolts is highly objectionable because of the resultant mutilation to the window frame; while, in other instances, the provision of holding devices increases the cost of production. It is with the view of overcoming these objections that I have designed the present ventilator, being fundamentally simple in structure, and effective to the end of producing a device embodying all the necessary requirements of a practical ventilator.

In my prior application, the friction means carried at the window engaging ends of the panels was illustrated in the form for reinforcing members covered by material of high frictional quality about the engaging surfaces. In the present invention, I propose to improve this construction by eliminating the reinforcing members and in their stead, form socket members on the edges of the panels themselves. While the present disclosure illustrates these socket members integral with the panels, it is evident that they may be constructed separately and then attached to the panels.

A further object of the invention is the provision of novel means for permanently securing the friction strips in the socket members so that the binding engagement of the ventilator in the window frame, which causes compression of these strips, will not loosen them from their mounting. In order to apprise those skilled in the art how to construct and practice my invention, I shall now describe an embodiment of my invention in connection with the accompanying drawings; in which,

Figure 1 is a fragmentary isometric view of a window frame having a ventilator, which embodies my invention, inserted therein;

Fig. 2 is a top end view of the ventilator;

Fig. 3 is a detail view of the bolt employed to hold the panels in extensible relation;

Fig. 4 is a detail view looking slightly downwardly at the window engaging end of a panel;

Fig. 5 is a similar view but illustrating a slight modification of the manner of carrying the friction strip;

Fig. 6 illustrates a modification along the same line; and

Fig. 7 is a view of a single panel ventilator embodying my invention.

The construction which is shown in Figure 1, preferably comprises panels 2 and 3, carried in extensible relation so that the ventilator may be adapted to windows of different widths. These panels lie face to face against each other, but do not contact over the entire area, being spaced apart a minimum distance without destroying the closeness of position necessary to obtain an arrangement preventing currents of air from escaping therethrough.

The panels 2 and 3 are each formed out of a single piece of material, preferably by a stamping operation, so that the longitudinal edges 4 are bent back upon themselves for reinforcement. It will be noted that the bent over longitudinal edges of panels 3 are on the side which engages the panel 2, and that the face of the latter panel thus engaged is flat from end to end, so that the panels are slightly spaced apart by the turned over edges 4 of the panel 3. These turned over edges 4 uniquely enter into the novelty of the construction, in that they reduce the engaging surfaces of the panels, and hence the friction, in order to permit easy movement of the panels, when the ventilator is adjusted to a certain size window frame.

The part of the ventilator's construction which effects its extensibility comprises a plurality of non-registering slots 5, cut in the panels at their inner overlapping ends, and bolts 6, stationarily mounted in the opposite panel for sliding in the slots. As shown in Fig. 3, the threaded shank of the

bolt 6 passes from the panel 2 through the slot 5 and into the panel 3, with its free end carrying a thumb nut 8. Collars 9 are disposed between the head of the bolt 6, and also the thumb nut 8, and the panels, so that a proper bearing between the former two and the latter will be obtained, while, a collar 10 is carried on the bolt 6 between the panels to prevent destroying the spacing provided by the turned over edges of the panels 3.

When the panels 2 and 3 are adjusted so as to fit tightly in a window frame, their outer ends bind against the frame. The binding action is such that these ends are slightly compressed to obtain the friction required to hold the ventilator in place. I have provided, in this instance, a strip 12 of cylindrical conformation at each of said ends, which strip is of material having a high frictional quality, preferably rubber. However, it is apparent that various kinds of material will serve equally as well.

The outer end of each panel 2 and 3 is formed into a semi-circular socket 14, which partially embraces the strip 12, so that a portion of the cylindrical surface of this strip is exposed beyond the extreme outer edge of the panels themselves, this edge being designated 15. The cylindrical surface of the strips 12 are provided with vertical flutes 16 from end to end, which enhances the frictional ability of the strips, and also provides a plurality of grooves transverse to the semi-circular line of engagement between the strip and socket, into which cement may flow, if used, for obtaining an increased locking engagement. That is to say, the cement interlocks with the strips by means of a plurality of ridges formed by virtue of the flutes, these ridges lying perpendicular to the engaging surface between the strip and socket. This form of locking the strips to the outer ends of the panels is illustrated in Fig. 5.

In Fig. 6, I have shown substantially the same construction, but the strips 12 in this instance have an internal reinforcing rod 11 extending lengthwise with its ends projecting beyond the ends of the strips 12, but turned down and around the back of the sockets 14, so as not to protrude and interfere with the engagement of the ventilator with the window sill. In addition to this, the turned over ends 17 of the rods 11 function to lock the strips 12 in the sockets 14. I propose to use cement in this instance, in order to secure a rigid mounting of the strips 12, from end to end.

Where the use of cement is not desired, various means may be employed to grip the intermediate portion of the strips 12 to the sockets 14. In Fig. 4, there is illustrated a plurality of screws 18 passing through the wall of the socket 14 and then into the rod 11. Before the rod 11 is inserted, the ends thereof are slitted, with one strand passing through the strips 12, at a point adjacent to the end, and also through the wall of the socket 14. The other strand extends to the very end of the strip, but countersunk so as to lie flush with the end thereof. The ends of these two strands are then bent over so as to meet each other. This manner of interlocking the ends of the rods 11 with the sockets 14 and strips 12, is unique, in that it is effective and presents a finished appearance.

While I have disclosed in the foregoing description a ventilator which is extensible, it is apparent that my invention may be embodied in a single panel ventilator constructed to fit in a certain size window frame. This form of ventilator is illustrated in Fig. 7. The panel 20 is provided with sockets 14 at each end, carrying the friction strips 12 in a manner similar to the forms previously described.

Without further elaboration, the foregoing will so fully explain the gist of my invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service, without eliminating certain features which may properly be said to constitute the essential items of novelty involved, which items are intended to be defined and secured to me by the following claims.

I claim:

1. In combination, a sheet metal ventilator of panel formation adapted for insertion in a window frame, a compressible retaining element carried at one end of said ventilator, a socket member on said panel for carrying said compressible element, said socket member being integral with and formed by bending back the end of the panel upon itself to constitute a socket conforming substantially to the shape of said compressible element.

2. In combination, a ventilator adapted for insertion in a window frame, a compressible element extending a substantial distance along the ends of said ventilator, mounting means for said element, a rod passing through said element and projecting from the ends of the latter, said projecting ends being turned over so as to interlock with said mounting member, and means serving to hold said element intermediate its ends in said mounting means.

3. In combination, a ventilator comprising a panel of sheet metal having one of its ends formed into a relatively cylindrical socket, a compressible element secured to said socket by cement, said compressible member being relatively cylindrical in form.

In witness whereof, I hereunto subscribe my name this 30 day of March, 1922.

ARTHUR A. CRAIG.