

July 8, 1930.

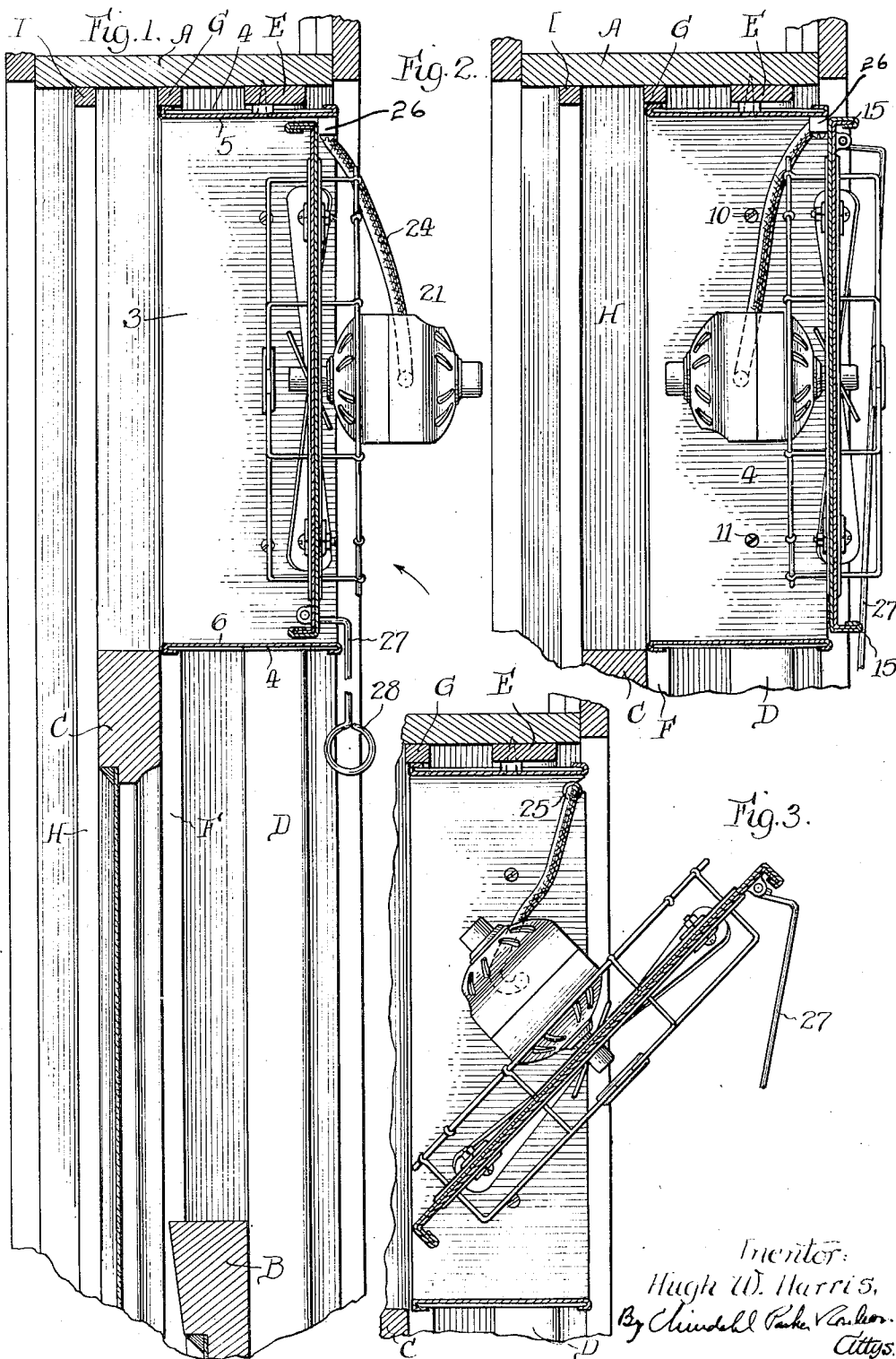
H. W. HARRIS

1,769,922

VENTILATING UNIT

Filed Sept. 21, 1928

2 Sheets-Sheet 1



Inventor:
Hugh W. Harris,
By Chas. E. Parker, Attorney.

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2 Sheets-Sheet 2

Fig. 4.

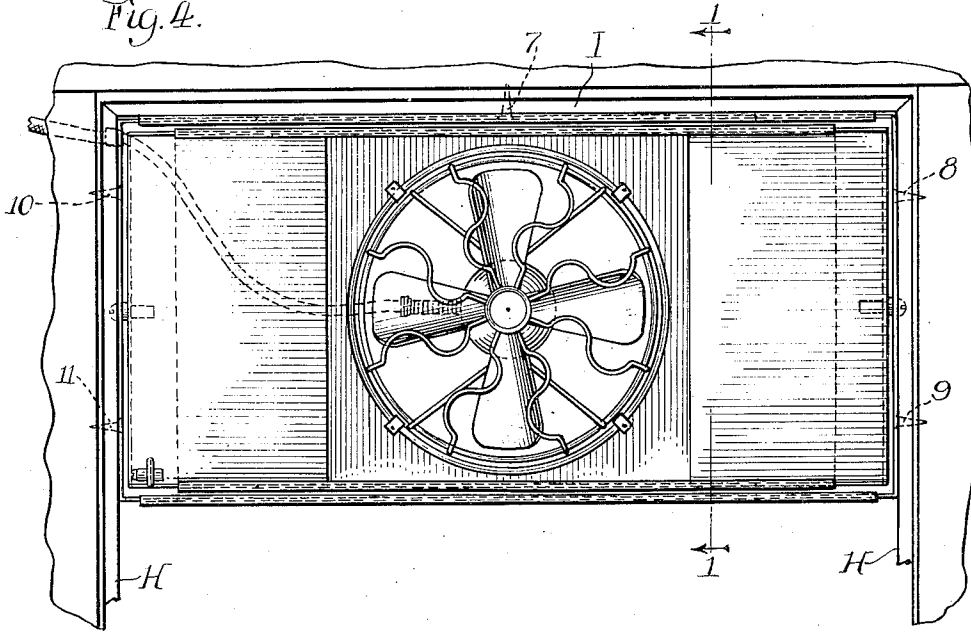


Fig. 5.

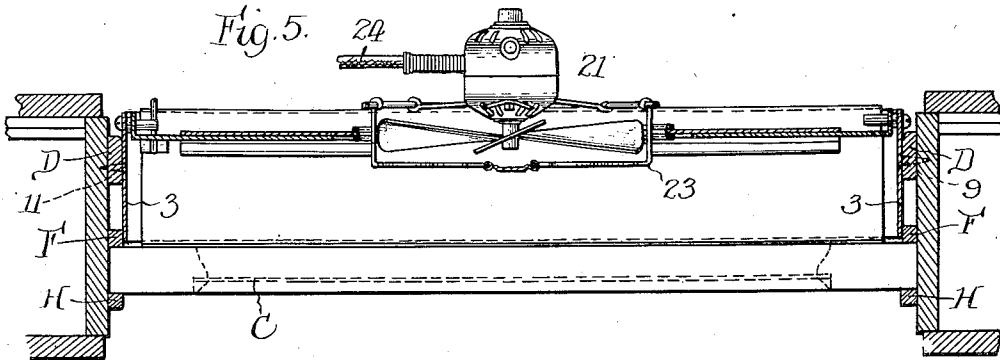


Fig. 6.

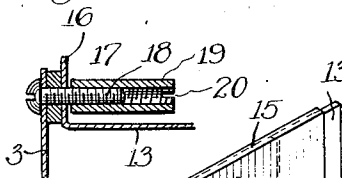


Fig. 7.

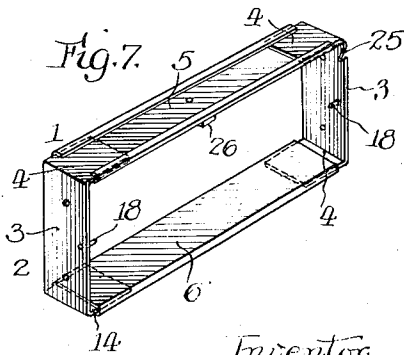
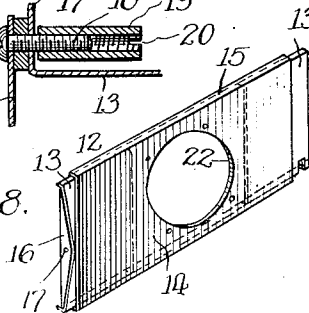


Fig. 8.



Inventor:
Hugh W. Harris,
By Chas. A. Baker, Attorney
City

UNITED STATES PATENT OFFICE

HUGH W. HARRIS, OF CHICAGO, ILLINOIS

VENTILATING UNIT

Application filed September 21, 1928. Serial No. 307,519.

This invention relates to ventilating units adapted to be installed in a kitchen window or analogous location to ventilate the room.

The object of the invention is to provide a construction which while much cheaper to manufacture than any of the units now on the market, shall be capable of being easily installed, readily adaptable to windows of varying widths, conveniently adjustable to direct the air current into or out of the room, and also adjustable to direct the air current downwardly into the room at an angle, if desired.

In the accompanying drawings:

Figure 1 is a vertical sectional view taken in the plane of dotted line 1—1 of Fig. 4, showing the unit installed in a window and adjusted to draw air from the room.

Fig. 2 is a similar view, but showing the unit arranged to blow fresh air horizontally into the room.

Fig. 3 illustrates the unit adjusted to blow air downwardly into the room at an angle to the horizontal.

Fig. 4 is a view taken from the left-hand side of Fig. 1.

Fig. 5 is a horizontal sectional view.

Fig. 6 is a detail view of one of the pivots.

Fig. 7 is a perspective view of a frame comprised in the unit.

Fig. 8 is a perspective view of a pivoted panel forming part of the unit.

In the drawings, A is the window casing, B is the lower sash, and C is the upper sash. D and E are the inner stops for the lower sash B. F and G are the stops located between the paths of movement of the upper and lower sash. H and I are the outer stops for the upper sash.

The embodiment herein shown of the invention comprises a rectangular frame 1 (Fig. 7) adapted to be secured in the upper portion of the window casing, said frame being extensible so that it may fit windows of various widths. The frame 1 comprises two end sections 2, each consisting of a vertically extending portion 3 and two parallel horizontal portions 4. The frame further comprises upper and lower side pieces 5 and 6, the edges of which are folded to form

guides to receive the horizontal portions 4 of the end sections.

The frame 1 is secured in the window casing with its outer side spaced inwardly from the position normally occupied by the upper sash just sufficiently to afford necessary clearance. The frame 1 is secured in place by means, such, for example, as screws 7, 8, 9, 10 and 11 engaging the stops D and E.

Within the frame 1 is pivoted an extensible panel 12 (Fig. 8). Said panel comprises two end sections 13 and a middle or main section 14, the latter having its upper and lower edges flanged, as at 15, to receive the angular edges of the end sections 13. On the end sections 13 are vertical flanges 16 having bearing openings 17 therein whereby the panel may be pivotally mounted upon pivots 18 on the inner sides of the end section 2 of the frame 1. As shown in Fig. 6, the pivots 18 are screw-threaded to receive nuts 19. For convenience in turning the nuts 19 on and off the screws 18, said nuts are made of sufficient length to be grasped by the fingers and are provided at their inner ends with screw-driver slots 20.

An electric fan 21 is carried by the panel 12, there being a central opening 22 in the panel section 14 to receive the fan guard 23. Said guard may be permanently secured to the section 14 in any suitable way. Current is conveyed to the fan 21 by means of a cord 24 which extends through a notch 25 in the inner edge of the upright portion 3 of one of the end sections 2, said notch being located at one of the corners of the frame 1. At the inner edge of the frame member 5 and upon the lower side thereof is located a rubber stop 26 against which the pivoted panel 12 is normally held by the weight of the overhanging motor.

As shown in Figs. 1 and 2, the panel 12 may be rotated through approximately 180° so as to direct the air current either into or out of the room and may also be placed in tilted position, as illustrated in Fig. 3, in order to direct the air downwardly into the room. To facilitate the pivotal adjustment of the panel 12, means of any desired nature may be provided, as, for example, a hand rod

27 pivoted at its upper end to one of the end sections 13 and extending into convenient reach of the operator. The lower end of the rod 27 may be provided with a ring-shaped handle 28 which may be engaged with a projection (not shown) on the window casing to hold the panel 12 tilted at the desired angle.

The ventilating unit just described is installed in the following manner: The frame 1 having been extended to approximately the proper length is placed within the upper portion of the window casing and secured by means of the screw 7. The operator is then free to use both hands to move the end sections 2 into contact with the stops G and secure said sections in place by means of screws 8, 9, 10 and 11. It will be seen that the frame 1 may thus be installed by one person, the screw 7 serving to suspend the frame while the operator completes the operation of extending and securing it in position. After the frame 1 has been mounted in the window casing, the panel 12 having the electric fan 21 permanently secured thereto is placed within the frame 1 and extended so as to pass the bearings 17 over the pivots 18. The nuts 19 are then turned upon the pivots so as to prevent accidental detachment of the panel from the frame. The cord 24 is then placed in the notch 25.

When the ventilating unit is not in use, the upper sash C may occupy its ordinary position. When the fan is to be operated, the sash C is lowered, whereupon the panel 12 may be swung into position to direct the air current as desired. It will be noted that the panel 12 may be swung through 180° without interfering with a screen located at the outer side of the stops H and I.

The cord 24 does not interfere with the pivotal movement of the panel, as the notch 25 is in the vertical plane of the pivots 18 and the stop 26.

In operation the device is free from objectional vibration or noise.

It will be evident that the ventilating unit herein disclosed is of simple and inexpensive construction and may be quickly installed in windows of varying widths, no skilled labor being required in its installation.

I claim as my invention:

1. The combination with a window casing having an upper and a lower sash slidably mounted therein, of a rectangular frame secured inside the upper portion of the window casing closely adjacent to the path of movement of the upper sash, a panel pivotally mounted within said frame to swing upon a horizontal axis, a stop on said frame to limit pivotal movement of the panel to approximately 180°, said panel having an opening therein, an electric fan rigidly secured to the panel within said opening, and a cord for supplying electric current to the fan, said

cord extending through an opening in the side of said frame, said stop and the last mentioned opening being in the plane of the axis of said panel.

2. The combination of a window casing, a panel, means for supporting the panel inside the window casing for pivotal movement through approximately 180° upon a horizontal axis extending centrally of the panel, said panel having an opening therein, an electric fan rigidly secured to the panel within said opening, and a member connected to said panel for pivotally moving the latter into position to direct the air current from the fan horizontally into or out of or downwardly into the room.

3. A ventilating unit comprising an extensible rectangular frame adapted to be secured to the top and sides of a window casing, an extensible panel pivotally mounted within said frame to swing upon a horizontal axis, said panel having an opening therein, an electric fan rigidly secured to the panel within said opening, and a member connected to said panel for pivotally moving the latter into position to direct the air current from the fan downwardly into the room.

4. A ventilating unit comprising an extensible rectangular frame adapted to be secured to the top and sides of a window casing, an extensible panel pivotally mounted within said frame to swing upon a horizontal axis, said panel having an opening therein, and an electric fan rigidly secured to the panel within said opening.

5. A ventilating unit comprising a rectangular frame adapted to be secured to the top and sides of a window casing, a panel pivotally mounted within said frame to swing upon a horizontal axis positioned midway between the horizontal edges of said panel, and an electric fan carried by the panel.

6. A ventilating unit comprising a rectangular structure adapted to be secured to the top and sides of a window casing, a panel pivotally mounted within said frame to swing through approximately 180°, said panel having an opening therein, and an electric fan rigidly secured to the panel within said opening.

7. A ventilating unit comprising a frame adapted to be rigidly secured in a window casing, a panel pivotally mounted within said frame to swing upon a horizontal axis through an arc of substantially 180°, said panel having an opening therein, an electric fan rigidly secured to said panel within said opening, the motor of said fan being eccentrically positioned with respect to the pivotal axis of said panel, and stop means on said frame arranged to act against the weight of said motor to maintain said panel substantially in vertical position at either extremity of its pivotal movement whereby said

fan may act to direct an air current horizontally into or out of the room.

8. A ventilating unit comprising a rectangular frame adapted to be rigidly secured
5 in a window casing, a panel pivotally mounted within said frame to swing upon a horizontal axis positioned mid-way between the horizontal sides of said panel, said panel having an opening therein, an electric fan
10 rigidly secured to said panel within said opening, the motor of said fan being positioned eccentrically of the pivotal axis of said panel, a cord extending from said frame to said motor for supplying the electric current to the motor and arranged to permit of
15 pivotal movement of said panel through substantially 180°, stop means acting against the weight of said motor to maintain said panel in either of two substantially vertical
20 positions so that said fan acts to direct an air current horizontally into or out of the room.

9. A ventilating unit comprising a rectangular frame adapted to be rigidly secured
25 in a window casing, a panel pivotally mounted within said frame to swing upon a horizontal axis positioned mid-way between the horizontal sides of said panel, said panel having an opening therein, an electric fan
30 rigidly secured to said panel within said opening, the motor of said fan being positioned eccentrically of the pivotal axis of said panel, a cord extending from said frame to said motor for supplying electric current
35 to the motor and arranged to permit of pivotal movement of said panel through substantially 180°, stop means acting against the weight of said motor to maintain said panel in either of two substantially vertical
40 positions so that said fan acts to direct the air current horizontally into or out of the room, and means for adjusting said panel so that said fan will direct air into the room at an angle to the horizontal.

45 In testimony whereof, I have hereunto affixed my signature.

HUGH W. HARRIS.

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