June 12, 1951 R. A. WILKE 2,556,407

METAL VENTILATOR OR WINDOW STRUCTURE

Filed Nov. 4, 1947

FIG. 1

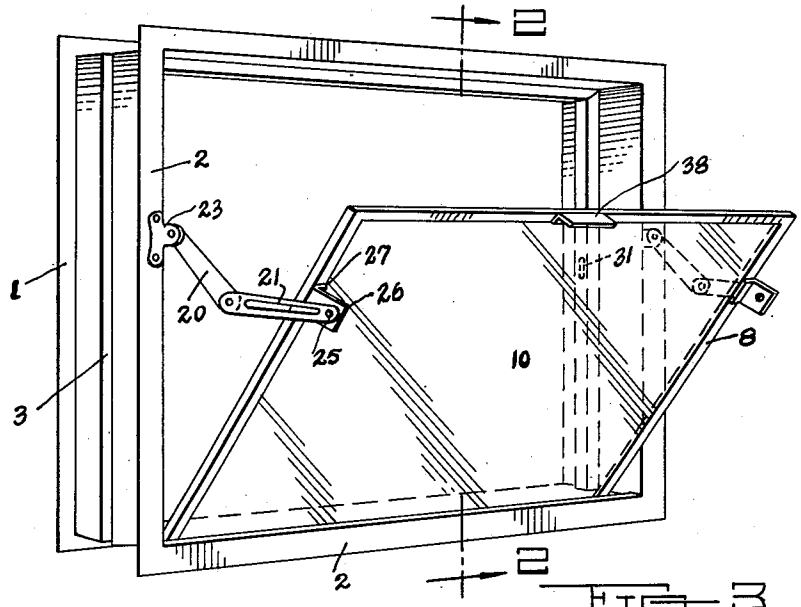


FIG. 2

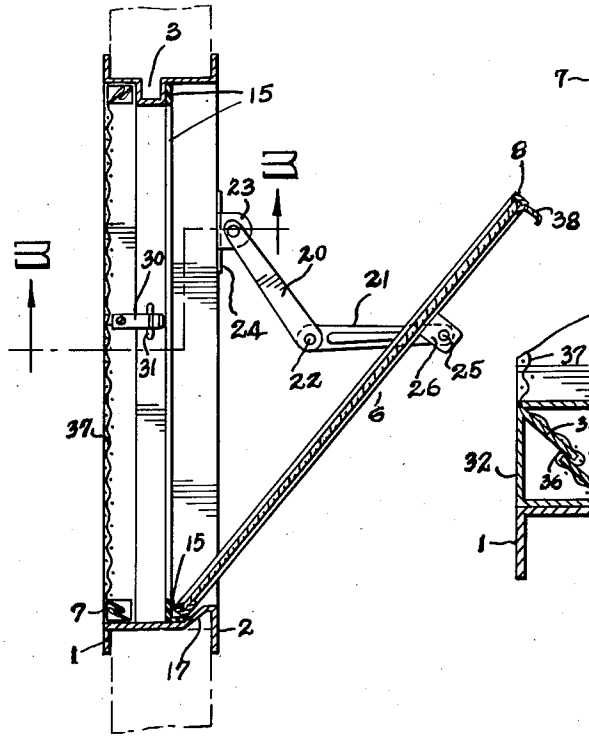


FIG. 3

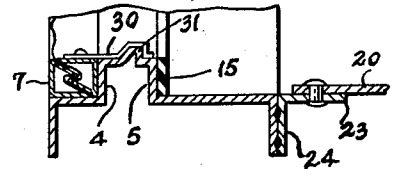
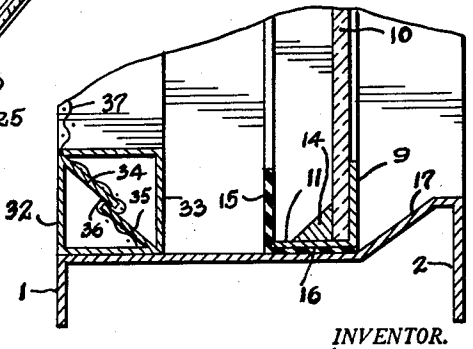


FIG. 4



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METAL VENTILATOR OR WINDOW STRUCTURE

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3 Claims. (Cl. 20—53)

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This invention relates to a metal ventilator or window structure particularly for use in connection with glass block walls.

One of the objects of the invention is to provide a structure in which the sash can be readily removed or adjusted from the inside of the building and the storm sash or screen also positioned from the inside.

A further object of the invention is to construct a metal ventilator or frame in which the bottom rail is so constructed as to prevent the discharge of condensation within the building.

More specifically this invention comprehends a one piece welded frame shaped for association with glass blocks, the frame being provided with a sash hingedly supported to permit suitable adjustment in any kind of weather, and being adapted for seating engagement with weather stripping of sponge rubber to insure against leakage of air and water and to provide a better appearance for the assembly in use.

Reference will be had to the accompanying drawings forming a part of this specification and wherein like characters of reference designate corresponding parts throughout the several views in which—

Figure 1 is a perspective view of the assembly showing the sash in open position,

Figure 2 is a vertical section through the structure in the position shown in Figure 1,

Figure 3 is a horizontal section on line 3—3 of Figure 2, and

Figure 4 is an enlarged vertical section showing a screen in position in the frame.

The frame structure is formed by pre-shaping a metal strip of suitable length and then bending the strip to form the four sides of the frame. The ends of the strip are of course welded together in the usual manner. If desired this same frame could be made of two or more sections although obviously the unit structure is preferable.

Generally the frame is of channel form with the outer flanges 1 and inner flanges 2 extending outwardly as clearly shown in the drawing and adapted to lie flush with the outer and inner wall faces respectively. The lintel and side members of the frame are formed medially with an inwardly extending recess 3, which defines within the frame structure the outer wall 4 and the inner wall 5 which walls function as stops for spacing and positioning the sash 6 and screen frame 7, it being understood that screen frame 7 may have substituted therefor a storm sash when desired. The sash frame is formed of angled metal with one flange 9 extending vertically and abutting the

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inner marginal edge of the glass 10, and the other flange 11 extending normally in a horizontal plane across and substantially beyond the edge of the glass pane. The projecting portion of the flange 11 forms a support for the sealing material 14 and provides a relatively wide lower base portion for cooperation with the sealing member. The sealing member is in the form of a vertical flat continuous strip 15 which engages and seats against the inner face of wall 5 at the top and sides of the frame. At the sill the sealing member includes the horizontal inwardly extending portion 16 which seats upon the sill between the wall 5 and the inclined sill portion 17 and upon this portion 16 of the seal the lower edge of the sash frame 8 seats. The seal extension 16 is of the same width as the sash frame 8 and the parts are so arranged that in closed position the outer edge portion 11 of the sash base is forced into the seal to insure against leakage. The clearance between the sash and the sash pocket of the frame is just sufficient to permit the use of the sealing member as above described.

The inclined face of sill portion 17 of the frame terminates at a point immediately adjacent the inner face of the sash frame 9, and in this way the wall 17 forms a pivot for the swinging movement of the sash frame during its adjustment, and in full open position the sash frame will be at rest on its upper angular face.

The hinge structure is in the form of a pair of links 20 and 21 hinged together at 22, with the link 20 pivoted to the projecting ear 23 of the plate member 24 fastened to the inside of the frame. The link 21 is pivoted at 25 to the ear 26 of the plate 27 secured to the inside face of the sash member 8.

The screen which will be of a size to snugly fit the recess in the outer face of the frame, will be secured in place by spring clips 30 which project inwardly to snap over inwardly projecting lugs 31 formed in opposite inner faces of the frame stop. The screen frame is shown as formed of two angular frame members 32 and 33, the angular frame member 32 having the inwardly projecting flanges 34 and 35 which overlap it at marginal edges 36 to clamp there between the screening 37. The frame member 33 of the screen frame overlies the screen frame 32 to conceal the fastening portion of the frame and the joint between the frame and the screen. These screen frame sections may be secured together in any suitable manner as by welding. In this type of screen the screen cloth extends at the marginal edge of the frame which in the present instance

is substantially flush with the outer flange 1 of the window frame. An extension 38 is welded or otherwise secured to the top of the sash 8 to form a handle for moving the sash on its hinges to a predetermined position at which it may be locked due to the inherent frictional quality of the joints of the supporting hinges.

From the foregoing it will be seen that a structure has been provided particularly suited for use in connection with glass bricks or blocks and in which the storm sash or screen can be positioned from within the building. This is particularly desirable in high buildings. As to the adjustment of the sash frame 8 the hinges 20—21 are of such a nature as to be retained by friction at any adjusted position. The provision of the watershed 17 in the window frame tends to guide the sash in its adjusted position and at maximum open position forms a support for the sash structure. This first result is produced by the fact that the outer bottom edge of the sash is normally in the recess formed at the junction of the angular watershed 17 and the frame during the swinging movement of the sash to open position. When the sash 10 is in fully open position it will lie flush upon the angular face of the watershed 17 and be supported thereby.

What is claimed:

1. In combination with a window frame including a lintel, side walls, and a sill, said frame being provided with medially arranged inwardly extending spaced wall portions at the lintel and side walls defining stop means for a frame, the sill of said frame including an upwardly and inwardly extending continuous angular portion spaced inwardly of the inner stop member, a sealing element facing the inner face of said stop member, said sealing element including a horizontal flange overlying that portion of the sill outward of the angular extension and between said extension and said stop members and forming a seat for a sash, and hinged frictional supporting arms connecting the upper portion of said sash to said frame to permit the inwardly angular swinging adjustment of the latter on said seat to a position determined by said angular portion.

2. The substance of claim 1 characterized in that the sill portion of the sealing element of said frame includes an upright portion extending from sidewall to sidewall, which upright portion merges with the sealing element abutting the lintel and side walls of the frame.

3. In combination with a window frame including a lintel, side walls, and a sill, said frame being provided with an inwardly extending continuous channel providing spaced wall portions at the lintel and side walls, the sill portion of said frame having an upwardly and inwardly inclined surface extending from sidewall to sidewall of said channel a distance to permit the seating of a sash, and a packing member between the sash and frame, said packing member comprising soft rubber wall portions seated against the inner wall forming said channel and a bottom portion of L-shaped cross section adapted to be positioned on the sill, one of the legs of the bottom portion of said packing lying on a horizontal plane on the flat portion of the sill outwardly and adjacent to the incline portion of the sill and being adapted to receive and seat the lower portion of the sash and means for maintaining the sash in adjusted angular position.

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