

Nov. 2, 1948.

C. J. WAGNER
WINDOW CONSTRUCTION

2,452,815

Filed March 11, 1946

2 Sheets-Sheet 1

FIG. 1.

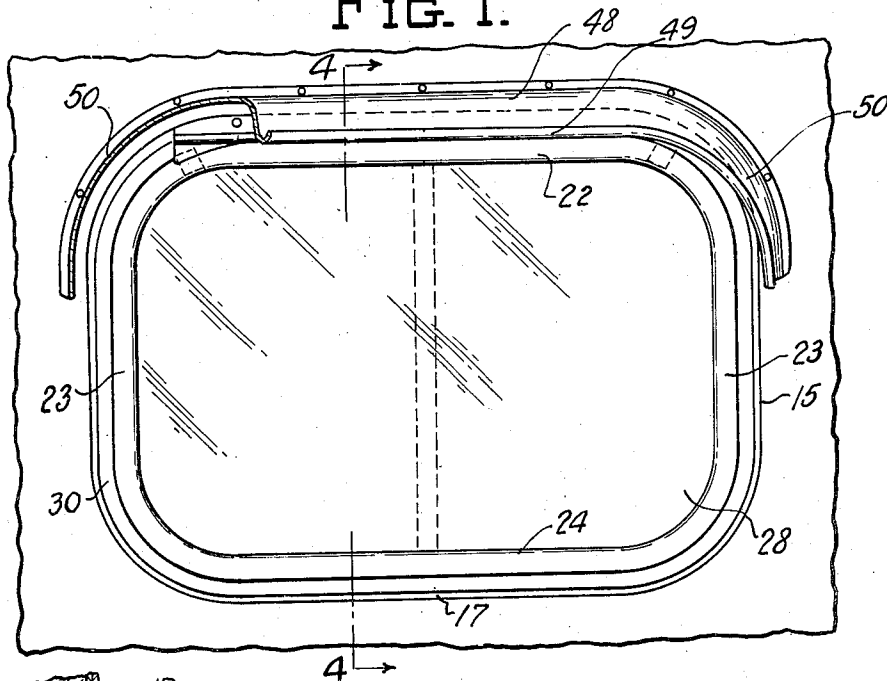


FIG. 2.

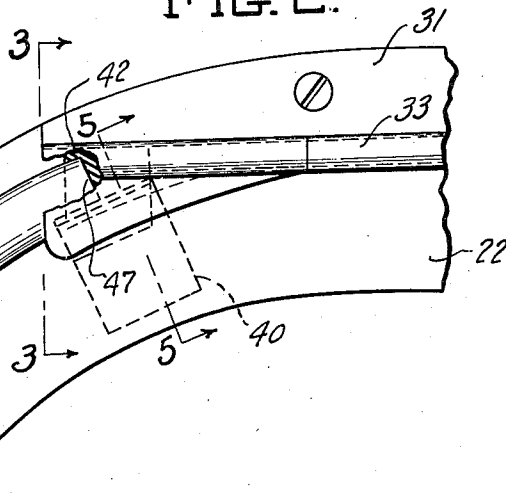
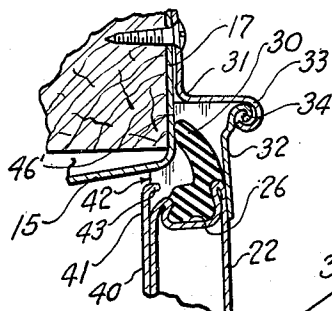


FIG. 3.



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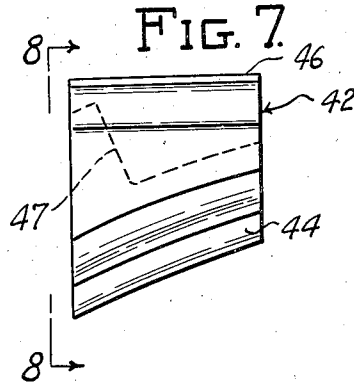
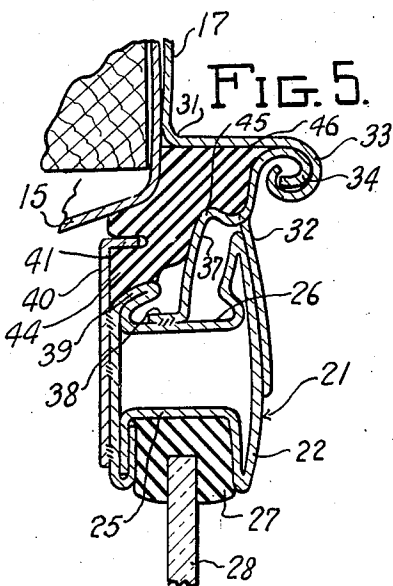
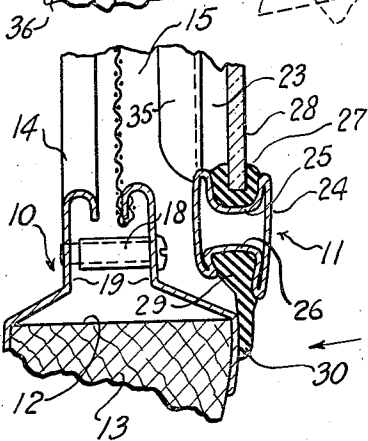
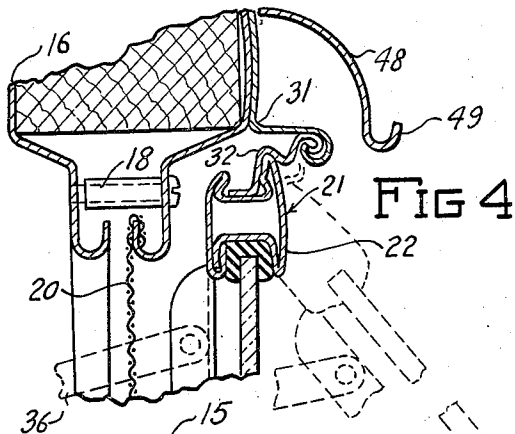
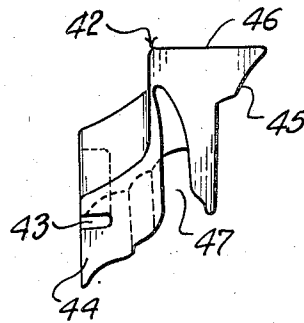


FIG. 8.



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WINDOW CONSTRUCTION

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7 Claims. (Cl. 189—69)

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This invention relates generally to window assemblies and refers more particularly to improvements in window assemblies having swinging ventilators.

One of the objects of this invention is to provide a relatively simple, inexpensive window assembly capable of being readily installed in the window openings of practically any enclosure requiring ventilation and especially adapted for use in the construction of house trailers.

Another feature of this invention is to provide a window assembly having a ventilator hinged at the top for outward swinging movement and having means for assuring a highly effective weather-tight seal around the ventilator when the latter is in its closed position.

A further object of this invention is to provide a window assembly of the above type wherein the ventilator is hingedly supported throughout substantially its full length on the window frame and wherein unique means is provided for weather sealing opposite ends of the hinge.

The foregoing as well as other objects will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawings, wherein:

Figure 1 is an elevational view of a window assembly embodying the features of this invention;

Figure 2 is an enlarged fragmentary elevational view partly in section of a part of the window assembly;

Figure 3 is a sectional view taken on the line 3—3 of Figure 2;

Figure 4 is a sectional view taken on the line 4—4 of Figure 1;

Figure 5 is a sectional view taken on the line 5—5 of Figure 2;

Figure 6 is a view similar to Figure 5 showing the parts in the position they assume when the ventilator is open;

Figure 7 is a side elevational view of one of the sealing blocks; and

Figure 8 is an end elevational view of the sealing block shown in Figure 7.

The window assembly shown in the several figures of the drawings comprises a fixed frame 10 and a ventilator 11. The fixed frame 10 is adapted to be inserted into a window opening 12 formed in a wall 13 of an enclosure requiring ventilation. As shown particularly in Figure 4 of the drawings, the frame 10 is formed of inner and outer garnish molding frames 14 and 15, respectively. The inner molding 14 has an outwardly extending continuous flange 16 engageable with the inner side of the wall 13 around the window open-

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ing 12 and the outer garnish molding 15 has a similar outwardly extending flange 17 engageable with the outer surface of the portion of the wall 13 bordering the opening 12. The flanges 16 and 17 are clamped against the opposite sides of the wall 13 by suitable fastener elements 18 engageable with the laterally spaced inner portions 19 of the garnish moldings. If desired, suitable screening 20 may be attached to the fixed frame 10 in the manner clearly shown in Figure 4 of the drawings.

The ventilator 11 is supported at the outer side of the fixed frame 10 and comprises a frame 21 having top, side and bottom bars 22, 23 and 24, respectively. The frame 21 is preferably formed of sheet metal and the bars of the frame are rolled or otherwise formed to the cross sectional contour shown in the several figures of the drawings. In any case, the bars are formed to provide continuous channels 25 and 26 at the inner and outer sides of the frame 21. A continuous glass retaining channel 27 is suitably secured in the channel 25 for receiving the marginal edges of a glass or similar closure 28 and a sealing member 29 is secured in the channel 26. Both the retaining channel 27 and the sealing member 29 are formed of a resilient material such, for example, as rubber, synthetic rubber or materials having similar characteristics. The sealing member 29 has a flexible lip 30 adapted to engage the adjacent surface of the flange 17 on the fixed frame 10 in the closed position of the ventilator to form a fluid-tight seal. It is briefly pointed out at this time that the sealing member 29 merely extends around the bottom and side bars of the ventilator frame 21, so as not to interfere with the hinge about to be described.

The hinge extends for substantially the full length of the top bar 32 of the ventilator frame 21 and serves to pivotally support the frame 21 on the fixed frame 10 for outward swinging movement relative to the fixed frame. The hinge comprises cooperating parts 31 and 32 preferably rolled or otherwise formed from sheet metal. The part 31 is suitably secured to the flange 17 at the top of the fixed frame 10 and extends outwardly over the top bar 22 of the ventilator frame 21. The cooperating hinge part 32 is secured to the top bar 22 of the ventilator frame 21 and projects upwardly to a point adjacent the outer edge of the fixed hinge part 31. The outer edge portion of the hinge part 31 is rolled to form a hollow bead 33 and the upper end portion of the hinge part 32 is rolled to form a smaller bead 34. The bead 34 is engaged in the bead 33 and cooperates with the latter to provide a pivot about which the ventilator may be swung between the full and dotted

line positions shown in Figure 4 of the drawings. Any suitable means may be employed for swinging the ventilator 11 about the axis of the hinge. As indicated in the drawings, the ventilator is provided with a division bar 35 intermediate opposite ends and an arm 36 is pivoted at one end to the division bar. The arm 36 extends inwardly through a suitable slot formed in the screening 20 and may be engaged with a suitable latch (not shown) to hold the window in any one of its several positions of adjustment.

Upon reference to Figure 5 of the drawings, the extremities 37 of the hinge part 32 are bent inwardly and are provided with attaching flanges 38, which are welded or otherwise secured to the base of the channel 26 in the top bar 22 of the ventilator frame 21. The inner flange of the channel 26 is bent outwardly opposite the end portions 37 to form seats 39 and clips 40 are secured to the inner side of the top bar 22 opposite the end portions 37 of the hinge part 32. The clips 40 project upwardly beyond the seats 39 and are formed with laterally outwardly extending flanges 41 positioned directly above the seats 39.

A pair of blocks 42 formed of rubber or rubber-like material are provided at opposite ends of the hinge parts for sealing the hinge and are preferably molded to the shape shown in Figures 7 and 8 of the drawings. The blocks 42 are secured to the top bar 22 of the ventilator frame 21 by the clips 40, and for this purpose, the inner sides of the blocks are formed with grooves 43 for respectively receiving the flanges 41 on the clips 40. The portions 44 at the laterally inner sides of the grooves 43 are held under compression between the flanges 41 and seats 39. The outer surfaces 45 of the blocks correspond substantially in contour to the inner surfaces of the portions 37 of the hinge parts 32 and are held under compression against the latter portions. In the closed position of the ventilator, the flat top surfaces 46 of the blocks abut the outwardly projecting portion of the fixed hinge part 31, and the inner surfaces 46' engage the outer surface of the flange 17 to complete the seal.

The sealing member 29 extends around the perimeter of the ventilator frame 21 from one of the blocks 42 to the other block 42. The surfaces of the blocks adjacent the ends of the sealing member are formed with recesses 47 for respectively receiving the extremities of the sealing member 29. Thus, the blocks 42 serve to hold the extremities of the member 29 in sealing engagement with the flange 17 in the closed position of the ventilator and also prevents the lip at the extremities of the sealing member 29 from curling during closing of the ventilator. If desired, the hinge may further be protected from the weather by a hood 48 secured to the outer side of the wall 13 above the window assembly and projecting over the top of the ventilator. The hood is bowed downwardly to afford the maximum protection for the hinge and terminates in a trough 49 for collecting water. The opposite end portions 50 of the hood are curved downwardly along the opposite sides of the window opening 12 beyond the latter sides, so that any moisture collected by the trough 49 is directed away from the ventilator. Attention is called to the fact that the end portions 50 are tapered or reduced in width so as not to interfere with outward swinging movement of the ventilator.

What I claim as my invention is:

1. A window assembly for a window opening, comprising a fixed frame surrounding the opening, a ventilator having a frame provided with top, side and bottom bars, cooperating hingedly connected parts respectively secured to the top bars of the fixed and ventilator frames, a flexible sealing lip extending around the perimeter of the ventilator frame from one end of the hinge parts to the opposite end of the latter and engageable with the adjacent surfaces of the fixed frame to form a weather-tight seal, and flexible sealing blocks anchored to one of the hinge parts at the extremities of the sealing lip and engageable with the other hinge part to seal the space between the hinge parts at the extremities of the latter.

2. A window assembly for a window opening, comprising a fixed frame surrounding the opening, a ventilator having a frame provided with top, side and bottom bars, cooperating hingedly connected parts respectively secured to the top bars of the fixed and ventilator frames, a flexible sealing lip extending around the perimeter of the ventilator frame from one end of the hinge parts to the opposite end of the latter and engageable with the adjacent surfaces of the fixed frame to form a weather-tight seal, and flexible sealing blocks respectively forming continuations of the extremities of the sealing lip, said blocks carried by the top bar of the ventilator frame and having portions extending between the hinge parts in sealing contact therewith when the ventilator is swung to its closed position.

3. A window assembly for a window opening, comprising a fixed frame surrounding the opening, a ventilator having a frame provided with top, side and bottom bars, cooperating hingedly connected parts respectively secured to the top bars of the fixed and ventilator frames, a flexible sealing lip extending around the perimeter of the ventilator frame from one end of the hinge parts to the opposite end of the latter and engageable with the adjacent surfaces of the fixed frame to form a weather-tight seal, and flexible sealing blocks respectively positioned at the extremities of the sealing lip and recessed to receive the end portions of the lip, said blocks carried by the top bar of the ventilator frame in sealing engagement with the hinge part secured thereto and having a portion engageable with the other hinge part when the ventilator is swung to its closed position.

4. A window assembly for a window opening, comprising a fixed frame surrounding the opening, a ventilator having a frame provided with top, side and bottom bars, cooperating hingedly connected parts respectively secured to the top bars of the fixed and ventilator frames, a flexible sealing lip extending around the perimeter of the ventilator frame from one end of the hinge parts to the opposite end of the latter and engageable with the adjacent surfaces of the fixed frame to form a weather-tight seal, and means at the extremities of the lip in sealing engagement with the end portion of said lip and engageable with the hinge parts in the closed position of the ventilator to seal opposite ends of the hinge.

5. A window assembly for a window opening, comprising a fixed frame surrounding the opening, a ventilator having a frame provided with top, side and bottom bars, a hinge having cooperating hingedly connected parts extending for substantially the full length of the top bar of the ventilator frame and respectively secured to the latter bar and corresponding bar of the fixed

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frame, a pair of blocks of yieldable material respectively secured to opposite ends of the top bar of the ventilator frame and engageable with the hinge parts to provide a seal at opposite ends of the hinge, and a sealing lip extending around the perimeter of the ventilator frame from one block to the other and having the end portions engageable in recesses formed in said blocks.

6. A window assembly for a window opening, comprising a fixed frame surrounding the opening, a ventilator having a frame provided with a top bar positioned adjacent the top bar of the fixed frame, a hinge part extending longitudinally of the top bar of the ventilator frame and secured to the latter, a second hinge part secured to the top bar of the fixed frame and extending over the top bar of the ventilator frame, said hinge parts having the free edge portions pivotally connected together to permit swinging movement of the ventilator relative to the fixed frame, and a pair of blocks of yieldable material respectively secured to opposite ends of the top bar of the ventilator frame and having portions engageable with the hinged parts to provide a seal at opposite ends of the hinge.

7. A window assembly for a window opening, comprising a fixed frame surrounding the open-

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ing, a ventilator having a frame provided with a top bar positioned adjacent the top bar of the fixed frame, a hinge part extending longitudinally of the top bar of the ventilator frame and secured to the latter, a second hinge part secured to the top bar of the fixed frame and extending over the top bar of the ventilator frame, said hinge parts having the free edge portions pivotally connected together to permit swinging movement of the ventilator relative to the fixed frame, and blocks of flexible material secured to the top bar of the ventilator frame adjacent opposite ends of the hinge parts and frictionally engageable with the inner surfaces of the latter in the closed position of the ventilator to provide a seal at each end of the hinge.

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20 The following references are of record in the file of this patent:

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