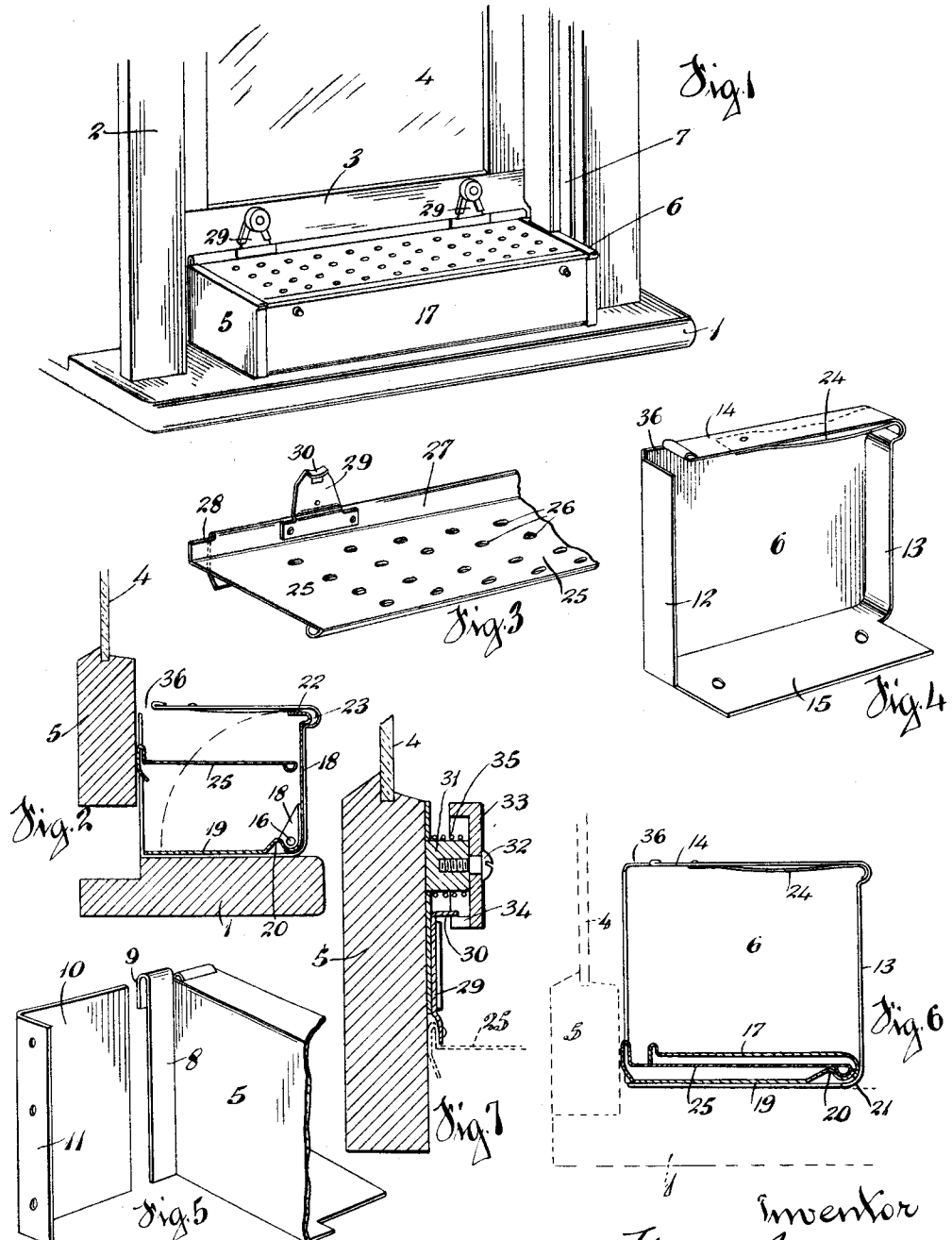


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WINDOW VENTILATOR.
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WINDOW-VENTILATOR.

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To all whom it may concern:

Be it known that I, HENRY HIGGIN, a citizen of the United States, and a resident of the city of Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Window-Ventilators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of window ventilators which are mounted between the window sill and the bottom of the lower sash for the purpose of admitting a current of fresh air into the room without subjecting the occupants of the room to a direct draft.

The object of the invention is to provide a construction in which when the window is closed, the front wall of the ventilator may be folded down parallel with the sill so as to be out of the way.

My invention consists of that certain novel construction and arrangement of parts whereby the ventilator may be readily secured to or detached from the window sash, and in which ready and easy access may be had to all parts of the ventilator for cleaning.

In the drawings, Figure 1 is a perspective view of the lower portion of the window frame and sash, with my improved ventilator in place and with the window open. Fig. 2 is a transverse section of the same, with the window partly open. Fig. 3 is a perspective view of one end of the perforated ventilator plate. Fig. 4 is a perspective view of one of the end walls of the ventilator, taken from the inside. Fig. 5 is a perspective view of the same, taken from the outside, with the extension plate separated from the end wall. Fig. 6 is a transverse section of the ventilator with the window closed, as indicated in dotted lines. Fig. 7 is a transverse section of the lower rail of the window sash, taken through one of the fastening devices of the ventilator.

The ventilator is designed for use in the ordinary window frame with a sliding sash, in which 1 represents the window sill; 2, 2,

the sides of the window frame, and 3 the lower sash, with window light 4.

The ventilator is located on the inside of the sash, and forms a boxlike structure, with end walls 5, 6, one of which is secured to the inner face 7 of the window sash, resting on the sill. The other end wall 5 has an outwardly extending flange 8, which at the upper end is bent over on itself to form a loop 9, which loop engages and slides upon the extension plate 10, which is secured by the flange 11 to the side of the window frame. The end walls 5 and 6 are provided with inwardly projecting flanges 12, 13, for the front and rear, and 14, 15, for the top and bottom, and pivotally mounted at 16 on each end wall is the front wall 17 of the ventilator structure. The pivots 16 are carried on side extensions 18 of this front wall. A bottom plate 19 resting on the top of the sill is provided for the casing, and the outer edge of this bottom plate is formed with a longitudinal ridge 20 curved upwardly, and the bottom edge of the front wall 17 is curved at 21 around the curved edge of the bottom plate, so that whether the front wall is raised or lowered, a close, neat fitting hinge construction will be provided, which will prevent any entrance of air at this point, and the ridge and hinge construction also prevents any rain or moisture from blowing in through the base of the casing. The upper edge of the front wall 17 is provided with an inwardly projecting flange 22, and preferably with a head 23 for ornamentation and to strengthen the structure. In order to hold the front wall in raised position, I provide the spring 24 attached to the top flange of the end wall.

To complete the ventilator, a perforated plate 25 of a length and width to fit loosely within the casing and with perforations 26 is provided. This plate is formed with a vertical flange 27 along its inner longitudinal edge formed by bending up and turning back the metal, and at either end the flange is cut away at 28 so that the plate can fit around the flanges 12, 12, of the end walls. Secured to the flange 27 near each end, are the fastening plates 29, 29, which project

upwardly and are provided with the segmental flanges 30 along the upper edge.

Mounted on the window sash are studs 31, 31, upon which are rotatably secured by the screws 32, turn buttons 33. These turn buttons are flanged, and the flanges are cut away at 34 to allow for the passage of the flange 30 of each holding plate behind the flange of its respectively turn button 33. A light coiled spring 35 is mounted on each stud 31, one end of which is attached to the turn button and the other to the stud, and the tension of this spring normally holds the turn button with the opening 34 in alignment with the flange 30. When the turn buttons are rotated, however, the frictional contact holds the plate 25 locked to the sash. As stated, the perforated plate is mounted inside the ventilator casing, and when the window is raised and the plate is locked to the sash, the plate will be raised until the edges come in contact with the inwardly projecting flanges of the end walls and front wall of the casing. The outer air can then circulate under the sash and up through the perforated plate into the room, the front wall acting as a wind guard to direct the current of air upwardly.

When the window is closed, the perforated plate is lowered in the casing with the sash and the front wall 17 is then turned down over the plate as shown in Fig. 6.

My construction, while possessing all the advantages of that class of window ventilators in which the ventilator is so attached between the frame and the sash that when the window is closed the ventilator will be folded up to occupy as little space as possible, and in which the ventilator is adapted to open automatically as the window sash is raised, possesses many additional advantages. The only portion of the ventilator in my construction that is attached to the sash is the perforated plate 25 which is so light as not to affect the sash weights; while in the folding ventilators the folding front walls for window openings of any size usually add so much weight to the sash that the window weights have to be changed. In my construction, also, the ventilator plate and the bottom of the casing are completely closed when the window is shut and the front wall 17 turned down over the ventilator; while in folding ventilator constructions there is no cover, and the perforated plate through which the draft must pass when the ventilator is in use is always exposed to the accumulation of dust, which when the ventilator is put into use is carried into the room. In the folding ventilators, when the sash is only slightly raised, the partially folded walls interfere with the entrance of the air, whereas in my construction as shown in Fig. 2, when the ventila-

tor plate is partially raised, there is no obstruction to the entrance of air. Moreover, inasmuch as when my ventilator is in use the front wall 17 is always raised, this front wall at all times serves as a wind guard to direct the current of air upwardly.

In the older constructions, there is no method of gaining access to the inside of the casing for cleaning. In my construction, the casing is arranged so that the perforated plate when detached from the sash, by turning the turn buttons and raising the window, can readily be withdrawn from the casing. In order to accomplish this, the flanges 12 and 14 of the end walls are cut away at 36 to allow the perforated plate to be withdrawn. In this way, ready access is had to the entire casing on the inside to prevent the accumulation of dust and dirt.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the character specified, the combination with the window, of a ventilator casing comprising end walls and a front wall pivotally mounted in the casing, a ventilator plate, and means for detachably securing the same to the window sash, the front wall being adapted to be turned down over the ventilator plate when the window is closed.

2. In a device of the character specified, the combination with the window, of a ventilator casing comprising end walls and a front wall pivotally mounted in the casing, a ventilator plate, and means for detachably securing the same to the window sash, the front wall being adapted to be turned down over the ventilator plate when the window is closed, with stops on the casing to limit the movement of the ventilator plate within the casing with the raising of the window.

3. In a device of the character specified, the combination with the window, of a ventilator casing comprising end walls and a front wall pivotally mounted in the casing, a ventilator plate, and means for detachably securing the same to the window sash, the front wall being adapted to be turned down over the ventilator plate when the window is closed, inwardly projecting flanges for the end walls to engage and stop the ventilator plate with the raising of the window.

4. In a device of the character specified, the combination with the window, a ventilator casing comprising end walls, with inwardly projecting flanges mounted on the window casing, with a front wall pivotally mounted at its lower edge to the end walls to form a box open at the top and rear, a ventilator plate adapted to form the top of the box casing, and means for securing same detachably to the window sash.

5. In a device of the character specified,

the combination with the window, a ventilator casing comprising end walls, with inwardly projecting flanges mounted on the window casing, with a front wall pivotally mounted at its lower edge to the end walls to form a box open at the top and rear, a ventilator plate adapted to form the top of the box casing, and means for securing same detachably to the window sash, with the flanges of the end wall cut away to permit the withdrawal of the ventilator plate from the casing when desired. 10

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."