April 16, 1929. J. W. RUNGE 1,709,491

WINDOW VENTILATOR

Filed Nov. 17, 1926

Fig. 1.

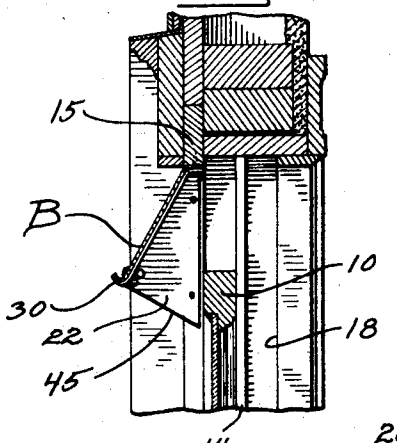


Fig. 2.

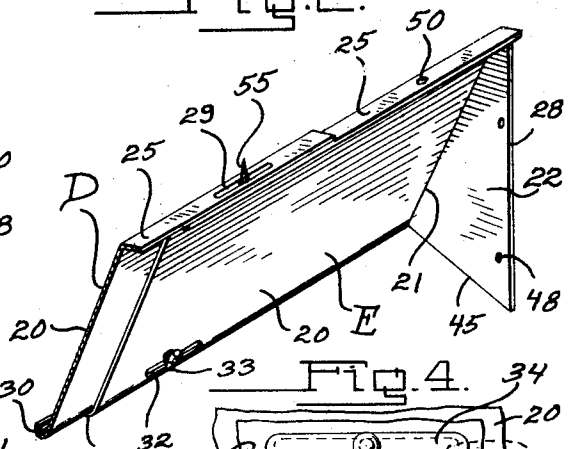


Fig. 4.

Fig. 3

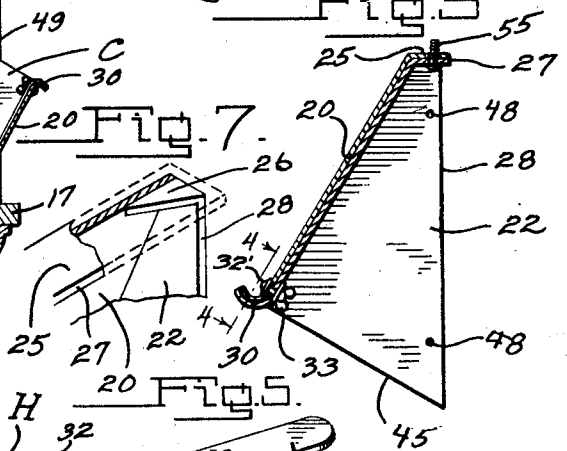


Fig. 7.

Fig. 6.

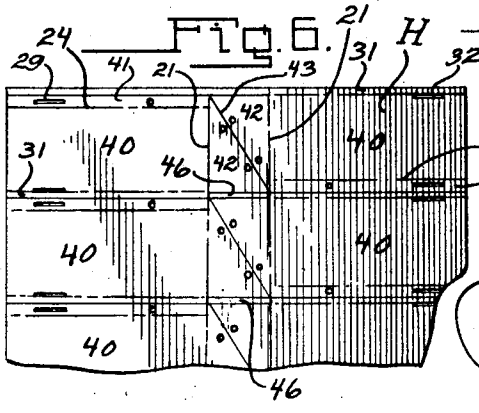
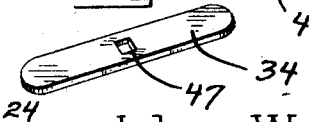


Fig. 5.



John W. Runge

Inventor

By Lancaster and Allwine

Attorneys

Patented Apr. 16, 1929. 1,709,491

UNITED STATES PATENT OFFICE.

JOHN WILLIAM RUNGE, OF PASSAIC, NEW JERSEY.

WINDOW VENTILATOR.

Application filed November 17, 1926. Serial No. 148,949.

The present invention relates to ventilators, and more particularly to devices of this character adapted for attachment to windows.

The primary object of the invention is to provide an improved window ventilator adapted for attachment either to the top or the bottom of window casings of double hung windows.

A further object of the invention is to provide a window ventilator which may be readily stamped from sheet metal and embodying adjustable features whereby the ventilator may be adjusted so as to fit windows of various widths.

A further and important object of the invention is to provide a sheet metal window ventilator which is so formed as to permit of the sections thereof to be readily stamped from sheet metal with no loss of material, and thus materially reducing the cost of manufacture of the ventilators.

A still further object of the invention is to provide an adjustable window ventilator adapted for attachment either to the top or lower sash of a window casing, and which when applied to the top of the window casing, one edge thereof acts as a gutter for conducting rain off at the ends of the ventilator, and which edge when the device is applied to the lower edge of the window casing, forms a curled edge for preventing possible injury to one's hand when raising the lower sash of the window.

Other objects and advantages of the invention will be apparent during the course of the following detailed description, taken in connection with the accompanying drawing, forming a part of this specification, and in which drawing,

Figure 1 is a vertical section through a double hung window construction and showing two of the devices in use upon the window construction.

Figure 2 is a fragmentary perspective view of one of the ventilators and showing the sections thereof in telescopic relation.

Figure 3 is a transverse section thru one of the ventilators shown in position for attachment to the upper side of the window casing.

Figure 4 is an enlarged fragmentary section on line 4—4 of Figure 3.

Figure 5 is a perspective view of the elongated washer shown applied in Figure 4.

Figure 6 is a view illustrating the manner in which the sections of the ventilator may be economically stamped from sheet metal blanks.

Figure 7 is a fragmentary perspective view partially in section, and illustrating certain details of construction.

Referring to the drawing in detail, and wherein similar reference characters designate corresponding parts throughout the several views, the letter A may designate a conventional type of double hung window construction, provided with upper and lower ventilators B and C respectively, the ventilators B and C being of identical construction and each comprising a pair of duplicate sections D and E.

The window casing or frame A, and which is of the usual double hung type, embodies upper and lower sashes 10 and 11 respectively slidably mounted between the inner and outer stop beads 12 and 13 respectively, and separated by the usual parting bead 14. Connecting the upper ends of the outer stop bead 13, is the usual horizontal header bead 15, the inner edge of which extends parallel with the inner edge of the vertical stop bead 13. The casing A also embodies the usual sill 16 and the stool 17, the outer edge of which extends flush with the outer edge 18 of the vertical inner stop bead 12.

The duplicate sections D and E of the ventilator, and which may be economically stamped from a sheet of metal H as illustrated in Figure 6, each embodies a shield or deflecting portion 20 bent at a right angle along the line 21 for providing triangular shaped end walls 22 in the form of right angled triangles. That marginal edge of each shield portion 20, adjacent the apex of the triangular shaped end wall 22, is bent inwardly along the line 24 for providing attaching flanges 25 which extend throughout the length of each of the shield portions. The triangular shaped apex of each of the end walls 22, is bent inwardly beneath its attaching flange 25 as at 26, in Figure 7, and if so desired may be soldered or welded to the attaching flange for retaining the end wall in right angular relation with its respective shield portion. By so having the base of the triangular shaped apex portion 26 of less length than the width of the attaching flanges 25, allows for the inner edge 27 of the attaching flanges to project slightly past the attaching edge 28 of the triangular shaped end walls 22. The object in so having the edge

27 project slightly past the attaching edge 28, will be subsequently explained. Provided adjacent the inner end of each of the attaching flanges 25, is an elongated slot 29 which extends longitudinally of the flanges, and which slots are intended to align one with another when the duplicate sections D and E are in telescopic relation with the flanges 25 in partially overlying relation to one another. These attaching flanges 25 aside from providing a suitable attaching edge for the sections D and E, also serve as strengthening means for the sheet metal shield portions.

The opposite or free edge of each of the shield or deflecting portions 20 is provided with an outwardly curled edge 30, and which curled or turned edges 30 act for holding the outer edges of the duplicate sections in telescopic relation. These curled edges 30 are formed by curling that portion of the blank indicated by the numeral 31 in Figure 6. Provided in each of the shield portions 20, immediately inwardly of the curled edge 30, is an elongated slot 32, and which slots when the duplicate sections are in assembled relation, will align one with the other. These slots 32, and which have their major dimensions extending longitudinally of the shields 20, are preferably formed adjacent the inner ends of the shield portions and in direct transverse alignment with the slots 29.

Extending through the aligning slots 32, is a headed clamping bolt 32′ having a threaded inner end for receiving a suitable wing nut 33 which serves for drawing the free edges of the shield portions at their inner ends into surface contact with one another. The head of the bolt 32′ is adapted to engage an elongated washer 34 of a length slightly more than the combined lengths of the slots 32 so that when the duplicate sections are in their fullest extended position, the elongated washer 34 will wholly cover the slots 32 and thus prevent possible entrance of water through the slots when the ventilator is used in a position at the top of the window casing. By so having the slots 32 spaced immediately behind the curled edges 30, the curled edge of the section will prevent rotation of the elongated washer 34 and thus retain the washer in closing relation over the slots.

Referring particularly to the forming of the duplicate sections as illustrated in Figure 6, it will be seen that the portions 40 form the shield portions 20, the portions 41 form the attaching flanges 25, the portions 31 form the curled edges 30, and that the portions 42 provided by the diagonal line 43 form the triangular shaped end walls 22. The diagonal line 43, when the sheet of metal is divided for forming the duplicate sections D and E, forms the attaching edge 28 and which as will be apparent is of greater length than either the length of the fold line 21 or the length of the base edge 45.

It will also be observed that the base edge 45 forms a true right angle with the fold line 21. The rectangular shaped piece 46 which will be provided when forming each pair of the duplicate sections D and E, forms the elongated washer 34 and thus it will be seen that the only waste material will be that which is struck from the blank for forming the slots 29 and 32. The washer 34 is provided with a centrally disposed square aperture 47 through which the bolt 32′ may extend.

The triangular shaped end walls 22 are each provided along their attaching edges 28 with apertures 48 through which suitable fastening elements 49 may extend for attachment of the end walls to the side frame of the window casing. The attaching flanges 25 may also be provided between the slots and end walls with suitable apertures 50 through which suitable fastening elements may also extend for further attachment of the ventilator to the window casing.

When applying one of the improved ventilators to the lower side of the window casing as designated at C, for the admitting of air upon raising of the lower sash 11, the ventilator is first disposed with the flanges 25 resting upon the stool 17 and the duplicate sections D and E adjusted so that the triangular shaped end walls 22 engage the confronting faces of the inner stop beads 12. The free edges 27 of the attaching flanges are disposed flush with the outer edge of the stool 17, and in which position it will be observed that the offset attaching edges 28 of the end walls are spaced out of possible contact with the side rails of the sash 11. This offsetting of the attaching edges 28 prevents possible marring of the side rails of the window sash when being raised or lowered. When in this position, the fastening elements 49 may be driven or screwed into the stop beads 12 thru the apertures 48 for disposing the shield portions 20 in an upwardly and inwardly inclined position so that upon slight raising of the lower sash air may be admitted at the lower portion of the window casing and be deflected upwardly into the room by the angularly disposed shield portions 20. A round headed screw threaded fastening element 55 may then be passed thru the aligning slots 29 and turned into the stool 17 for rigidly securing the medial portion of the ventilator in surface contact with the upper face of the stool 17 and with the free edge 27 extending flush with the outer edge of the stool as illustrated in Figure 1.

With the free edge 27 of the flanges so extending flush with the outer edge of the stool 17, it will be seen that any rain or snow entering thru the opening will strike the inclined shield 20 and be directed over the edge 27 back to the upper inclined surface of the sill 16 and carried off the outer edge of the sill.

If desirable, additional fastening elements may be passed thru the flange apertures 50 for anchoring the end portions of the flanges to the stool 17. After the ventilator has been so secured to the stop beads 12 and the stool 17, the wing nut 33 may be tightened for retaining the duplicate sections D and E in adjusted telescopic relation. In this position it will be seen that the curled edges 30 provide a protecting edge along the free edge of the shield portions 20, and that the curled edges 30 also serve as reinforcement portions and also aid in holding the duplicate sections in telescopic relation. It will also be seen that a portion of the triangular shaped end walls 22 projects upwardly past the upper edge of the shield portions 20, and thus prevents likelihood of snow or rain being driven past either end of the ventilator should the lower rail of the sash 11 be raised to a position substantially horizontal with the upper edge of the deflector portions 20.

When one of the ventilators is used in a position as shown at B, the same serves as a hood or storm shield for permitting of the upper sash 10 to be lowered a limited distance without likelihood of beating rains or wind-driven snow to enter the room when the sash 10 is lowered for ventilating purposes.

As will be seen by observing Figure 1, and referring particularly to the ventilator B, it will be seen that the attaching flanges 25 are secured to the header bead 15 with their free edges flush with the inner edge of the header bead, and that the triangular shaped end walls of the ventilator are secured to the confronting faces of the outer stop beads 13 with the attaching edge 28 spaced slightly from the inner edges of the stop beads. Upon inverting of the ventilator for attachment as shown at B, it will be seen that the curled edges 30 act as a gutter extending throughout the length of the ventilator and serving to conduct rain off at both ends of the ventilator and thus prevent the rain from being driven into the room when the sash 10 is lowered. When used in this position, the elongated washer 34 serves for fully covering the slots 32 and thus prevents entrance of water through the slots. With the triangular shaped end walls 22 so formed with the base edge 45 extending at a right angle to the bending line 21, provides a construction whereby a portion of the end walls will extend below the gutter formed by the curled edges 30 and thus prevent likelihood of the water being directed off the ends of the gutter to enter thru the opening formed by the lowering of the sash 10.

From the foregoing description it will be apparent that an improved type of reversible window ventilator has been provided being of such construction as to permit of the same being used at either the top or lower portion of a double hung window construction, and which ventilator is of such construction as to permit of the sections thereof to be economically stamped from sheet metal with practically no loss of material.

Changes in detail may be made to the specific form of the invention herein shown and described, without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. A ventilator comprising a pair of duplicate telescopic sections each embodying a shield portion having an attaching flange formed throughout the length of one edge thereof and an integral triangular shaped end wall bent at a right angle at one end of the shield portion with the attaching edge of each end wall spaced intermediate the edges of the flanges and slightly inwardly from the free edge of said flanges.

2. A ventilator comprising a pair of duplicate telescopic sheet metal sections each embodying a shield portion having a flat attaching flange formed along one edge thereof and provided adjacent its inner end with an elongated slot, and having a curled edge formed along the opposite edge of the shield portion and extending in the opposite direction from said flange, each of said shield portions also being provided near their inner ends with elongated slots arranged adjacent their curled edge, and an integral triangular shaped end wall bent at a right angle at one end of the shield portion, and a clamping bolt extending through the aligning slots of the shield portions for clamping the free ends of the shield portions in surface contact with one another, said slots of the attaching flanges to receive fastening elements therethru for mounting of the central portion of the ventilator.

3. In a ventilator comprising a pair of companion telescopic sections each embodying a shield portion provided with interfitting curled edges and elongated slots provided in the shield portion adjacent the curled edges, means for adjustably clamping the sections in longitudinally adjusted positions, comprising an elongated washer of a length at least equal to the combined length of said slots, said washer being held in position over the slots by the arcuate surface of one of the curled edges, a headed clamping bolt extending through the washer and the aligning slots, and a wing nut threaded upon the inner end of the bolt.

JOHN WILLIAM RUNGE.