March 31, 1931. A. G. SUTCLIFFE 1,798,282

PORTABLE VENTILATING OUTFIT

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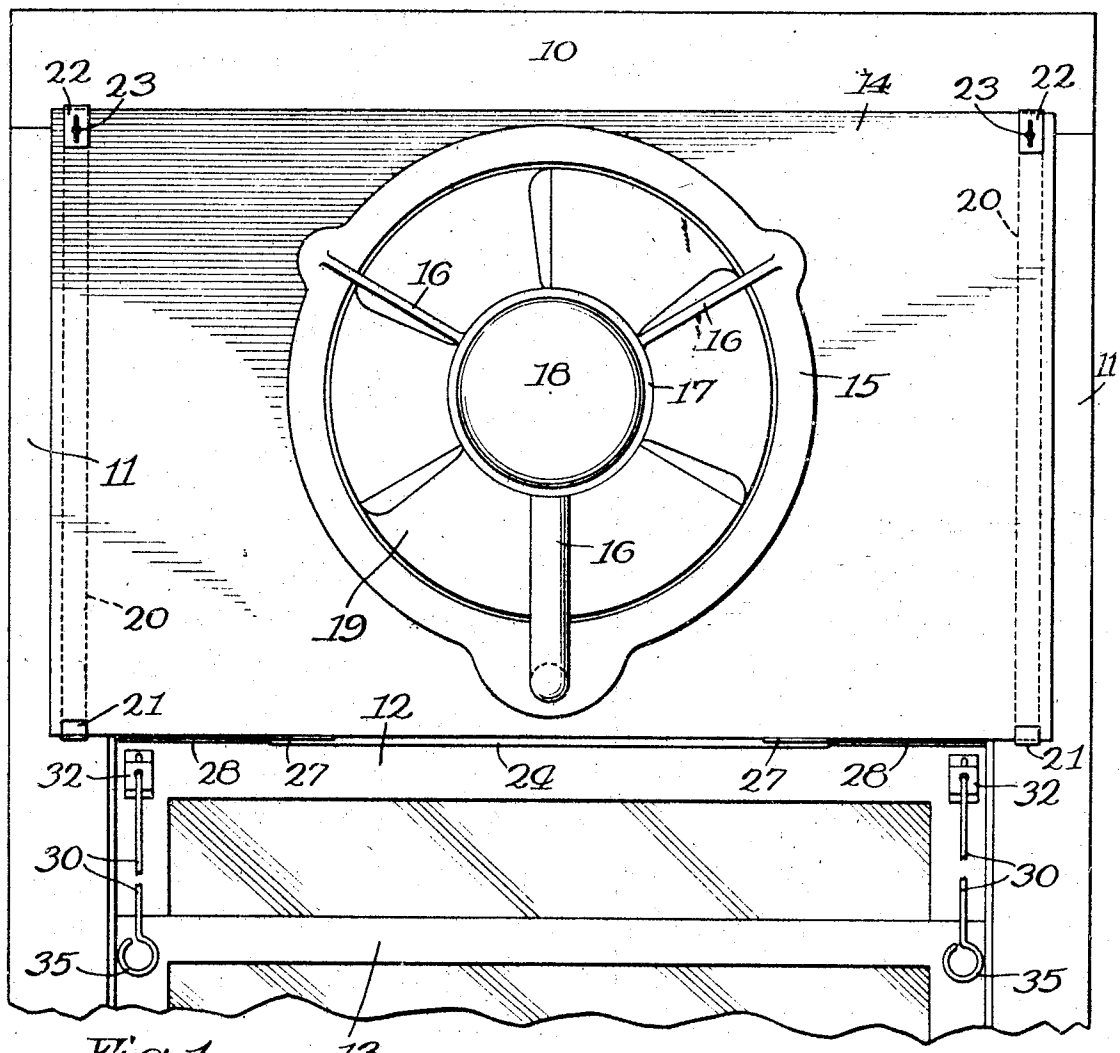

Fig. 1

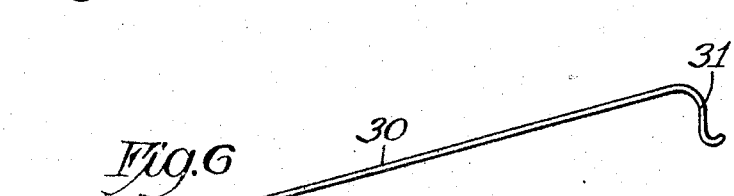

Fig. 6

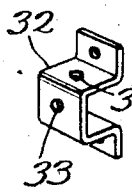

Fig. 7

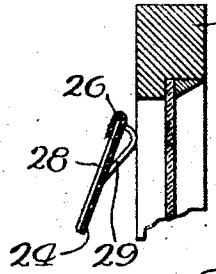

Fig. 8

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Fig. 2

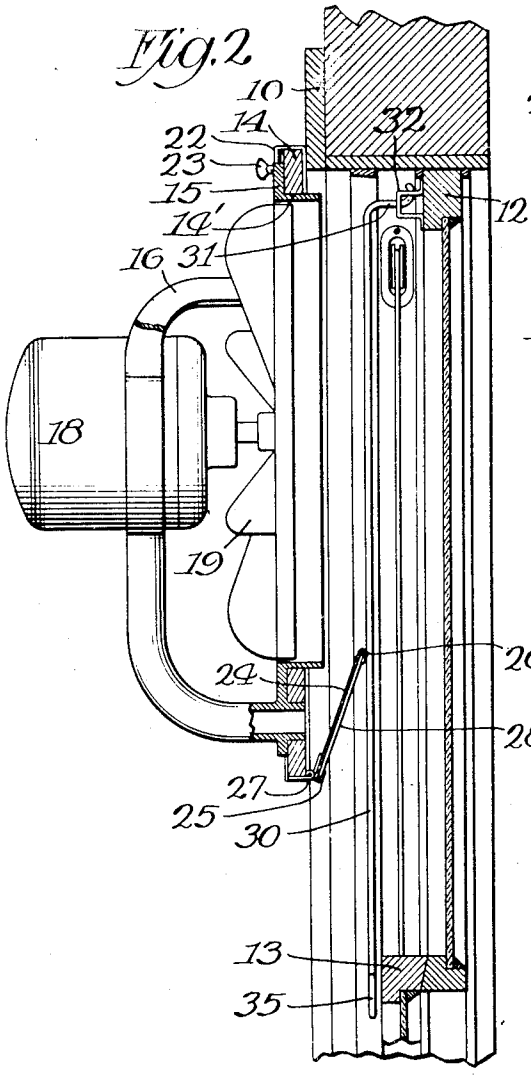


Fig. 4

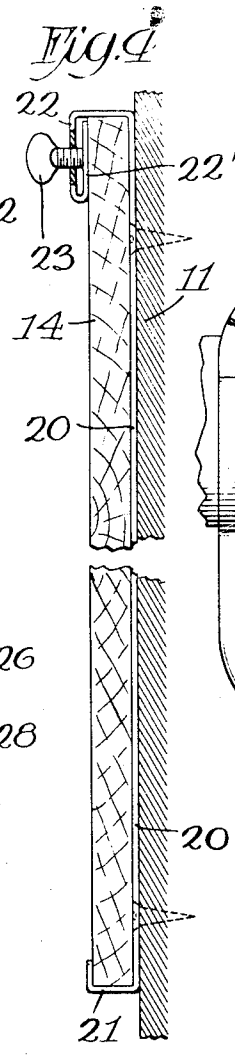


Fig. 3

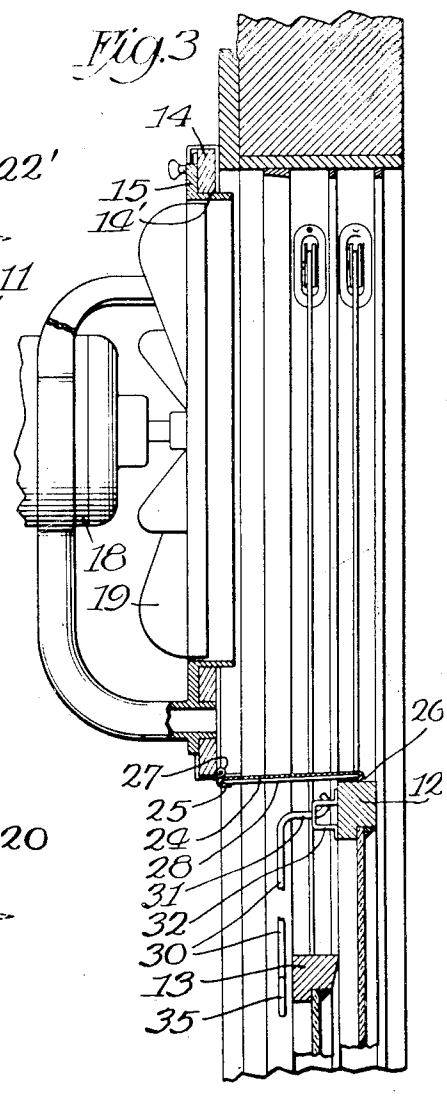
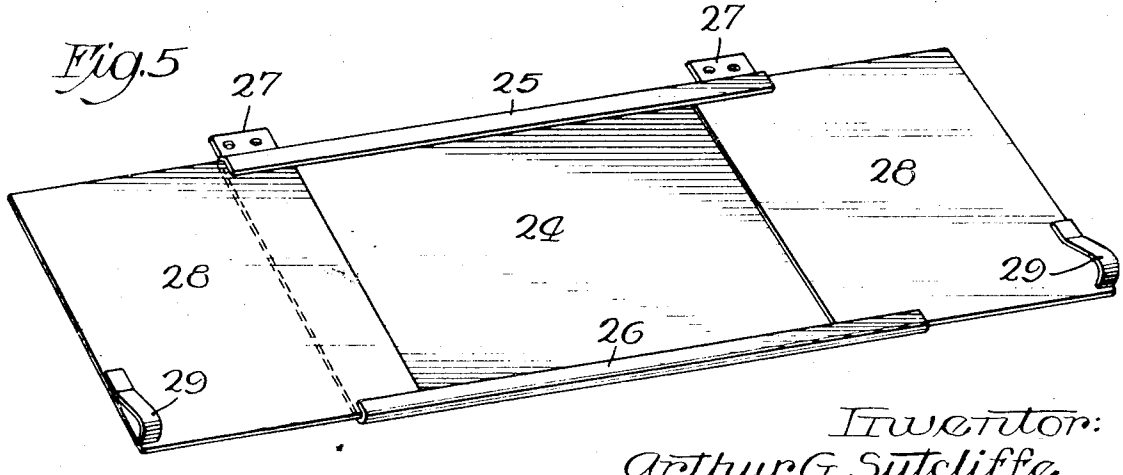


Fig. 5



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Patented Mar. 31, 1931

1,798,282

UNITED STATES PATENT OFFICE

ARTHUR G. SUTCLIFFE, OF CHICAGO, ILLINOIS, ASSIGNOR TO ILG ELECTRIC VENTILATING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF LOUISIANA

PORTABLE VENTILATING OUTFIT

Application filed March 19, 1928. Serial No. 262,608.

This invention relates to ventilating apparatus, and has reference more particularly to ventilating appliances of a portable character which are adapted for application to the windows of residences and other buildings to expel foul air from the interior or induce fresh air from the outside, without involving any substantial alteration or defacement of the window structure.

A portable ventilating apparatus of the general type to which the present invention belongs is disclosed in patent to Breidert and Starks, No. 1,549,440, dated August 11, 1925, and my present invention is in the nature of an improvement on the article of the said patent, one of the objects being to provide a more secure mounting for the panel carrying the fan and motor on the window frame, and another object being to provide an improved adjustable closure strip to span the space between the lower edge of the panel and the top of the lowered upper sash.

Further objects and attendant advantages of the invention will be apparent to persons skilled in the art as the same becomes better understood by reference to the following detailed description, taken in connection with the accompanying drawings, wherein I have illustrated a practical and approved embodiment of the invention, and in which—

Fig. 1 is a front elevation of a window frame showing the upper sash lowered and my improved ventilating outfit applied thereto;

Fig. 2 is a vertical transverse section showing the upper sash in raised position;

Fig. 3 is a vertical transverse section showing the upper sash in lowered position and the free edge of the closure strip resting thereon;

Fig. 4 is a vertical section, broken out, in the plane of one of the panel supporting strips;

Fig. 5 is an enlarged perspective detail of the extensible closure strip, showing the under side thereof;

Fig. 6 is a perspective detail of one of a pair of push and pull rods for raising and lowering the upper sash;

Fig. 7 is a perspective detail of a bracket detachably engaged by the push and pull rod of Fig. 6;

Fig. 8 is a sectional detail illustrating the function of spacers on the free edge of the closure strip to insure clearance between the latter and the top bar of the sash when the latter is lowered.

Referring to the drawing, 10 designates the top bar and 11 the side bars of a conventional window frame, and 12 and 13 designate respectively the upper and lower window sashes. 14 designates a rectangular panel conveniently made of wood and formed with a central hole 14′ in which is mounted an annular frame member 15 formed with radial arms 16 and a ring 17 in which is supported an electric motor 18 operating a direct driven ventilating fan 19 which serves to move air through the ring frame 15 when the upper sash 12 is lowered as shown in Fig. 3.

The panel 14 is supported in working position by means of a pair of metal strips 20 formed on their lower ends with upturned hooks 21 that support the lower edge of the panel, as clearly shown in Fig. 4, and on their upper ends with downturned hooks 22 which overlap the upper edge of the panel. The downturned limb of the hook 22 is formed with an upwardly turned or reentrant terminal portion 22′ that bears against the outer face of the panel 14, and the downturned portion of the hook has a tapped opening to receive a thumb-screw 23 which bears against the upturned or reentrant portion 22′ and forces the latter tightly against the panel. By this means the upper portion of the panel is held tightly against the window frame, and by retracting the thumb-screws 23 the panel may be readily entered endwise into, and withdrawn from, its supporting brackets in an obvious manner.

When the sash is lowered, as shown in Fig. 3, in order to enable the fan to function efficiently it is desirable to close the opening between the lower edge of the panel and the top of the lowered sash. Strips for closing this opening are broadly old, and two forms of such closure strip are disclosed in the Breidert and Starks patent hereinabove iden-

tified, but my present invention embodies certain improved features in such a closure strip which will now be described.

The panel 14 in practice is made wide enough to serve the widest window of any dwelling or room in which it may be used, and when applied to narrower windows, can overhang the side frame members of the latter, if necessary, without interfering with its proper functioning. The closure strip, however, must be adjustable lengthwise to fit the width of the particular sash with which it cooperates, and for this purpose the closure strip consists preferably, as best shown in Fig. 5, of a sheet-metal plate 24 with inwardly folded marginal flanges or lips 25 and 26 on its lower and upper edges respectively. To the lower edge of the strip 24 are secured hinge members 27 that are attached to the lower edge of the panel 14. Slidably engaged with the flanges or lips 25 and 26 of the main panel member 24 are adjustable sheet-metal extension members 28. Two, or only one, of the extension members 28 may be employed, depending upon the width of the window to be served, and the member or members 28 and the main member 24 are so adjusted that their combined length will equal the width, between the sash grooves, of the upper sash 12.

As the upper sash 12 is raised and lowered, the free edge of the closure strip rides over the stiles of the sash, and where one or both extension pieces 28 are employed, it is necessary to provide means for preventing the flanged free edge 27 of the closure strip from striking the top cross-bar of the sash as the latter is being lowered. For this purpose I employ a spacer conveniently consisting of a bowed metal strip 29 that is attached at one end to the under side of the closure strip extension 28 at or near the outer end of the latter, said spacer strip 29 sliding on the stile of the sash in the manner shown in Fig. 8 and holding the free edge 26 of the main member 24 of the closure strip sufficiently spaced from the path of travel of the top cross-bar of the sash to prevent any interference with the latter.

When employing a ventilating panel of this character which, when in place, covers the major portion of the upper window sash, it is desirable to provide means for conveniently raising and lowering the upper sash without having to first remove the panel. As a convenient means for this purpose I preferably employ on each side of the upper sash a pair of push and pull rods 30. The upper end of each rod is bent to form a hook 31 adapted to detachably engage with a horizontal U-shaped bracket 32 mounted on the upper end of each sash stile, as shown in Figs. 1 and 2. The vertical limb of the bracket and its upper horizontal limb are provided with holes 33 and 34 respectively, through which the hook 31 may be successively entered, as clearly shown in Fig. 2. The rod 30, in the closed position of the upper sash, depends somewhat below the lower edge of the panel, as shown in Fig. 2 and may be formed on its lower end with a ring 35 conveniently engaged by the finger. Where the push and pull rods 30 are employed, the spacer or spacers 29 on the free edge of the closure strip may be omitted, since the free edge of the closure strip rides on the rods 30 and the latter serve to prevent collision of the free edge of the closure strip with the top bar of the sash in lowering the latter. This feature is not claimed herein, but forms the subject matter of a divisional application, filed May 15, 1930, Serial No. 452,535.

I have herein shown and described simple and practical embodiments of the novel features of the invention, but do not limit the latter to the exact forms and structures shown for purposes of illustration, but reserve such variations, modifications and mechanical equivalents as fall within the spirit and purview of the claims.

I claim—

1. A portable ventilating appliance of the character described, comprising in combination a panel adapted to overlap at its ends the vertical side members of a window frame and formed with an opening, a fan motor and fan mounted on said panel over said panel opening, and a pair of brackets adapted to be attached respectively to said side members of the window frame, each of said brackets being so formed as to engage and hold said panel at both the upper and lower edges of the latter.

2. A portable ventilating appliance of the character described, comprising in combination a panel adapted to overlap at its ends the vertical side members of a window frame and formed with an opening, a fan motor and fan mounted on said panel over said panel opening, and a pair of vertical strips adapted to be mounted on said side members of the window frame, said strips formed with upturned hooks on their lower ends to seat the lower edge of the panel and with downturned hooks on their upper ends to embrace the upper edge of the panel.

3. A portable ventilating appliance of the character described, comprising in combination a panel adapted to overlap at its ends the vertical side members of a window frame and formed with an opening, a fan motor and fan mounted on said panel over said panel opening, and a pair of vertical strips adapted to be mounted on said side members of the window frame, said strips formed with upturned hooks on their lower ends to seat the lower edge of the panel and with downturned hooks on their upper ends to embrace the upper edge of the panel, and means for clamping said downturned hooks on the upper edge of the panel.

4. A portable ventilating appliance of the character described, comprising in combination a panel adapted to overlap at its ends the vertical side members of a window frame and formed with an opening, a fan motor and fan mounted on said panel over said panel opening, and a pair of vertical strips adapted to be mounted on said side members of the window frame, said strips formed with upturned hooks on their lower ends to seat the lower edge of the panel and with downturned hooks on their upper ends to embrace the upper edge of the panel, said downturned hooks being formed with upturned terminal portions, and clamp screws threaded through said downturned hooks and pressing said terminal portions against the face of said panel.

5. A portable ventilating appliance of the character described, comprising in combination a panel adapted to overlap at its ends the vertical side members of a window frame and formed with an opening, a fan motor and fan mounted on said panel over said panel opening, means for mounting said panel on the window frame, and an extensible telescoping closure strip hinged at its forward edge to the lower edge of the panel and at its rear free edge adapted to rest on the top of the upper sash when the latter is in lowered position, the inner telescoping member of said closure strip being provided on its free edge with a spacer to insure the riding of the free edge of the strip over the top bar of the upper sash when lowering the latter.

ARTHUR G. SUTCLIFFE.