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C. V. SWANSON
WINDOW VENTILATING DEVICE

Filed June 27, 1924

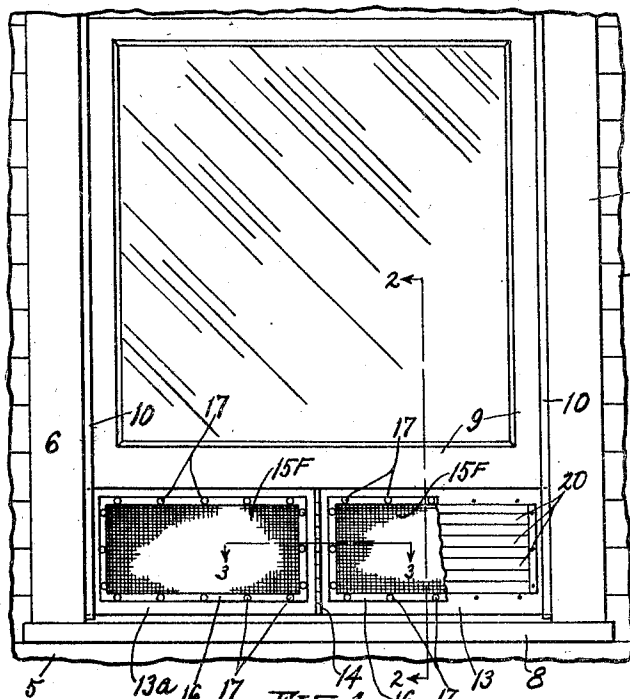


FIG. 1.

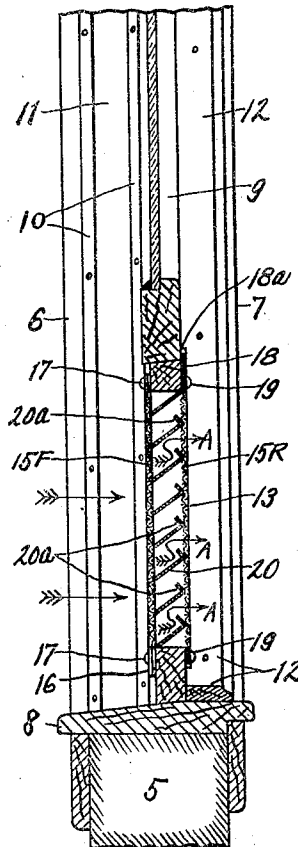


FIG. 2.

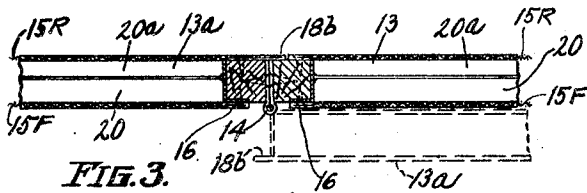


FIG. 3.

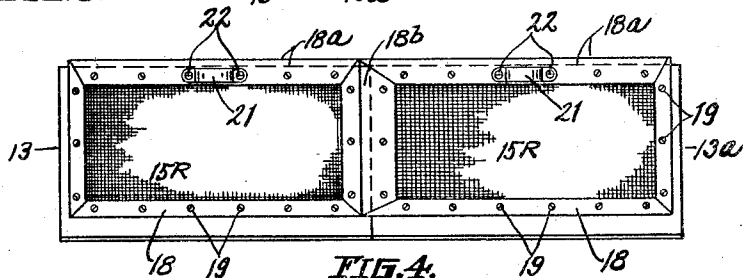


FIG. 4.

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UNITED STATES PATENT OFFICE.

CHARLES V. SWANSON, OF VELVA, NORTH DAKOTA.

WINDOW-VENTILATING DEVICE.

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To all whom it may concern:

Be it known that I, CHARLES V. SWANSON, a citizen of the United States, residing at Velva, in the county of McHenry and State of North Dakota, have invented certain new and useful Improvements in Window-Ventilating Devices, of which the following is a specification.

My invention relates to ventilators and the object is to provide a simple and efficient device adapted to be used particularly in window frames and the use of which will admit fresh air into a room without direct draft and rain or dust is kept out. A room thus equipped is always provided with an ample supply of fresh air and the device needs no attention regardless of weather conditions.

In the accompanying drawing:

Fig. 1 is an outside elevation of a portion of a house wall, a window frame and its lower window sash and my device in operative position under the sash.

Fig. 2 is an enlarged sectional elevation as on line 2—2 in Fig. 1.

Fig. 3 is an enlarged section of the center portion of my device as on line 3—3 in Fig. 1.

Fig. 4 is an elevation of my device ready for use and as it appears from the inner side.

Referring to the drawing by reference numerals, 5 represents a portion of a house wall having a window frame 11 with outside casings 6, inside casings 7, sill 8, the lower window sash 9, two outer sash guiding or so-called parting strips 10 and an inner sash guiding strip 12.

My device comprises an elongated, quadrangular frame adapted to be placed vertically with its lower edge resting on the lintel 8 and its upper edge engaged by the lower part of the window sash, the latter of course being first raised high enough to permit placing of my device and then lowered to rest on the said upper edge, as best shown in Figs. 1 and 2.

The device consists, preferably, of a frame made in two sections 13—13^a hingedly connected at their adjacent edges by a so-called "piano hinge" or continuous hinge 14 to insure a tight joint. Each section (13—13^a) has a front and rear screen 15^F and 15^R respectively of which each of the front screens may be secured on the frame by a metal

frame as 16 secured with screws 17. The rear screens are secured in like manner with frames 18 and screws 19, these frames (18) differing from the front ones (16) in that their upper edges project as at 18^a above the screen frame serving as a guard to bear against the inner, lower edge of the sash 9 (see Fig. 2). One of the metal frames 18 projects over the meeting vertical edges of the frame sections, as 18^b in Figs. 3 and 4, to form a practically water and dust proof joint at the side opposite the hinge.

Between the rear and front screens 15^R and 15^F I secure in each frame an air current deflector comprising a number of vertically spaced, horizontal, fixed deflector blades 20, preferably of sheet metal, each blade sloping downwardly and forwardly with its front edge adjacent the front screen. The rear part of each blade is bent upwardly and forwardly from a point adjacent the rear screen 15^R to form a smaller extension blade 20^a.

The screens 15^F and 15^R are a very fine wire mesh, such that rain drops, sleet and sand etc., cannot get through but circulation of air through it is not prevented but only retarded to some extent. 21 is a handle of any suitable type secured as at 22 one on each upper frame member at its center.

In the application of the device the window sash is first raised, then the operator grasps the handles 21 and inserts the ventilator frame vertically in the space under the sash. The sections may need to be swung some on hinge 14 to shorten the distance from end to end horizontally so that the ends may be inserted between the parting strips 6 and the guides 12 on opposite sides of the window. The device is then straightened out so that its lower part bears against the front edge of the lower strip or ledge 12, the window sash is lowered to contact with and rest on the upper edge of the frame (see Fig. 2) with the flange 18^a bearing against the lower inner surface of the sash frame. Outside air will readily circulate through the outer screen thence through the inner screen after passing between the angular blades 20. If there should be a strong wind blowing against the device a great deal of its force is broken by the outer screen 15^F because of its fine mesh, and after passing through said screen its velocity is further reduced by being de-

flected on the inclined blades. The smaller flanges 20^a will further retard the air currents each such flange deflecting air upwardly toward the lower side of the next higher blade, the latter surface again deflecting the current toward the rear screen 15^R through which the air enters the room and circulates therein without causing a draft. The arrows A in Fig. 2 indicate the direction of air currents through the device as above described. Air thus admitted into a room mixes with the heated air therein and is admitted in sufficient quantities or volume to keep the air in the room fresh but without discomfort to occupants.

My device may be used in all seasons and needs no attention after it is installed. In places such as hotels where some rooms are locked up for various periods of time the usefulness of my device is quite apparent since such rooms may be locked for any length of time but the device will always insure a plentiful supply of fresh air regardless of outside atmospheric conditions.

Having thus described my invention, what I claim is:

1. A ventilator comprising a quadrangular frame adapted to be inserted between a movable window sash and one end of its frame in a vertical plane, wind retarding means secured in spaced relation to the inner and outer sides of said frame, fixed deflectors mounted between said retarding means, said deflectors comprising a series of vertically

spaced, horizontally arranged blades, each of said blades comprising a main, outwardly and downwardly sloping blade and an integral outwardly and upwardly inclined blade at the rear of said main blade and means on said ventilator frame for engaging the inner face of the adjacent window sash; said screens removably secured on the ventilator frame, the means for securing the screens comprising a quadrangular metal frame for each screen, said means for engaging the lower inner part of the window sash comprising the upper run of the inner metal frame extended above the top of the ventilator frame.

2. A ventilator frame comprising two quadrangular, horizontally aligned frames hingedly connected, a screen on the outer side of each frame, a screen on the inner side of each frame, a quadrangular metal frame for each screen adapted to hold each screen in place, deflector blades mounted horizontally and intermediate said screens and having each an outwardly and downwardly sloping part and an upwardly and outwardly inclined part, one of said metal frames on the inner side extended horizontally at the adjacent vertical edges of the hinged frames and adapted to cover the vertical joint rearwardly of the hinge for the purpose described.

In testimony whereof I affix my signature.

CHARLES V. SWANSON.