Nov. 10, 1959 C. W. KELLY 2,911,689

WINDOW STRUCTURE

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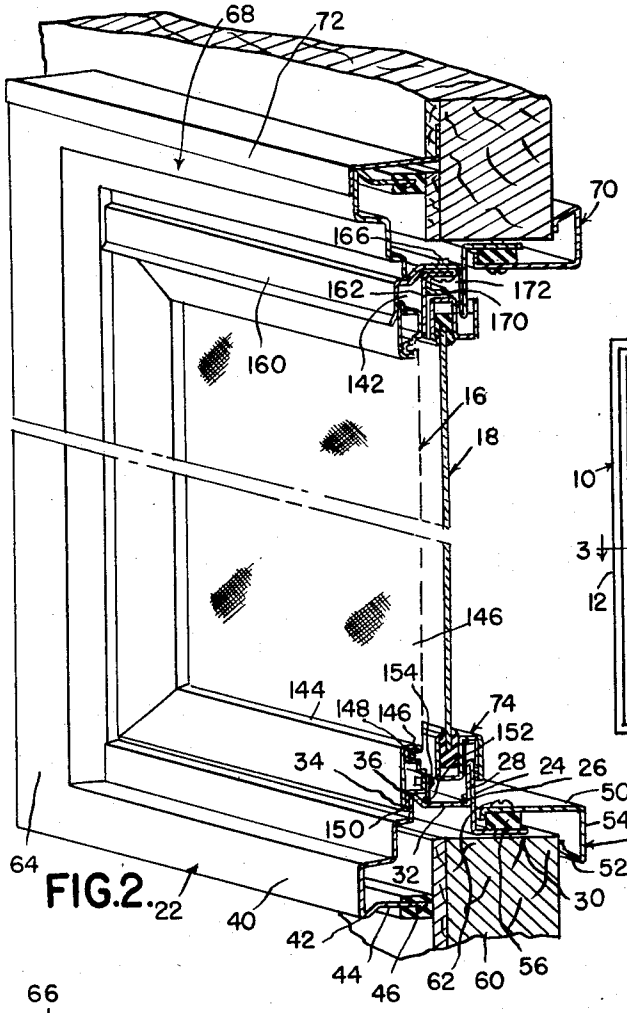


FIG.2.

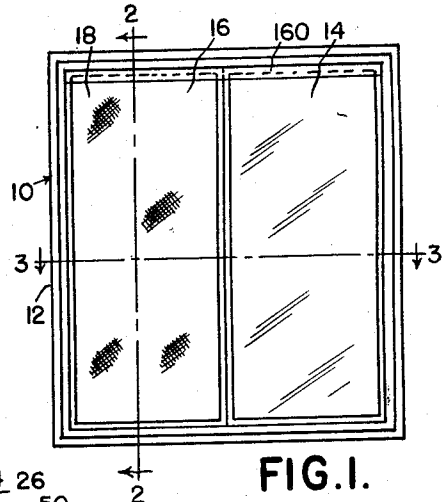


FIG.1.

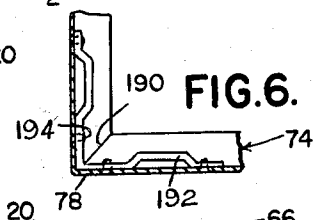


FIG.6.

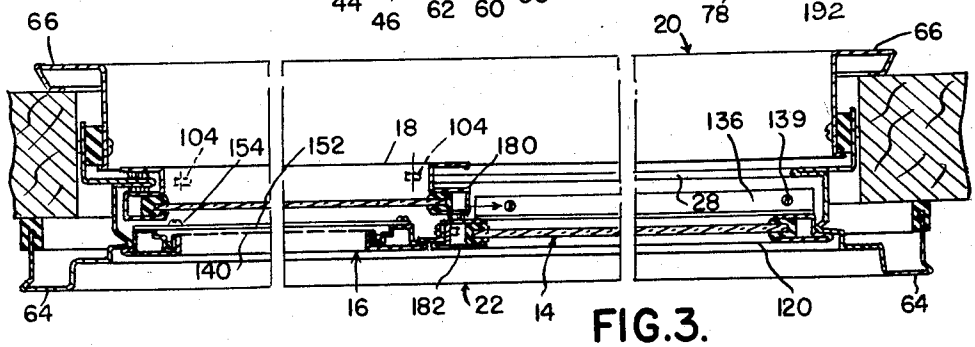


FIG.3.

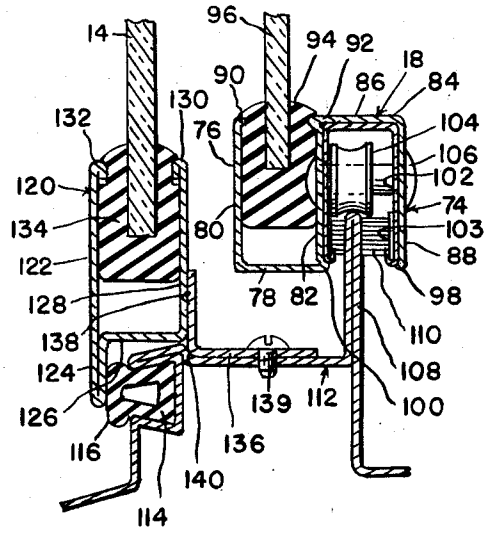
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FIG.4.



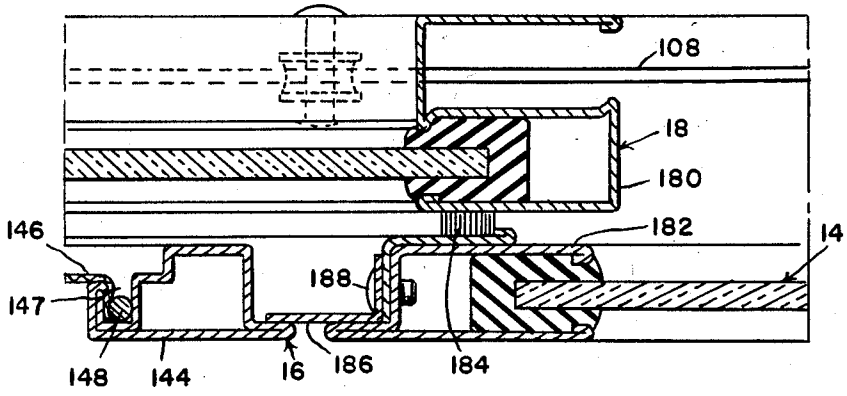


FIG.5.

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WINDOW STRUCTURE

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Application August 12, 1957, Serial No. 677,731

5 Claims. (Cl. 20—52.2)

The present invention relates to windows and more particularly to prime windows of the sliding type.

It is an object of the present invention to provide a metal window fabricated from sheet material having a ventilator which slides horizontally in the frame.

It is a further object of the present invention to provide a metal window fabricated from sheet material having a cross-sectional shape providing a groove for the reception of the glazing and groove for the reception of the weatherstripping and rollers.

Other objects and features of the invention will become apparent as the description proceeds, especially when taken in conjunction with the accompanying drawing, illustrating a preferred embodiment of the invention, wherein:

Figure 1 is a view of the window and associated casing structure with a screen, ventilator and a fixed pane of glass.

Figure 2 is a perspective view taken on the line 2—2, Figure 1.

Figure 3 is a section taken on the line 3—3, Figure 1.

Figure 4 is an enlarged sectional view of the sill structure with a modification of the casing structure.

Figure 5 is an enlarged sectional view of the structure showing where the ventilator and fixed light vertical bars meet.

Figure 6 shows the corner construction of the ventilator.

Referring now to the drawings, 10 shows a window having a casing 12, fixed pane of glass 14, screen 16 and ventilator 18.

The casing has a roomside member 20 and a weatherside member 22 of the type disclosed in my patent 2,773,571 granted December 11, 1956. The weatherside member 22 has a wall 24 with the return bent portion 26 forming an upwardly projecting track or rail 28. One end of the wall 24 terminates in the inwardly extending flange portion 30. Web 32 slopes upwardly and outwardly and with portion 34 forms the projecting lip 36. The channel shaped section 40 has a lip 42 projecting downwardly with a flange 44 having resilient weatherstripping 46 attached to the terminal end.

The roomside member 20 is comprised of a sill 50 and a plaster stop 52 connected by the portion 54. An insulating member 56 separates sill 50 from the portion 30 and both are connected to the wall framing member 60 by screw 62. The jambs 64 and 66, and heads 68 and 70 of both the weatherside and roomside members respectively of the casings are the same in cross-sectional shape as the sills 22 and 20 previously described. A drip cap 72 covers the head.

Referring now to Figure 4 the ventilator 18 has a frame member 74 rolled from a unitary sheet of material. The channel shaped portion 76, positioned at the weather side of the ventilator 18, has the web 78 and flanges 80 and 82 with flange 82 forming a common wall with channel 84. Channel 84 is at the room side of the ventilator 18 and has a web 86 and flange 88. Channel 76 opens inwardly in the plane of the window while channel 84 is at

the side of the channel 76 and is oppositely facing and opens outwardly in the plane of the window. Flange 80 is return bent at 90 and with projection 92 formed by rolling the metal inwardly forms abutments to retain the glazing strip 94 in place in the channel. The pane of glass 96 is held by the glazing strip. The flange 88 is return bent at 98 and with the projection 100 forms abutments to hold the U-shaped metal weathering strip 102, having pile mohair strips 103, in place in the channel. Roller 104 is held in place by the rivet 106 with the roller riding on the track 108. The pile 110 of the mohair of the weathering strip abuts both sides of the track 108 to seal out air and moisture. Two rollers are attached to the bottom rail of the ventilator, one adjacent to each jamb as shown in Figure 3.

Casing member 112 (Figure 4) is a modification of the weatherside casing member 22 previously described. It is similar to member 22 and in addition has the groove 114 for the reception of the resilient weatherstrip 116. The groove and weatherstripping extend around the periphery of the casing member.

The fixed pane of glass 14 has a channel shaped frame 120 extending around the periphery of the glass. Flange 122 is return bent to form the leg 124 which projects beyond the web 126. Flanges 128 and 122 are return bent at their terminal ends to form abutments 130 and 132 to hold the resilient glazing strip 134 in place. Strip 136 is welded as at 138 to the frame 120 and abuts the shoulder 140, and the leg 124 abuts the weatherstrip 116. To prevent unauthorized removal of the fixed light from the outside, strip 136 is secured to the casing by screws 139.

The frame 120 is mounted in the casing by inserting its top edge into the downwardly open casing channel 142 and then dropping the frame downwardly to allow the strip 136 to be positioned against the abutment 140.

Screen 16 has the frame 144 which extends around the periphery of the screen cloth material 146. The screen cloth is held in the groove 147 by the spline 148. As seen in Figure 2, leg 150 abuts the portion 34 of the casing. Strip 152 is attached to screen frame 144 by screws 154 and abuts lip 36.

Strip 160 extends across the head and with strip 162 forms the groove 142. Both strips 160 and 162 are attached to the head member 68 of the weatherside casing 22 by the screw 166. By raising the screen upwardly in the groove 142 the strip 152 will clear the lip 36 for removal from the window.

Strip 170 is attached to head member 68 of the weatherside casing 22 through strip 162 and prevents the ventilator from being raised and removed when in the closed position. Strip 170 extends only across the half of the window that is covered by the ventilator when in closed position. By sliding the ventilator as indicated by the arrow in Figure 3 to the half of the window opposite closed position the ventilator can be raised in groove 172 so that the member 74 will clear track 28 and be removed from the window.

To provide weathering between the vertical jamb bars 180 of the ventilator 18 and 182 of the fixed light 14, mohair type weatherstrip 184 is provided. Strip 186 serves as an abutment to engage screen 16 in position with weatherstrip 184 and strip 186 held in place to the fixed light by screws 188. The strip 186 extends from top to bottom of bar 182.

The frame member 74 is mitre-cut at the corners as shown at 190 in Figure 6, and held together by reinforcement plate 192. Screws 194 fasten the reinforcement to the frame bars. The fixed light frame members are attached at the corners in the same manner.

The drawings and the foregoing specification constitute a description of the improved windows in such full, clear, concise and exact terms as to enable any person skilled

in the art to practice the invention, the scope of which is indicated by the appended claims.

What I claim as my invention is:

1. A window construction comprising a frame defining a window opening, a ventilator, said frame having a horizontally extending track portion, said ventilator having a frame comprising a member having two channel shaped portions located in side by side relationship with the open face of one of said channel portions facing inwardly in the plane of the window opening and the open face of the other of said channel shaped portions facing outwardly in the plane of the window opening, and rollers carried by said second mentioned channel portion and received on said track portion for longitudinal movement therealong.

2. A window construction comprising a frame defining a window opening including a bar having a channel facing inwardly in the plane of the window opening therein, a side wall of the channel constituting a guiding and supporting rail, a ventilator slidable in said frame and comprising a double channel bar of generally S-shaped cross-section, one channel of which opens inwardly in the plane of the window opening and receives an edge of a pane of glass therein and is received in the channel of said frame bar, and the other channel of which faces outwardly in the plane of the window opening and receives said rail therein.

3. A window construction comprising a frame defining a window opening and having a bottom frame bar providing a rail, a ventilator slidable on said rail, said ventilator comprising a bottom frame bar having a first channel opening inwardly in the plane of the window opening and receiving the edge of a pane of glass therein and a second channel at the side of said first channel and opening outwardly of the window opening, said first and second channels having a common intermediate side wall, and means in said second channel supporting said ventilator frame for movement along said rail.

4. A window construction comprising a frame defining a window opening including a bottom frame bar having a channel facing inwardly in the plane of the window opening therein, the roomside side wall of the channel constituting a guiding and supporting rail, a ventilator slidable in said frame and comprising a double channel bar of generally S-shaped cross-section, one channel of which opens inwardly in the plane of the window opening and receives an edge of a pane of glass therein and is received in the channel of said frame bar, and the other channel of which faces outwardly in the plane of the window opening and receives said rail therein, said frame including means to prevent the removal of said ventilator therefrom when said ventilator is in the closed position.

5. A window construction comprising a frame defining a window opening, said frame having top and bottom bars each including a channel facing inwardly in the plane of the window defined thereby, one side wall of the channel of said bottom bar constituting a guiding and supporting rail, a ventilator slidable horizontally on said rail and including a bottom portion received in the channel of said bottom bar, said ventilator also including a top portion received in the channel of said top bar and normally spaced downwardly from the inner wall of the channel of said top bar, said ventilator being removable from said frame by upward movement thereof relative to said frame to a position allowing the bottom member of the ventilator to clear said one sidewall of the channel of the bottom bar on tilting of the ventilator relative to the plane of said window opening, and a rigid strip extending into said channel of the top frame bar along that portion of the bar occupied by said ventilator in closed position thereof to prevent upward movement of said ventilator relative to said frame, thereby preventing removal of the ventilator from the frame while said ventilator is in closed position.

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