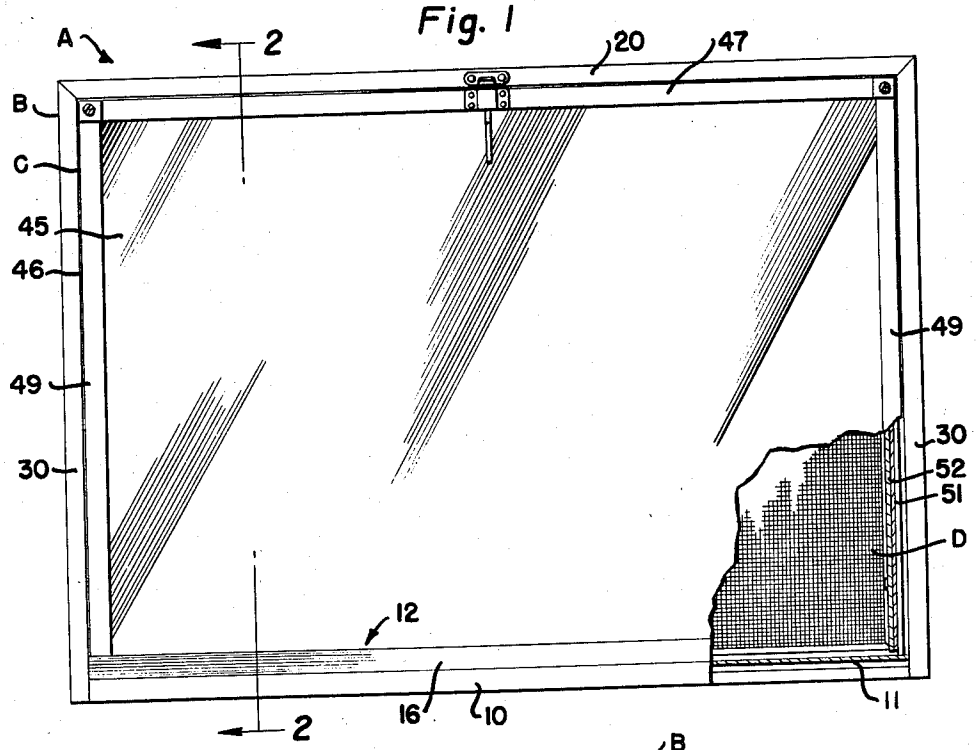
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VENTILATING WINDOW FOR WALL STRUCTURES

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Fig. 1



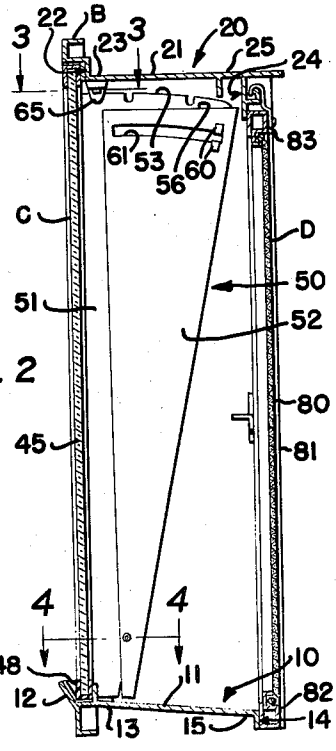


Fig. 2

Fig. 3

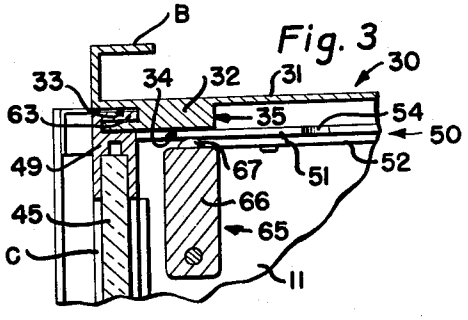
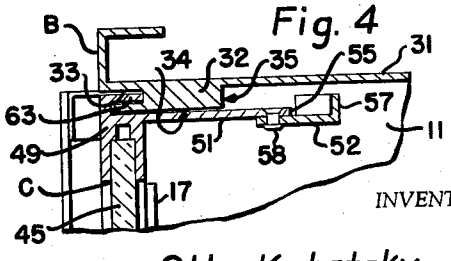


Fig. 4



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Fig. 5

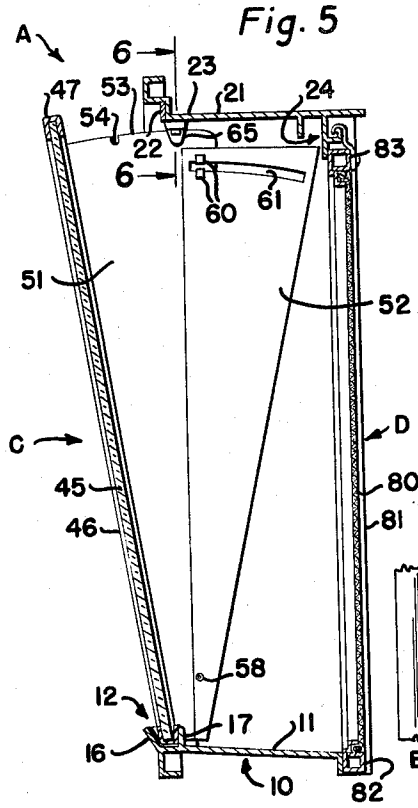


Fig. 7

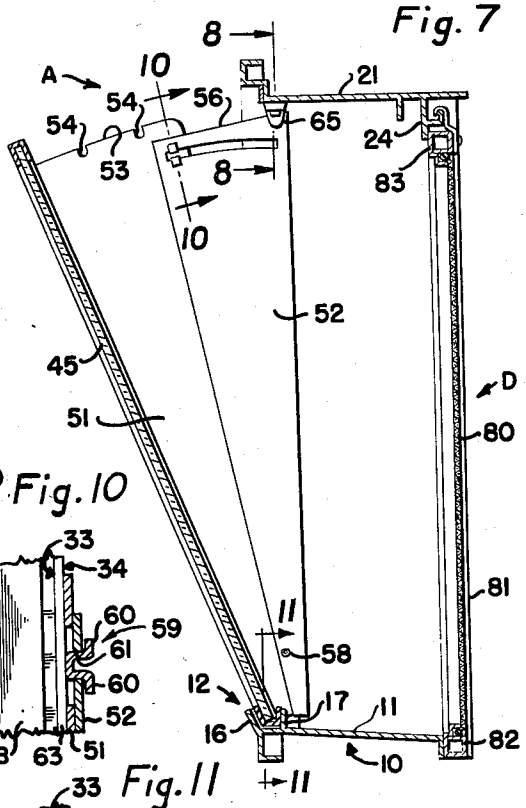


Fig. 10

Fig. 11

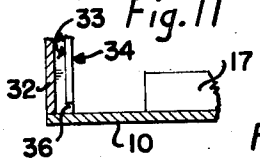


Fig. 6

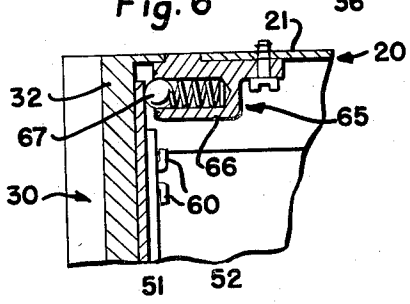


Fig. 8

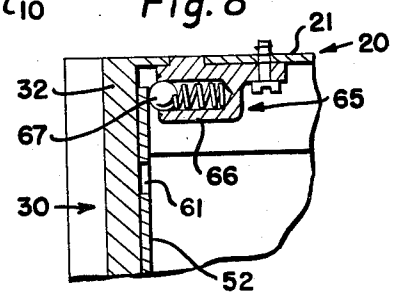
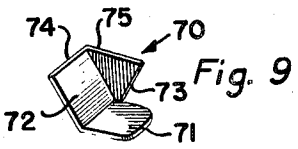


Fig. 9



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United States Patent Office 2,925,769 Patented Feb. 23, 1960

2,925,769

VENTILATING WINDOW FOR WALL STRUCTURES

Otto Kubatzky, St. Louis, Mo., assignor to Winco Ventilator Company, St. Louis, Mo., a corporation of Missouri

Application July 1, 1957, Serial No. 669,101

7 Claims. (Cl. 98—37)

This invention relates to ventilating windows for wall structures, and more particularly to ventilating windows of the general character disclosed in my United States Patent 2,535,933, dated December 26, 1950, for Window and Wall Ventilator, which discloses, among other features, end shields for a deflecting shield structure, each of which end shields comprises two shield elements or wings, connected together and both movable into and out of a window frame opening upon movements of a deflector shield to closed and adjustably open positions.

Important objects of the present invention are to provide anti-rattling means for the shield elements of the end shields; employing in part latch means, including parts thereof which also function as parts of the anti-rattling means. Other important objects are to provide partial closures for the ends of a trough which trough provides a support for a swingable deflecting shield with the bottom portion thereof disposed in the trough which trough also provides collection means for moisture which might otherwise find its way past the deflector, or for condensate which would run down the room-facing side of the deflecting shield; and to provide a slidable connection between the end shields referred to above.

Other objects and advantages of the invention will appear during the course of the following detailed description of the invention, taken in connection with the accompanying drawings, forming portions of this disclosure, and in which drawings.

Fig. 1 is a room-side elevational view of the ventilating window with a deflecting shield in a closed position and broken away in order to disclose a portion of the outdoors-facing structure or foraminous panel of the ventilating window.

Fig. 2 is a transverse vertical sectional view, substantially upon the line 2—2 of Fig. 1.

Figs. 3 and 4 are fragmentary horizontal sectional views substantially on their respective lines of Fig. 2 but on a scale larger than that of Fig. 2, and revealing more clearly, in top plan, a partial closure for a trough.

Fig. 5 is a transverse vertical sectional view along the lines of Fig. 2 but showing the deflecting shield in a partly open position.

Fig. 6 is a fragmentary vertical longitudinal sectional view, substantially on the line 6—6 of Fig. 5 but on an enlarged scale.

Fig. 7 is a transverse vertical sectional view along the lines of Figs. 2 and 5 but showing the deflecting shield in a fully open position.

Fig. 8 is a fragmentary vertical longitudinal sectional view, along the lines of Fig. 6 and taken substantially on the line 8—8 of Fig. 7 but on an enlarged scale.

Fig. 9 is a perspective view of the partial closure referred to in the above descriptions of Figs. 3 and 4.

Fig. 10 is a fragmentary vertical longitudinal sectional view substantially on the line 10—10 of Fig. 7 but on an enlarged scale.

Fig. 11 is a fragmentary vertical longitudinal sectional view substantially on the line 11—11 of Fig. 7 but on an enlarged scale.

In the drawings wherein is shown a preferred embodiment of the invention and wherein similar reference characters designate corresponding parts throughout the several views, the letter A generally designates the ventilating window; B, the window frame; C, a deflecting shield; and D, a foraminous shield.

The window frame B includes a sill 10, having a relatively broad and elongated body portion 11, with an elongated upwardly-opening and open-ended trough 12 at one longitudinal edge portion 13 and a means, as a stepped shoulder 14, at the other longitudinal edge portion 15, to rockably support the shield D, with the body portion 11 sloping downwardly from the trough 12 to the shoulder 14 and all this structure may be an integral extruded metal section, such as of aluminum or aluminum alloys. The trough 12 has a forward or room-side upwardly-inclined wall 16 and a rear or outside vertical wall 17. There is also provided a lintel 20 having a relatively broad and elongated body portion 21 which may be provided with a shoulder 22 at one longitudinal edge portion 23 and means 24 at the other longitudinal edge portion 25 to swingably support the screen shield D. The lintel may be also of extruded metal like the sill 10. Jambs 30 are connected, in any approved way, as by welding, to the sill 10 and lintel 20 to define an opening or passageway having two mouths. The jambs 30 have relatively broad and elongated body portions 31 which may be of extruded metal with one longitudinal edge portion 32 enlarged in thickness, longitudinally prooved as at 33 and having an inner relatively broad flat face 34 with the two faces 34 of the two jambs facing each other. There is also an inner end face 35 for each portion 32. At the base of the groove 33 is a small horizontal groove 36 extending to the groove 33 as in Fig. 11.

The deflecting shield C is shown as containing a panel or pane of glass 45 having a frame 46 consisting of upper and lower rails 47 and 48 respectively and stiles 49 joining the rails. Preferably, the lower rail 48 is of U-shaped rubber or other resilient material. The shield C may be rockably supported with its rail 47 within the trough 12 and, when in a closed position, with its rail 47 in face contact with the shoulder 22.

The deflecting shield C also includes end shields 50 each comprising a forward shield element 51 and a rearward shield element 52 of preferably relatively thin slightly springy metallic sheets, with the forward shield elements 51 extending from the inner faces of the stiles 49 into the opening mentioned and in sliding contact with the inner flat faces 34 of the longitudinal edge portions 32 of the jambs 30. These forward shield elements 51 have upper curved edges 53 provided with spaced-apart notches 54 for a purpose later detailed. The inner edge 55 of the element 51 converges toward the lower end of the panel 45. The rearward shield element 52 has somewhat the general shape of the element 51 but preferably has a straight upper edge 56, is shorter than the element 51 and has a narrow flange 57 along its rearward edge to contact the end face 35. Each two elements 51 and 52 are preferably pivotally connected adjacent their lower end portions as by pivot pin 58 with the elements 51 outermost or in sliding contact with the inner flat faces 34, and relatively slidably joined together by means 59 adjacent their upper ends so that they may be fanned out. The means 59 may be two lugs 60 preferably struck from the material of the element 52 and extending through suitable arcuate slots 61 in the elements 51 with the free end portions of the lugs doubled over substantially as in Fig. 10. This arrangement slidably secures the two elements together but the lugs do not interfere with this movement, since they will not catch upon the end faces 35. How-

ever, these end faces are adapted to be contacted by the flanges 57 when the deflecting shield is in a fully open position.

Each of the stiles 49 is provided with longitudinally-extending end flanges 63 adapted to slide into the grooves 33 of the jambs upon closure of the deflecting shield C.

Dual function means 65 for both latching the deflecting shield C in selected adjustable open positions and also providing anti-rattling means preferably employs two of the combined latches and connectors of my United States Patent 2,518,992, dated August 15, 1950. Such combined latches and connectors include a housing 66 having an opening in one wall thereof from which protrudes a portion of a reciprocating spring-biased bolt 67 in the form of a ball. The housings 66 may be secured to the body portion 21 of the lintel 20 at each end portion thereof with the bolt 67 adapted to yieldably press upon the inner face of the upper edge portion of a shield element 51 but may enter the notches 54 as the shield element 51 is rocked by movements of the deflecting shield C. This pressure tends to press the upper portions of the shield elements 51 against the face 34 of the portion 32 and this prevents rattling. The rear upper edge portion of the element 52 is also contacted and pressed upon by the bolt 67 when the deflecting shield C is in a fully open position, as in Figs. 7 and 8 and thus also prevents rattling of the shield elements 52, since the pressure forces them against the inner flat faces 34.

Since the rear wall 17 of the trough 12 ends short of the adjacent jambs 30 and the enlarged longitudinally-extending edge portions 32, as may be appreciated in Figs. 3 and 4, to enable moisture accumulated in the trough to discharge at the ends of the rear wall 17 to the downwardly sloping body portion 11 of the sill 10, it has been found necessary to prevent moisture (which may condense on the indoor face of the panel 45 and run down into the adjacent part of the trough) from discharging at the ends of the trough into the room. Accordingly, referring mainly to Fig. 9, taken with Figs. 2 to 5 inclusive, it will be seen that I provide means 70 to close portions of the ends of the trough 12. The means comprises a preferably thin metal insert for each end, having a flat base portion 71, an upwardly and forwardly inclined flat portion 72 integral therewith, and a flat vertical wing portion 73 extending from one upwardly-extending edge of the portion 72, with upper edges 74 and 75 of the portions 72 and 73 respectively in the same horizontal plane. The insert is adapted to be positioned with the base portion 71 disposed upon the upper face of the body portion 11 of the sill 10 at the trough 12 and with a portion thereof in the horizontal groove 36 at the base of the groove 33, the inclined portion 72 in face contact with the inner face of the forward wall 16 of the trough, and the wing portion 72 closing the trough adjacent the inclined wall 16 and extending into the lowest part of the groove 33 as may be appreciated in Fig. 4 for example.

The foraminous shield D may include a wire screen panel 80 within a frame 81 with the lower rail 82 of the latter disposed in contact with the shoulder 14 and the upper rail 83 removably supported by the support means 24.

The sill 10, lintel 20 and jambs 30 may be of extruded metal sections (as of aluminum or its alloys) which have been cut to specifications. This provides an economical method of fashioning ventilating windows of various sizes as required since the sections may be portions of elongated lengths or strips of extruded metal.

By the term "relatively broad" in the specification and claims is meant sill, lintel and jamb body portions broader than in conventional window frames. For example, "relatively broad" is a breadth of five inches.

What is claimed is:

1. A ventilating window for a wall structure, said ventilating window including a window frame defining a window frame opening therethrough and having a lintel, sill and jambs, each jamb provided with a vertically-extending relatively broad body portion and one vertically-extending edge portion at one mouth of said opening, said edge portion extending from said sill to said lintel and having a substantially vertical smooth flat broad face facing said opening and one of the faces facing the other of the faces; a rockable upwardly-extending deflecting shield for said opening including a deflecting panel, a frame therefor having stiles, an end shield fixedly connected to each stile, the end shields being of substantially flat thin metal and disposed to slide over the inner flat faces of the edge portions upon rocking of said deflecting shield; means carried by said window frame for rockably supporting said deflecting shield; and latching and pressing means carried by said window frame for each end shield for latching the end shields in various manually adjusted positions with respect to said substantially vertical smooth flat broad faces, and for pressing the end shields against the substantially vertical smooth flat broad faces to prevent rattling of the end shields.

2. A ventilating window according to claim 1 characterized in that said latching and pressing means includes a resilient member.

3. A ventilating window according to claim 1 characterized in that said end shield has a notched upper edge and said latching and pressing means includes a spring-biased bolt having an end face in contact with a face of said end shield when said end shield is in one position, and is in a selected of the notches of said end shield when said end shield is in another position.

4. A ventilating window according to claim 1 characterized in that said end shield comprises two overlapping upwardly-extending shield elements, having opposite flat faces, pivotally connected together at their lower portions for relative sliding movements over one of said opposite flat faces of each; and connection means are provided for limited relative sliding connection of each of said shield elements at their upper portions, said connection means facing away from said flat broad face.

5. A ventilating window according to claim 4 characterized in that each of said connection means comprises a lug extending from a shield element and the wall of a slot in the companion shield element, with said lug extending into said slot and away from said inner flat face.

6. A ventilating window for a wall structure, said ventilating window including a window frame having jambs and a sill provided with a broad flat body portion and a trough, having an upwardly-opening mouth extending along a room-side longitudinal edge portion of said body portion, said trough including an upwardly inclined longitudinal wall extending outwardly of said window frame, and a second longitudinal wall spaced from said upwardly inclined longitudinal wall and of less length than said upwardly-inclined longitudinal wall; closure means at the ends of said trough for partly closing the trough at the ends thereof and extending from the ends of said upwardly-inclined wall toward the horizontal planes of the longitudinal faces of said second longitudinal wall, including a base portion disposed upon said broad flat body portion at said trough, and an upwardly inclined portion extending from said base portion with portions of said base portion and upwardly inclined portion extending into said jambs; said body portion being inclined downwardly from said trough; and a deflecting shield provided with a lower longitudinal edge disposed within said trough.

7. A ventilating window for a wall structure, said ventilating window including a window frame having a sill of extruded metal provided with a broad flat body portion and a trough, having an upwardly-opening mouth extending along a room-side longitudinal edge portion of said body portion, said trough including an inclined longi-

tudinal wall extending outwardly of said window frame and a second longitudinal wall spaced therefrom and of less length than said upwardly-inclined wall, said frame also including jambs having vertically-extending grooves opening at their room-side face and horizontal grooves joining said vertically-extending grooves at the lower ends thereof; closure means at the ends of said trough for partly closing the trough at the ends thereof and extending from the ends of said upwardly-inclined wall toward the horizontal planes of the longitudinal faces of said second longitudinal wall, each of said closure means including a base portion extending snugly into said horizontal groove, an upwardly inclined portion extending upwardly from said base portion, and a wing portion extending from said upwardly inclined portion and normal thereto and partly into said vertically-extending groove of said

jamb, with said wing portion in face contact with a portion of the inner face of said inclined longitudinal wall of said trough; said body portion being inclined downwardly from said trough; and a deflecting shield provided with a lower longitudinal edge disposed within said trough, said shield having side stiles each having an end flange extending into the vertically-extending groove when said deflecting shield is in a vertical closed position.

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