Feb. 17, 1942. O. KUBATZKY 2,273,758

WINDOW AND WALL VENTILATOR

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FIG. 1.

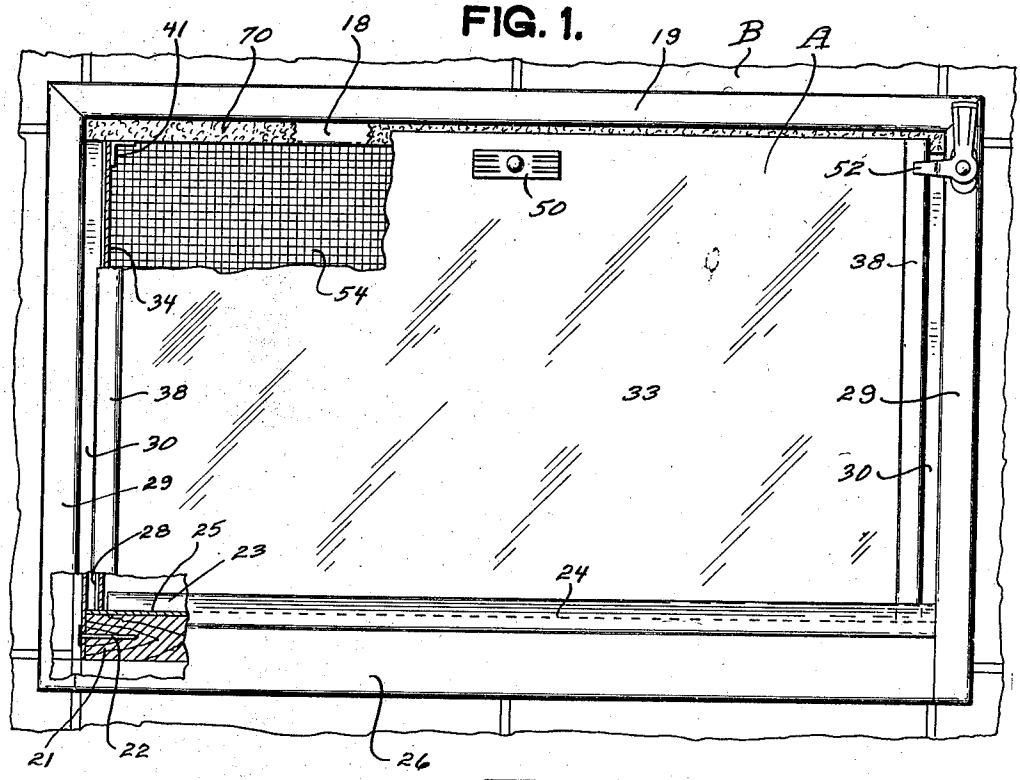


FIG. 6.

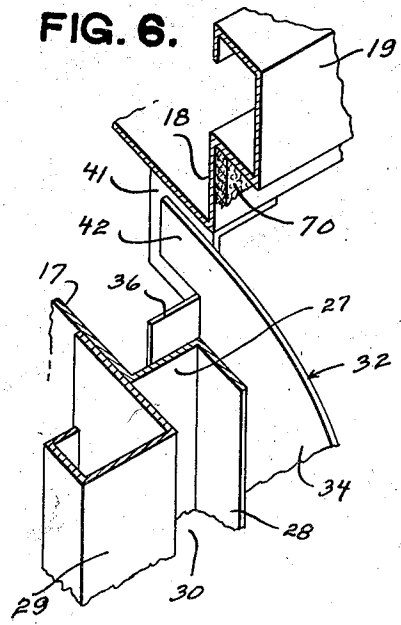


FIG. 7.

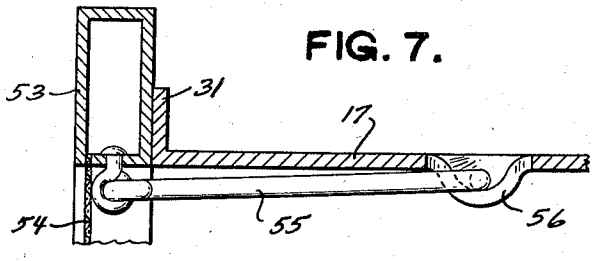
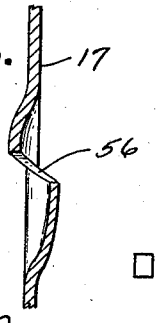


FIG. 8.



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FIG. 2.

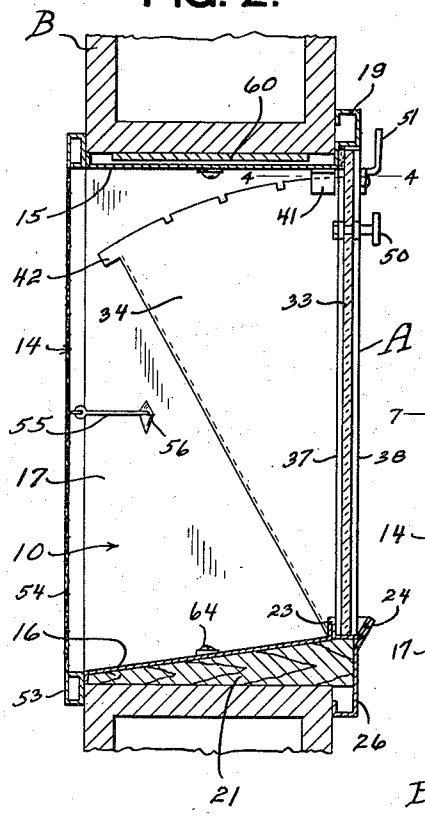


FIG. 3.

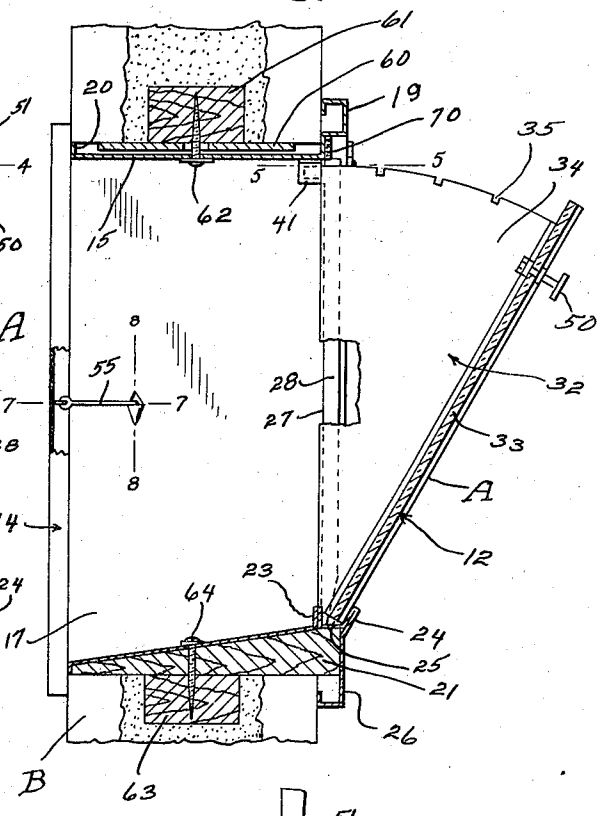


FIG. 4.

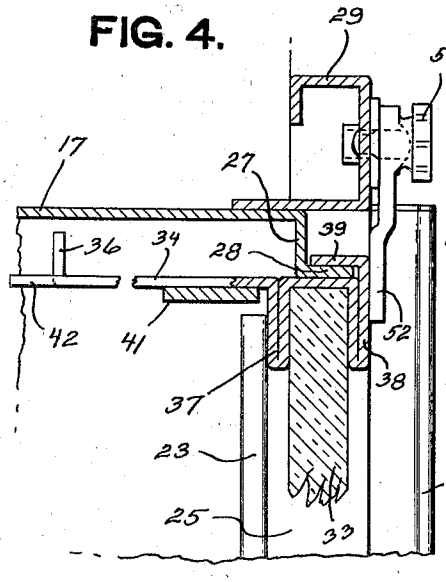
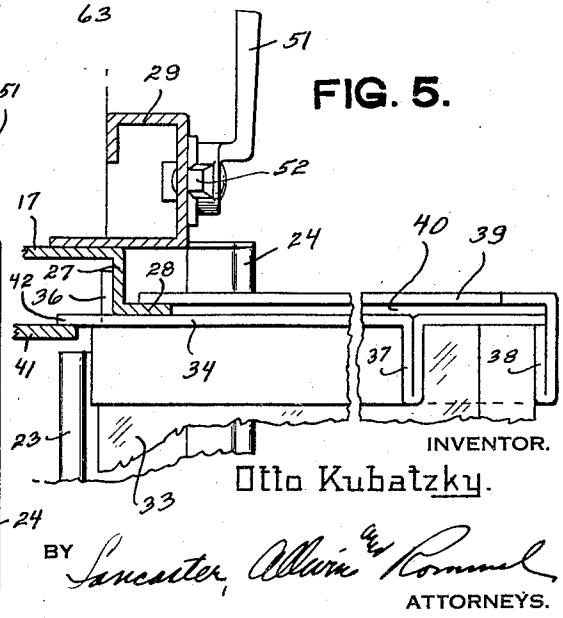


FIG. 5.



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Patented Feb. 17, 1942 2,273,758

UNITED STATES PATENT OFFICE

2,273,758

WINDOW AND WALL VENTILATOR

Otto Kubatzky, St. Louis, Mo.

Application July 25, 1938, Serial No. 221,189

4 Claims. (Cl. 98—37)

The present invention relates to improvements in window ventilators and more particularly to certain improvements in window ventilators such as shown in my issued Patents Numbers 1,809,518 and 1,836,852.

The primary object of the present invention is to provide a ventilator which is adapted to be set in a wall construction such as of brick, glass block, stone, etc.

A further object resides in the improved arrangement for effecting a weather tight construction when the ventilator is in a closed position.

A further object resides in the novel manner of assembling and retaining the swinging end shields against displacement with respect to the main frame of the ventilator.

A still further object of the invention is to provide a ventilator of this character which may be easily constructed from sheet metal and embodying a relatively small number of parts.

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

Figure 1 is a plan view looking at the inner side of the ventilator shown mounted in a wall, and with portions broken away to illustrate certain details of construction.

Figure 2 is a vertical section thru the ventilator shown in a closed position.

Figure 3 is a vertical section thru the ventilator shown in an open position.

Figure 4 is an enlarged fragmentary section substantially on the line 4—4 of Figure 2.

Figure 5 is an enlarged fragmentary section substantially on the line 5—5 of Figure 3.

Figure 6 is an enlarged fragmentary perspective view part in section and showing the manner in which the end shields operatively co-act with the main frame.

Figures 7 and 8 are enlarged sections on the respective lines in Figure 3.

Referring to the drawings in detail and wherein similar reference characters designate corresponding parts thruout the several views, the letter A may generally designate the improved ventilator and B a wall construction of masonry in which the ventilator is mounted.

The ventilator A comprises an open frame 10 adapted to be closed at its inner side by a swinging ventilating shield 12, and provided at its outer side with a removable perforated screen 14.

The frame 10, while not essentially so, is preferably formed of sheet metal and includes a horizontal top wall sheet 15, a sloping bottom wall sheet 16, and two vertical end wall sheets 17 suitably secured at their meeting ends into an open rectangular-shaped frame 10. With particular reference to Figure 6, the forward portion of the top wall 15 is bent upward at a right angle as at 18 providing a forwardly facing stop shoulder extending thruout the length of the frame. Formed along the upper edge of the shoulder 18 is a top moulding 19. The outer edge of the top wall 15 is turned up to form a combined stiffening flange 20 and an abutment for the screen 14.

The inclined bottom wall 16 forms a cover for a wooden sill 21 which extends between the bottom portions of the end walls 17 and this sill may be secured by suitable fastening elements as at 22 in Figure 1. Adjacent the forward portion of the wall 16 the metal is doubled upon itself at two slightly spaced apart points providing upstanding walls or flanges 23 and 24 forming a trough 25. The vertical wall 23 terminates slightly short of the end walls 17 as shown in Figures 1 and 4, while the divergent wall 24 extends to the end walls 17. From the wall or flange 24, the metal is extended down over the sill 21 to form a lower moulding or skirt 26. The outer edge of the bottom wall 16 is turned down over the outer edge of the sill 21 and forms an abutment for the screen 14.

Each end wall 17 is first bent inward along its inner vertical edge to form a stop flange 27 normal to the plane of the wall, and then again at a right angle to the stop flange to form a tongue or sealing flange 28 lying in a parallel plane to the wall. The upper ends of these sealing tongues 28 terminate flush with the under side of the top wall 15. Secured in any preferred way to the outer side of each end wall, along the inner vertical end thereof, is a side moulding member 29 and which extend forwardly of the stop flanges 27 to provide vertical channels 30. The outer vertical edge of each end wall is bent to form a flange 31, and these flanges also form abutments for the screen 14 as shown in Figure 7.

Referring now to the ventilating shield 12, the same comprises a pair of metal end shields 32 and a glass deflecting shield 33. The end shields 32 are formed of sheet metal and are of one piece construction providing a segmental-shaped body portion 34 having a convexly arcuated upper edge provided with notches 35. Formed along

the outer edge of each body portion 34 is a flange 36, and these flanges, when the end shields are in place in the frame 10, extend toward the end walls 17. Along the inner edge of each end shield, the metal is bent upon itself at slightly spaced points providing parallel ribs 37 and 38 which form grooves for receiving the end edges of the deflecting shield 33. Formed also along the inner edge of the end shield is an outwardly directed flange 39 which is spaced slightly from the outer face of the end shield and forms a channel 40 for receiving the tongue or flange 28 when the shield 12 is closed. This interfitting of the tongues 28 at each end of the frame, within the channels 40 of the end shields renders the assembly draft proof when the shield is closed as in Figure 4. When the shield is open as in Figures 3 and 5, the flanges 36 will engage the stop flanges 27 and limit inward swinging of the shield to its open position.

Depending from the top wall 15 adjacent the upper end of each stop flange 27 is a lug 41 and these lugs co-act with the tongues 28 to form guides between which the end shields slide during opening and closing movement. As will be observed in Figures 4 and 5, the lugs 41 are offset outwardly for a short distance from the stop flanges 27, toward the outer edge of the frame 10, thus permitting the right angular flanges 36 to be slid between the lugs and stop flanges. Provided at the outer end of the upper arcuate edge of each end shield is a keeper lug 42, and these lugs co-act with the depending lugs 41 for retaining the end shields in place with the flanges 36 engaging the stop flanges 27. These lugs 42, prior to positioning the end shields in the frame 10 form a continuation of the flanges 36, and after the end shields are in place, these lugs are bent into the plane of the body portion 34 as in Figure 6 so as to extend beyond the flange 36 and engage the lug 41.

In constructing the one piece end shields 32, the right angular flange 36 is severed crosswise adjacent its upper end to form the keeper lug 42. After the end shield is slid into place in the frame, the upper portion of the flange which forms the lug 42 is bent for a quarter turn so as to co-act with the lug 41 for retaining the end shields in place. To remove the end shields, the lug 42 may be bent back to the original position aligning with the flange 36, thus allowing the lug 42 to clear the lug 41. In placing the end shields in the frame, the lower portion of the flange 36 is first inserted behind the stop flange 27 and the shield lowered into a position as in Figure 3. The shield is then slid laterally until the tongue 28 aligns with the groove 40. This is made possible by the beveled lower portion of the tongue as shown in dotted line in Figure 3. The lug 42 may then be bent into the plane of the body portion 34, thus retaining the end shield in place. The end shields are retained against lateral movement at their lower portions by the ends of the trough forming wall 23. The glass shield 33 may then be slid into the groove formed between the flanges 37 and 38. A knob 50 is provided centrally of the ends of the glass shield for imparting swinging movement to the ventilating shield.

Pivotally mounted upon one of the side mountings 29 is an L-shaped latch providing a handle 51 and a keeper arm 52. This keeper arm 52 is adapted to engage in the notches 35 of the end shield for retaining the shield in various adjusted open positions. When the ventilating shield is fully closed, the keeper arm 52 engages over the inner edge of the end shield as in Figures 1 and 4 to lock the ventilating shield in a closed position.

The screen 14 comprises a frame 53 in which is mounted a wire screening 54 of suitable character. This screen frame 53 engages the flanges formed about the outer edge of the ventilator frame 10 and each vertical or side rail of the screen frame is provided with a hook 55 adapted to engage in an opening 56 formed in the end walls 17. These openings 56 as shown in Figures 7 and 8 have the metal offset outwardly above the opening and offset inwardly below the opening so as to properly receive the turned end portion of the hook 55.

Referring now to the manner of securing the ventilator in the wall construction, a lintel 60 of any suitable type extends across the upper side of the wall opening. In the example shown the lintel is of metal. Embedded in the plastic joint of the wall above the lintel 60 is a wooden block 61 for receiving a fastening element, such as a screw or the like 62 passed upwardly thru the top wall 15 of the ventilator frame. The lintel is provided with an opening thru which the screw 62 passes. Embedded in the plastic joint of the wall below the wooden sill 21 is a wooden block 63 for receiving a fastening element 64 passed downwardly thru the bottom wall 16 of the ventilator frame. Thus the ventilator may be inserted into the wall opening from the inner side of the wall and secured in place by the fastening elements 62 and 64.

Secured as by cementing or other means to the inner face of the stop shoulder 18 is a sealing strip 70 such as of felt or the like, and against which the upper edge of the glass shield 33 abuts to seal the shield along its upper edge when closed. The inner rib 37 of each end shield is cut away at its upper end to allow the glass shield to engage the sealing strip 70 thruout its length.

Changes in detail may be made to the 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. In a ventilator, a frame including an end wall having a stop shoulder and a sealing tongue at its forward edge, a one piece end shield rockably supported in the frame having a flange along its outer edge engageable with the stop shoulder for limiting opening swinging of the end shield and a channel along its inner edge for receiving the sealing tongue when the end shield is in a closed position, a lug on the frame and forming a guide for one side of the end shield, and a bendable lug on the outer edge of the end shield engageable with the lug on the frame for retaining the flange in operative relation to the stop shoulder.

2. In a ventilator, a frame including a top wall and an end wall having a right angular stop shoulder at its inner edge and a sealing tongue on the stop shoulder in a plane parallel to the end wall, a one piece end shield rockably supported in the frame having a right angular flange along its outer edge for engaging the stop shoulder and which is severed transversely adjacent its upper end to form a retaining lug, a channel along the inner edge of the end shield for interfitting with the sealing tongue when the end shield is closed, and a lug depending from said top wall in such relation to said stop shoulder

as to be engaged by the lug at the upper end of the flange on the end shield when this lug is bent into the major plane of the end shield.

3. In a ventilator, a frame including an end wall and a top wall, a stop shoulder on the end wall, an end shield rockably supported in the frame with one face thereof slidably guided by the stop shoulder, a flange along the outer edge of the end shield for abutting the stop shoulder, a guide lug depending from said top wall and forming a guide for the other face of the end shield, said lug being outwardly of the plane of said flange when such engages the stop shoulder, and a keeper lug bendable from the upper portion of the flange for co-acting with the guide lug to prevent lateral displacement of the end shield when said flange engages the stop shoulder.

4. In a ventilator, a sheet metal frame including a one-piece top wall having a stop wall along its inner edge and a top moulding extending above the stop wall, one-piece end walls each having a right angular stop shoulder at its inner edge and a sealing tongue on the stop shoulder and extending inwardly in parallel relation to the end wall, a one-piece bottom wall having a trough along its inner portion and a lower moulding depending from the trough, a side moulding at the inner edge of each end wall, and a ventilating shield rockably supported in said trough including a pair of one-piece end shields each having a right angular flange along its outer edge for abutting the stop shoulder to limit opening movement of the shield, and a channel along its inner edge receiving the sealing tongue when the shield is closed.

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