Nov. 14, 1933. C. V. SWANSON 1,935,254

VENTILATING DEVICE FOR WINDOW SASHES

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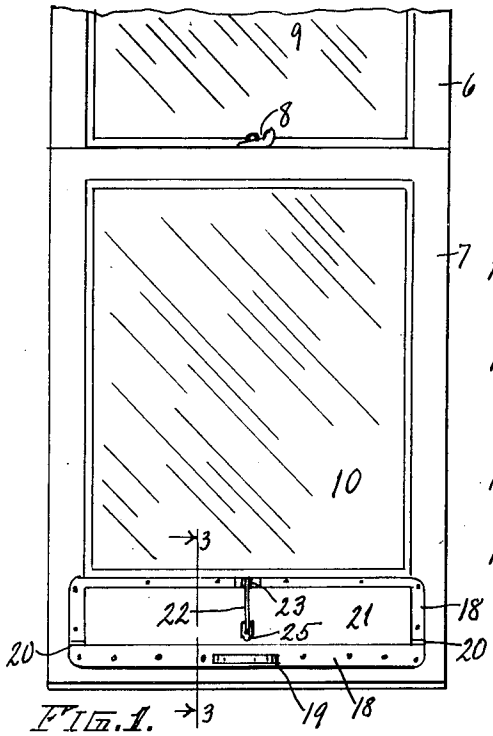


FIG. 1.

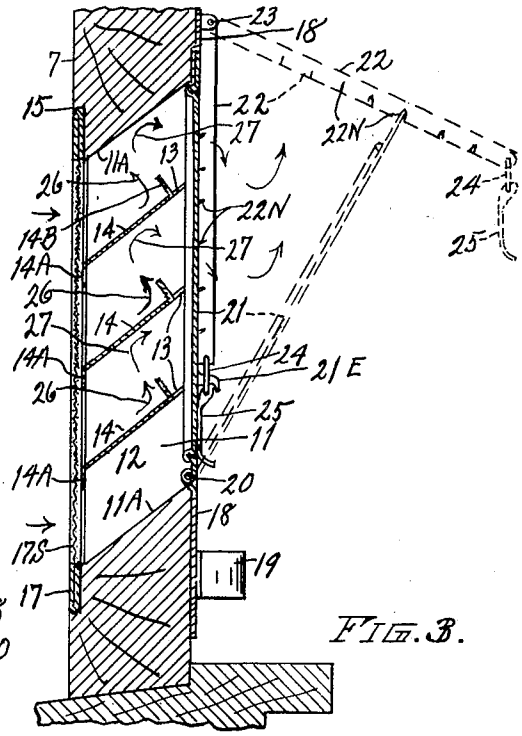


FIG. 3.

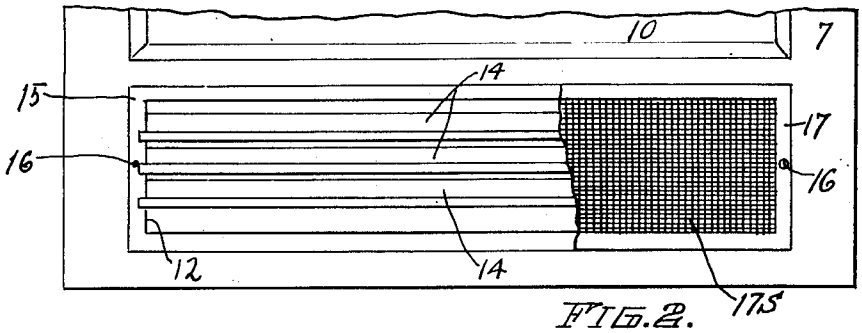


FIG. 2.

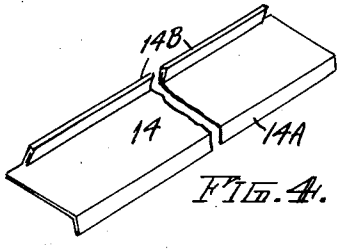


FIG. 4.

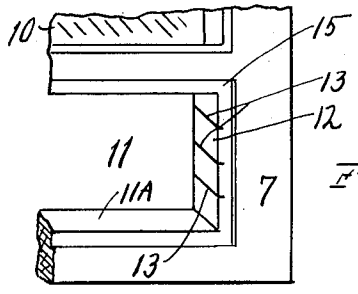


FIG. 5.

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VENTILATING DEVICE FOR WINDOW SASHES

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3 Claims. (Cl. 98—97)

My invention relates to improved ventilating devices for a window sash.

The main object of the invention is to provide a highly efficient ventilator incorporated as a part of a sash, eliminating the use of parts separately of such sash, the device being adaptable for use while two sections of a window are closed and locked. Other objects and advantages, also the preferred construction of my device are hereinafter fully set forth reference being had to the accompanying drawing, in which,—

Fig. 1 is an inside elevation of a window of the type involving two vertically slidable window sashes, the lower sash having my improved ventilator and only the lower portion of the upper sash being shown, the latter in locked position with the lower sash.

Fig. 2 is an enlarged outside detail view of the lower part of the lower sash including my ventilator, a portion of the screen of the latter being omitted to reveal certain details.

Fig. 3 is an enlarged transverse sectional view through the ventilator part of the sash as on line 3—3, Fig. 1.

Fig. 4 is a perspective view of one of the removable deflector members of the ventilator.

Fig. 5 is an enlarged exterior detail view of the lower right hand corner of a window sash and the ventilator frame part thereof.

Referring to the drawing by reference numerals, I have illustrated my improved ventilator device as applied to the usual two-section type of window in which the upper and outer sash 6 is slidable vertically and adjacent to the lower, inner sash 7, both arranged to be locked together by a suitable lock 8. 9 is the glass pane of the upper sash and 10 the pane of the lower sash.

My ventilator means are preferably located in the lower part of the lower sash 7, below its pane 10, where an opening 11 about 4 inches high and about the same width as pane 10 is provided in the sash, the upper and lower edge parts thereof comprising upwardly and inwardly inclined edges 11A (Fig. 3), the ends of said opening defined by vertical walls 12 each having a series of parallel and vertically spaced inclined grooves 13 directed inwardly and upwardly to removably retain a vertical tier of sheet metal deflector blades 14.

In the front or outer face of the sash and perimetrically of the ventilator opening is provided a shallow recess 15 in which is suitably fixed as with screws 16 (Fig. 2) a screen frame 17 with a fine mesh screen 17S, said frame being preferably of metal and quadrangular to fit snugly in said recess and flush with the outer surface of the sash.

The deflector blades 14 comprise each a lower narrow, vertical flange 14A, the inclined body portion 14 thereabove and at the upper edge an upright flange 14B about at right angles to 14, said latter flanges terminating at their opposite ends in spaced relation inwardly of the opposite ends of each blade to enable the blade to be slidably inserted with its opposite ends in horizontally registering grooves 13 and frictionally retained therein. In Fig. 3, three deflectors 14 are shown in place and it will be readily understood that the end parts of the screen frame 17 bear against all the lower flanges 14A of the deflectors and hold them in place, as shown.

18 is a quadrangular sheet metal frame suitably fixed to the inner side of the sash and its opening concentric of the inner part of the ventilator opening, the lower bar of said frame preferably wide and carrying a fixed handle 19. At the top edge of said lower bar is hinged as at 20 (Fig. 1) the lower edge of a sheet metal lid 21 normally closing the inner part of the ventilator, as distinctly shown in Figs. 1 and 3, said lid being suitably re-enforced to make it rigid. Suitable means of various kinds may be used to hold lid 2 in closed position and the ventilator inoperative, and it will be readily seen that when it is desired to provide for inlet of air to a room through the ventilator, the lid 21 must be opened by swinging its upper edge part inwardly and held in any desired angle.

For the latter purpose I have provided a depending hinged lock bar 22 hinged at 23 to the upper bar of frame 18 the free end of said bar provided with a link 24 and a cam lever 25 on the link arranged to frictionally engage under an inwardly projecting, fixed ear 21E (see Fig. 3) on the lower, central part of the lid in such manner as to lock the bar 22 and press it against the face of the lid and thereby press the latter firmly to closed position.

The bar 22 is provided with a series of notches 22N, in its inner or lower edge, any of said notches adapted to frictionally engage and hold the upper free edge of the lid to retain the latter in any selected open position (see dotted presentation of lid and lock bar in Fig. 3).

In use, my ventilator device is set as desired to admit fresh air into a room. The window sashes are allowed to remain in their locked positions, and the lid 21 is tilted inwardly to any

desired angle. Air circulated freely through screen 17S is diverted upwardly by the inclined blades 14 and deflected further in outward direction by the flanges 14B causing the air currents to move in a rolling action as indicated by arrows 26 (Fig. 3) thence striking adjacent inclined areas above each blade are again deflected in rolling motion and inwardly as indicated by arrows 27. Thus the air enters the room in a rolling current but gently, its velocity being minimized. The lid 21 of course directs and deflects said entering air currents upwardly.

The screen 17S is of fine mesh such that rains and dust will not pass through. If it becomes clogged the screen frame is easily removed for cleaning or replacement.

This ventilator need not necessarily be of the proportions illustrated. In locations exposed to extreme cold and high winds the sash may be made with relatively small ventilators. In the type of my device shown the ventilator is unobstructive its screen frame, for example, being as shown flush with the respective outer surface of the sash. For a given size of window sash the glass pane is reduced in size but not sufficiently to be an objection as the ventilator part can be made in attractive finish and color to harmonize with the rest of the sashes. An important feature is that the two sashes of a window may be locked as heretofore but the ventilator is available for use making it possible for a house so equipped to be left unoccupied but properly ventilated.

Variations in construction and application of this device may be embodied without departing from the scope and spirit of the invention.

I claim:

1. In a ventilating device for a window sash having one end of its pane in spaced parallel relation to a horizontal end of the sash and a quadrangular opening provided between said end and the pane; an exterior screen member including a frame fixed in a common plane with the exterior face of the sash and covering said opening, a number of vertically spaced elongated deflectors removably mounted in said opening and retained in position by said screen frame, a lid member inwardly of the sash opening and normally closing the latter, hinge means for said lid at its lower edge and a pivotally suspended bar above said lid and means in said bar to frictionally engage the upper edge of the lid in selective open positions.

2. The structure specified in claim 1, and means associated with the free end of said bar to frictionally engage and hold the bar in depending position and bearing against the inner side of the lid when the latter is in closed position.

3. In a ventilating device for a window sash having one end of its pane in spaced parallel relation to a horizontal end part of the sash and a quadrangular opening provided between said end and the pane; an exterior screen member including a frame fixed in a common plane with the exterior face of the sash and covering said opening, a number of vertically spaced elongated deflectors removably mounted in said opening and retained in position by said screen frame, a lid member inwardly of the sash opening and normally closing the latter, hinge means for said lid at its lower edge and a pivotally suspended bar above said lid and means on the said bar to frictionally engage the upper edge of the lid in selective open positions, said deflectors comprising each an elongated plate retained in the opening in an inclined plane, directed upwardly and inwardly, the lower front edge part of each deflector comprising a narrow vertical flange engaged by the screen frame and the upper edge of each deflector formed with an angular flange directed upwardly and forwardly in an inclined plane when the deflector is in operative position, as shown and described.

CHARLES V. SWANSON.