April 3, 1962 C. P. MARTIN 3,027,823

AWNING VENT WINDOW

Filed June 24, 1960 2 Sheets-Sheet 1

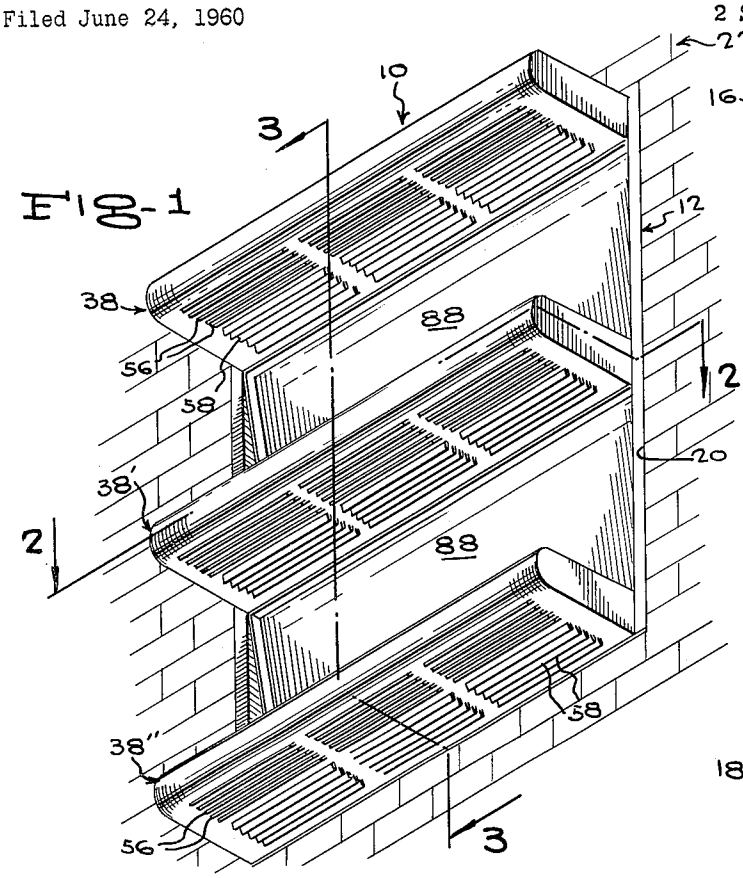



FIG-1

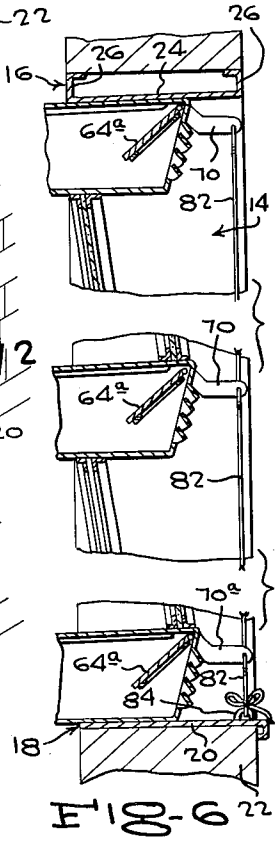
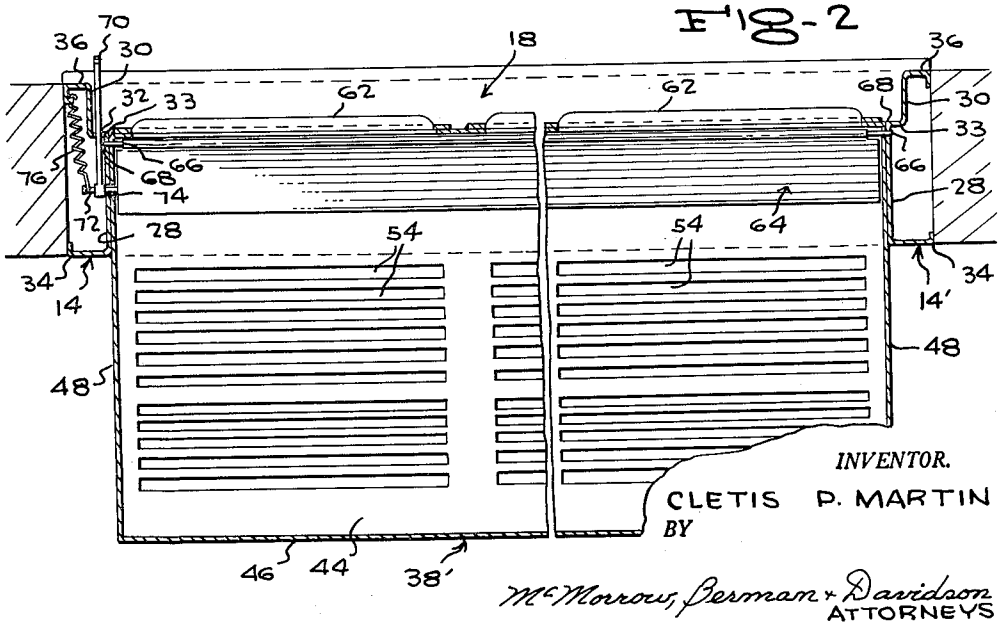



FIG-6

FIG-2




INVENTOR.
CLETIS P. MARTIN
BY
McMorrow, Berman & Davidson
ATTORNEYS

April 3, 1962 C. P. MARTIN 3,027,823

AWNING VENT WINDOW

Filed June 24, 1960 2 Sheets-Sheet 2

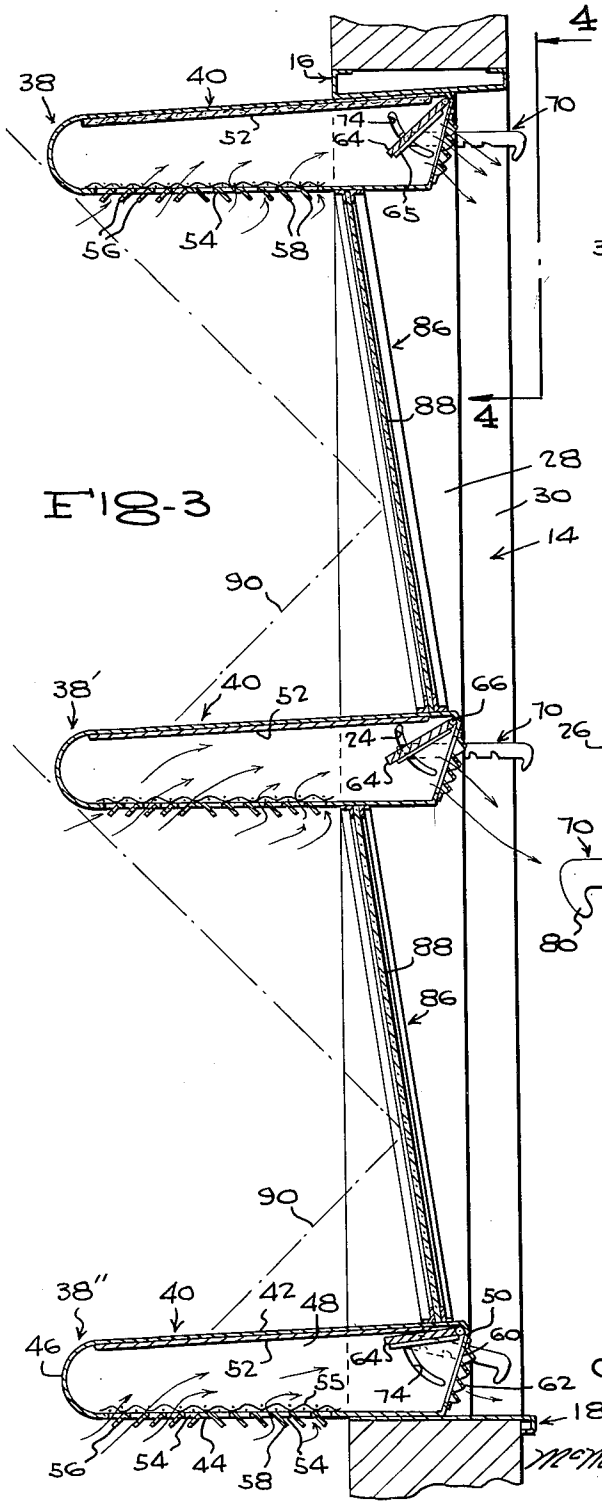



FIG-3

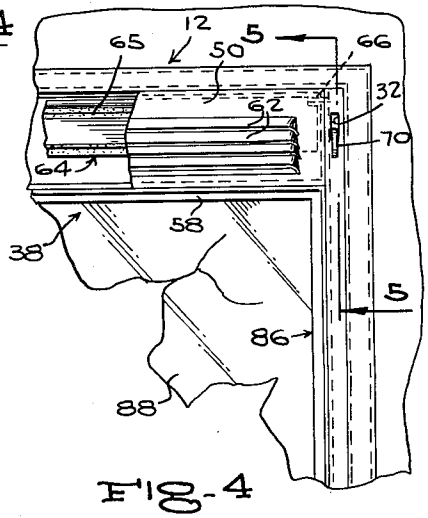
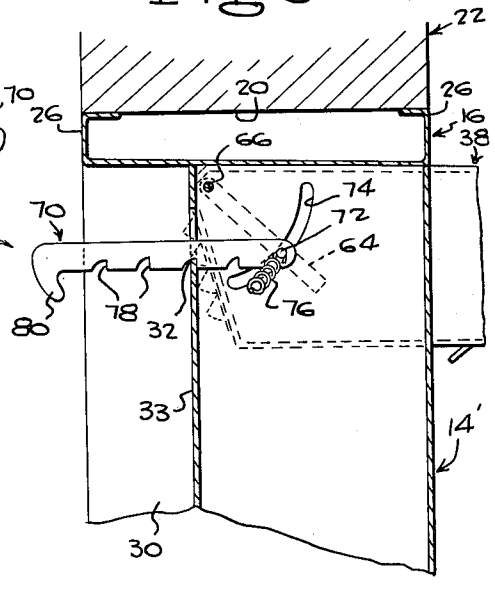



FIG-4

FIG-5




INVENTOR.

CLETIS P. MARTIN

BY

McMorrow, Berman & Davidson

ATTORNEYS

United States Patent Office 3,027,823 Patented Apr. 3, 1962



3,027,823

# AWNING VENT WINDOW

Cletis P. Martin, 822 S. College St., Waxahachie, Tex.

Filed June 24, 1960, Ser. No. 38,465
8 Claims. (Cl. 98—88)

This invention relates to a novel awning vent window.

The primary object of the invention is the provision of an efficient and highly practical window structure of the kind indicated which combines in a novel and more effective manner, glass panes tilted for deflection of sun rays and for directing air impinging upon the exterior of the panes, and combination ventilator and awning hoods which reach outwardly beyond the panes so as to shelter the panes from overhead sun and extend into the interior of the building, and to which outside air is directed by the panes.

Another object of the invention is to provide window structure of the character indicated above wherein the hoods are closed except for air intake louvers in their bottoms, at the outer sides of the panes, and outlet louvers in their inner ends disposed within the building, the flow of air into the building through the outlet louvers being controlled by valve means.

A further object of the invention is the provision of window structure of the character indicated above which involves two vertically aligned tilted panes, a combination ventilator and awning hood located between the panes, and similar hoods located at the upper end of the upper pane and at the lower end of the lower pane, the valve means of the hoods being either individually or simultaneously operable for positive and gradient control of entry of outside air into the building.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

FIGURE 1 is an outside perspective view showing an awning vent window of the present invention installed in a window opening of a building;

FIGURE 2 is an enlarged, fragmentary and contracted horizontal section taken on the line 2—2 of FIGURE 1;

FIGURE 3 is an enlarged vertical transverse section taken on the line 3—3 of FIGURE 1, showing the valves of the hoods in open position;

FIGURE 4 is a fragmentary inside elevation taken from the line 4—4 of FIGURE 3;

FIGURE 5 is an enlarged fragmentary vertical transverse section taken on the line 5—5 of FIGURE 4; and

FIGURE 6 is a fragmentary and contracted transverse vertical section, like FIGURE 3, showing the hood valves connected together by operating means for simultaneous operation of the valves.

Referring in detail to the drawings, wherein like and related numerals designate like and related parts throughout the several views, and first to FIGURES 1 to 5, the window structure therein shown, and generally designated 10, comprises a window frame 12 which is composed of vertical side members 14 and 14', a top cross member 16, and a bottom cross member 18, which are adapted to be suitably secured to the inner surfaces of related portions of a window opening 20 in a building wall 22.

The bottom frame member 18 is preferably flat, as shown in FIGURE 3, and rests upon the full width of the bottom surface of the window opening 20. The top cross member 16 is shown as being of flat channel form, composed of a flat web 24 which is spaced from the top surface of the window opening 20, by hook flanges 26. The frame side members 14 and 14' are substantially similar channel forms, as shown in FIGURE 2, and are composed



of webs which have flat outer portions 28 and laterally outwardly offset flat inner portions 30, the side member 14 having a vertical closed slot 32 in the jog 33 between the portions 28 and 30. On the remote ends of the portions 28 and 30 are hook flanges 34 and 36, respectively, which bear against the side surfaces of the window opening 20 and space the web portions therefrom.

The window structure 10 further comprises three preferably equally vertically spaced, similar combination ventilator and awning hoods 38, 38' and 38''. Each hood comprises a flat horizontally elongated hollow housing 40 having a flat top wall 42, a flat bottom wall 44, a concavo-convex outer end wall 46, extending between the outer edges of the top and bottom walls, and flat end walls 48 extending between the ends of the top and bottom walls, the hoods being of overall elongated rectangular shape. While the top walls 42 of the hoods decline at a slight outward and downward angle, for drainage purposes, their bottom walls 44 are preferably horizontally disposed, or at right angles to the window frame 12. The hoods have downwardly and outwardly angled inner side walls 50.

The walls of the hoods, except for their bottom walls 44, and their inner side walls 50 are imperforate, and their top walls 42 are lined with heat and sound insulation, as indicated at 52.

The bottom walls 44 of the hoods are formed with longitudinally spaced groups of laterally spaced longitudinally extending air intake slots 54 which are covered by a screen 55, and outwardly declining louvers 56 are disposed on edges of outwardly located slots, and inwardly declining louvers 58 are disposed on edges of inwardly located slots, for reasons hereinafter stated.

The inner side walls 50 of the hoods are formed with vertically spaced horizontal longitudinal air outlet slots 60 on whose upper edges are disposed inwardly and downwardly angled louvers 62. Flat flap valve plates 64 are disposed at the outer sides of the walls 50 and have pivot pins 66 projecting from their ends, at their upper edges, which are journalled in holes 68 provided in the outer web portions 28 of the frame side members, near the jog 33, as shown in FIGURE 2. Marginal guides 65 are provided on the valve plates for sealed engagement of the plates 64 with the inner walls 50 of the hoods, in the closed positions of the plates. Operating means for the valve plates 64 can comprise flat bars 70 having outer ends pivoted on short rods 72 which are secured to adjacent ends of the plates 64 and extend through arcuate slots 74, formed in one end wall 48 of the hoods and in the outer web portion 28 of the window frame side member 14, as shown in FIGURES 2 and 5. Helical springs 76 are secured to and stretched between the rods 72 and the inner hook flange 30 of the frame side member 14, so as to bias the valve plates 64 toward closed positions. The operating bars 70 have spaced notches 78 in their lower edges, for selective engagement with the lower ends of the slots 32 in the jog 33 of the frame side members 14, for holding the valve plates in selected open positions. The bars 70 have depending handles 80 on their inner ends, and are individually operable for individually adjusting the valve plates of the hoods.

However, when desired, and as shown in FIGURE 6, the operating bars 70*a* therein shown, can be connected together, by means of cords or rods 82, for simultaneous operation of the valve plates of all of the hoods, the valve plates 64*a* in this case being gravity closed, rather than spring closed. For holding the valve plates 64*a* in selected open positions, the lowermost cord 82 is adapted to be tied, in stretched condition, to such as an eye 84, secured to the lower window frame cross member 18.

The upper hood 38 is fixedly mounted in the window frame 12, with its top wall 42 suitably secured to the

underside of the top frame member 16, with its inner wall 50 spaced outwardly from the inner edge of the member 16, and with a major part of the hood extending outwardly beyond the member 16, and with the hood end walls 48 suitably secured to the outer web portions 28 of the frame side members 14 and 14'.

The middle or intermediate hood 38' is fixed to the frame 12 only by suitable securement of its end walls 48 to the outer web portions 28 of the side members 14 and 14'. The lower hood 38'' rests upon and is suitably secured to the bottom window frame cross member 18 and has its end walls suitably secured to the outer web portions 28 of the frame side members 14 and 14'.

Upper and lower rectangular channel sash frames 86 are severally disposed between the upper and intermediate hoods and the intermediate hood and the lower hood, and have window panes 88 set therein. As shown in FIGURE 3, the sash frames 86 are suitably fixed, at their upper ends, to the hood bottom walls 44, at locations spaced outwardly from the inner sides of the hoods, in line with the outer side of the window frame, and immediately behind the air intake slots of the hoods; while at their lower ends, the sash frames are suitably fixed to the hood top walls 42, at locations close to the inner sides of the hoods, so that the panes 88 are disposed at inward and downward angles relative to the frame 12, which is perpendicular.

Because of the canting of the window panes 88, sun rays passing the hoods and impinging thereon, are deflected downwardly, as indicated at 90 in FIGURE 3, and prevented from entering the interior of the building behind the panes. Further, the canted positions of the panes cause the panes to direct outside air, impinging thereon, upwardly toward and past the inward louvers 58 and into the inward air intake slots 54 of the hoods, so as to cause a flow of ventilating air inwardly in the hoods to and through their air outlet slots 60, into the building. The outer louvers 56 direct outside air moving toward the window structure 10 into the outer intake slots 54 to the outlet slots 60, so as to enhance and supplement the inward flow of outside air in the hoods directed thereto by the window panes 88.

While there has been shown and described herein a preferred form of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. An awning vent window comprising a window frame having vertical side members and top and bottom cross members, a combination ventilator and awning hood extending between and fixed to said side members and projecting outwardly beyond said frame, said hood comprising a hollow housing having an imperforate top wall, an imperforate outer side wall, a bottom wall, end walls, and an inner side wall, said bottom wall being formed with outside air intake slots extending longitudinally of the hood, said inner side wall being formed with air outlet slots extending longitudinally of the hood, and a window pane secured to and extending between said frame side members, said window pane being upwardly and outwardly angled relative to the window frame, said air intake slots including outwardly located slots and inwardly located slots, and inward louvers on edges of the inwardly located slots angled downwardly and inwardly toward said window pane, said rearward louvers serving to direct air into the inwardly located slots directed thereto by the window pane, and outward louvers on edges of the outwardly located slots, said outward louvers being outwardly and downwardly angled relative to the perpendicular to direct air moving toward the window into said outwardly located slots concurrently with the direction of air into the inwardly located slots.



2. An awning vent window comprising a window frame having vertical side members and top and bottom cross members, a combination ventilator and awning hood extending between and fixed to said side members and projecting outwardly beyond said frame, said hood comprising a hollow housing having an imperforate top wall, an imperforate outer side wall, a bottom wall, end walls, and an inner side wall, said bottom wall being formed with outside air intake slots extending longitudinally of the hood, said inner side wall being formed with air outlet slots extending longitudinally of the hood, and a window pane secured to and extending between said frame side members, said window pane being upwardly and outwardly angled relative to the window frame, and a valve plate pivoted within the hood housing at the outer side of the inner side wall of the hood to swing toward and away from said inner side wall for closing the outlet air slots therein, and operating means for the valve plate.

3. An awning vent window comprising a window frame having vertical side members and top and bottom cross members, a combination ventilator and awning hood extending between and fixed to said side members and projecting outwardly beyond said frame, said hood comprising a hollow housing having an imperforate top wall, an imperforate outer side wall, a bottom wall, end walls, and an inner side wall, said bottom wall being formed with outside air intake slots extending longitudinally of the hood, said inner side wall being formed with air outlet slots extending longitudinally of the hood, and a window pane secured to and extending between said frame side members, said window pane being upwardly and outwardly angled relative to the window frame, and a valve plate pivoted within the hood housing at the outer side of the inner side wall of the hood to swing toward and away from said inner side wall for closing the outlet air slots therein, and operating means for the valve plate, comprising an endwise movable bar, a rod secured to and extending laterally from an end of the bar, said rod being fixed to an end of the valve plate, spring means urging the valve plate toward said inner side wall, and notches spaced along the bar for selective engagement with a portion of the window frame.

4. An awning vent window comprising a window frame having vertical side members and top and bottom cross members, a combination ventilator and awning hood extending between and fixed to said side members and projecting outwardly beyond said frame, said hood comprising a hollow housing having an imperforate top wall, an imperforate outer side wall, a bottom wall, end walls, and an inner side wall, said bottom wall being formed with outside air intake slots extending longitudinally of the hood, said inner side wall being formed with air outlet slots extending longitudinally of the hood, and a window pane secured to and extending between said frame side members, said window pane being upwardly and outwardly angled relative to the window frame, and a valve plate pivoted within the hood housing at the outer side of the inner side wall of the hood to swing toward and away from said inner side wall for closing the outlet air slots therein, and operating means for the valve plate, comprising a bar fixed at one end to the valve plate, and an element secured to and extending downwardly from the other end of the bar, the valve plate being gravity biased toward the inner side wall of the hood.

5. An awing vent window comprising a window frame having vertical side members and top and bottom cross members, combination ventilator and awning means comprising vertically spaced upper, intermediate, and lower hoods, said hoods comprising hollow housings having imperforate top walls, imperforate outer side walls and imperforate end walls, and bottom walls and inner side walls, the bottom wall having longitudinal outside air intake slots therein, the inner side wall having longitudinal air outlet slots, said hoods being wider than the window frame side members and extending therebetween, the

upper hood being secured to the top frame cross member and to the side members, said intermediate hood being secured to the side members, and said lower hood being secured to the side members and to the bottom window frame cross member, said hoods having outer portions reaching outwardly beyond the window frame and inner portions located at the inward side of the window frame, an upper window sash extending between the upper and intermediate hoods and having the upper end secured to the bottom wall of the upper hood at the inner side of the inlet openings, and a lower window sash extending between the intermediate hood and the lower hood and having the upper end secured to the bottom wall of the intermediate hood at the inner side of the inlet openings.

6. An awning vent window comprising a window frame having vertical side members and top and bottom cross members, combination ventilator and awning means comprising vertically spaced upper, intermediate, and lower hoods, said hoods comprising hollow housing having imperforate top walls, imperforate outer side walls and imperforate end walls, and bottom walls and inner side walls, the bottom wall having longitudinal outside air intake slots therein, the inner side wall having longitudinal air outlet slots, said hoods being wider than the window frame side members and extending therebetween, the upper hood being secured to the top frame cross member and to the side members, said intermediate hood being secured to the side members, and said lower hood being secured to the side members and to the bottom window frame cross member, said hoods having outer portions reaching outwardly beyond the window frame and inner portions located at the inward side of the window frame, an upper window sash extending between the upper and intermediate hoods and having the upper end secured to the bottom wall of the upper hood at the inner side of the inlet openings, and a lower window sash extending between the intermediate hood and the lower hood and having the upper end secured to the bottom wall of the intermediate hood at the inner side of the inlet openings, said window sashes being inclined outwardly relative to the window frame.

7. An awning vent window comprising a window frame having vertical side members and top and bottom cross members, combination ventilator and awning means comprising vertically spaced upper, intermediate, and lower hoods, said hoods comprising hollow housings having imperforate top walls, imperforate outer side walls and imperforate end walls, and bottom walls and inner side walls, the bottom wall having longitudinal outside air intake slots therein, the inner side wall having longitudinal air outlet slots, said hoods being wider than the window



frame side members and extending therebetween, the upper hood being secured to the top frame cross member and to the side members, said intermediate hood being secured to the side members, and said lower hood being secured to the side members and to the bottom window frame cross member, said hoods having outer portions reaching outwardly beyond the window frame and inner portions located at the inward side of the window frame, an upper window sash extending between and secured to the upper and intermediate hoods, and a lower window sash extending between and secured to the intermediate hood and the lower hood, said window sashes being inclined outwardly relative to the window frame, said sashes having upper ends engaged with the bottom walls of related hoods at locations immediately inwardly of the air intake slots thereof.

8. An awning vent window comprising a window frame having vertical side members and top and bottom cross members, combination ventilator and awning means comprising vertically spaced upper, intermediate, and lower hoods, said hoods comprising hollow housings having imperforate top walls, imperforate outer side walls and imperforate end walls, and bottom walls and inner side walls, the bottom wall having longitudinal outside air intake slots therein, the inner side wall having longitudinal air outlet slots, said hoods being wider than the window frame side members and extending therebetween, the upper hood being secured to the top frame cross member and to the side members, said intermediate hood being secured to the side members, and said lower hood being secured to the side members and to the bottom window frame cross member, said hoods having outer portions reaching outwardly beyond the window frame and inner portions located at the inward side of the window frame, an upper window sash extending between and secured to the upper and intermediate hoods, and a lower window sash extending between and secured to the intermediate hood and the lower hood, said window sashes being inclined outwardly relative to the window frame, said sashes having upper ends engaged with the bottom walls of related hoods at locations immediately inwardly of the air intake slots thereof, and valve plates pivoted in the hoods to swing toward the inner side walls of the hoods to close the air outlet slots therein, and operating means for the valve plates.

**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 2,069,435 | Eager | Feb. 2, 1937 |
| 2,115,330 | Eager | Apr. 26, 1938 |