Feb. 12, 1963 R. GOLDBERG 3,077,250

SASH ELEMENT FOR METAL PIVOTED WINDOWS

Filed Oct. 24, 1956

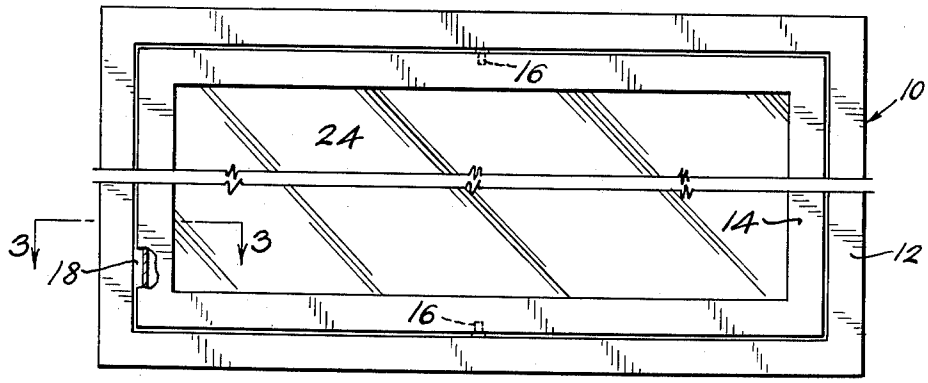


Fig. 1.

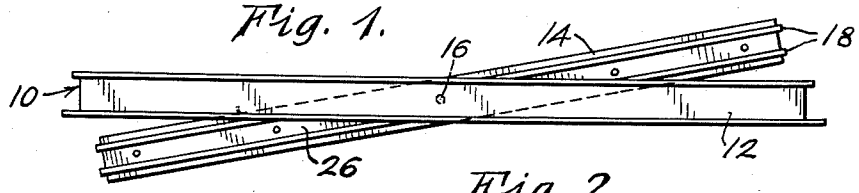


Fig. 2.

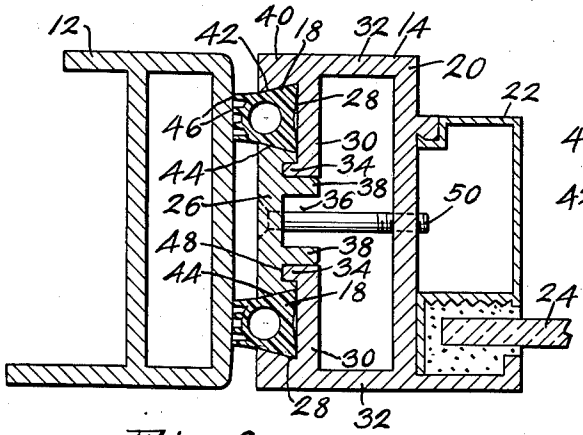


Fig. 3.

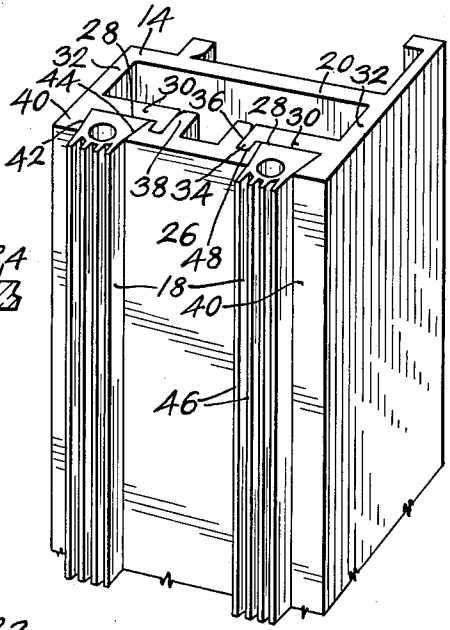


Fig. 4.

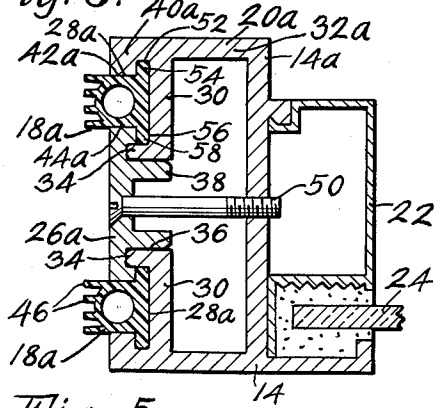


Fig. 5.

INVENTOR.
RALPH GOLDBERG
BY
Edward Scanglen Jr.
ATTORNEY

United States Patent Office 3,077,250 Patented Feb. 12, 1963

3,077,250 SASH ELEMENT FOR METAL PIVOTED WINDOWS

Ralph Goldberg, 2301 S. Delaware St., Denver, Colo.

Filed Oct. 24, 1956, Ser. No. 618,093
3 Claims. (Cl. 189—65)

This invention relates to metal windows and, more particularly, to an improved metal pivoted window having a novel weather-stripping feature.

In the prior art pivoted windows, the sash is provided with grooves to receive a rubber weather-strip; however, these grooves are formed integral with the sash frame members in such a manner that it is extremely difficult to insert the weather-strip or, when in place, the weather-strip is so loose it falls out or does not provide a weather-tight seal.

Further, the present pivoted window frame sash elements are customarily two-piece hollow aluminum extrusions that are quite expensive to produce because of their continuous cross section.

It is, therefore, the principal object of the present invention to provide a three-piece sash element especially suited for use in pivoted windows that includes a novel weather-strip groove which eliminates the weather-strip insertion problems and produces a secure weather-tight fit.

Another object is to provide a less expensive and improved two-piece extruded aluminum sash element construction ideally suited for use with pivoted windows.

Further objects of the invention are to provide a metal pivoted window that is simple to assemble, weather-tight, inexpensive and decorative in appearance.

Other objects will be in part apparent and in part pointed out specifically hereinafter in connection with the description of the drawing that follows, in which:

FIGURE 1 is a front elevation of the metal pivoted window of the present invention, portions thereof having been broken away to conserve space.

FIGURE 2 is a top plan view showing the sash partly open;

FIGURE 3 is a section to an enlarged scale taken along line 3—3 of FIGURE 1;

FIGURE 4 is a fragmentary perspective view of the three-piece sash element that forms a part of the frame; and

FIGURE 5 is an enlarged section of the sash element showing a slightly modified form of weather-strip receiving groove and weather-strip.

Referring now to the drawing, reference numeral 10 indicates the metal pivoted window frame of the present invention in a general way and it will be seen to comprise a surround 12 having a sash 14 mounted therein for pivotal movement on pins 16. The top, bottom and sides of the sash are provided with rubber weather-strips 18 which, in the construction illustrated, are arranged in spaced parallel relation along the inside and outside edges thereof extending from end to end. As the description proceeds, however, it will become apparent that each element of the sash can be provided with one weather-strip instead of two; however, the two-strip construction is preferred because of the better weather-tight seal it produces.

Now in connection with FIGURES 3 and 4, it will be seen that each frame member of the sash is formed of three separate sections; namely, basic section 20, a molding section 22 that cooperates with the basic section to retain the pane 24 in place in the conventional manner, and retaining section 26 that combines with the basic section 20 to form one or more weather-strip grooves 28 adapted to receive and hold weather-strip 18 securely

therein. The construction of molding section 22 and the portions of the basic section that cooperate therewith to hold the pane in place are well known to the art and will not be described in detail as they form no part of the present invention.

The present invention comprises, in general, the formation of one part of the weather-strip groove with one section of the sash element in a manner that the weather-strip may be easily inserted therein, and forming the remainder of the groove in another section so that when said second section is added to the first with the weather-strip in place it will be securely retained therein. One construction that accomplishes the foregoing has been illustrated in FIGURES 3 and 4.

The base section 20 has been shown as a hollow extrusion having opposed inwardly extending webs 30 depending from the sides 32. The outturned inner edges 34 of the webs 30 lie in spaced relation and form an opening 36 to receive ribs 38 of the retaining section 26. The portions 40 of the sides 32 that extend beyond the webs 30 are provided with inclined faces 42 that cooperate with the oppositely inclined face 44 of the retaining section to form the weather-strip grooves 28 which have outwardly tapering sides corresponding to the weather-strip members 18 that taper from the base to the sealing edge that contain a plurality of spaced parallel ribs 46, as shown. Grooves 48 on the inside of the retaining section receive the out-turned edges 34 of the webs 30 and prevent transverse movement of the retaining section relative to the base section. In the preferred embodiment of the invention, the weather-strip element 18 is compressed slightly between inclined faces 42 and 44. A screw 50 attaches the retaining section to the base section after the weather-strip elements are in place.

A slightly modified form of base section 14*a* and retaining section 26*a* have been shown in FIGURE 5 to receive modified weather-strip 18*a*. Face 42*a* of portion 40*a* on the side 32*a* of the modified sash element is substantially parallel to face 44*a* of the retaining member; however, a groove 52 is provided in portion 40*a* to receive rib 54 on one side of the base of the weather-strip, and a corresponding groove 56 is formed between out-turned edge 34 of web 30 and the retaining section to receive rib 58 on the opposite side of the base. Weather-strip groove 28*a* is thus formed with parallel side walls having opposed grooves 52 and 56 at the base thereof to receive ribs 54 and 58 of the weather-strip and retain it securely in place. Groove 56 is, of course, formed after the weather-strip is added to the basic section by attaching the retaining section thereto.

From the foregoing description of the several useful and novel features of the sash element for metal pivoted windows of the present invention it will be seen that the several useful objects for which it was designed have been achieved. I realize, however, that certain changes may be made in the specific construction shown in the accompanying drawing by those skilled in the art without departing from the intended scope hereof; hence, it is my intention that the means of protection afforded herein shall be limited only insofar as said limitations are expressly set forth in the appended claims.

What is claimed is:

1. In a metal window frame, a sash element comprising a base section, having a cross sectional U shaped characteristic with parallel side walls and a connecting transverse bottom portion, said base section further comprising a pair of inwardly extending aligned webs integral with the parallel side walls of the said U shaped cross section and spaced from the ends thereof, said webs and the end portions of each of the parallel side walls form-

ing a pair of single sided longitudinal channels; a pair of weather-strip elements having a bottom and sides, the said weather-strip elements each disposed in the said single sided channels wherein the bottom of each of the weather-strip elements rests upon the said webs and one side of each weather-strip element engages the said end portion of the U shaped base section; retainer means comprising an elongated strip having two parallel edges, said strip disposed intermediate the weather-strip elements and in abutting engagement therewith; and means securing said strip to the base section, whereby the strip maintains the weather-strip elements positioned in the single sided channels by providing a retaining side for each channel respectively with the two parallel edges of the strip.

2. A sash element according to claim 1, wherein the sides of the single sided longitudinal channels and the edges of said retainer means converge in a direction away from the webs.

3. A sash element according to claim 1, wherein the sides of the single sided longitudinal channels and the edges of said retaining means are substantially L shaped and combine to form a T shaped channel.

References Cited in the file of this patent

UNITED STATES PATENTS

817,199	Stevenson	Apr. 10, 1906
1,979,490	Robertson	Nov. 6, 1934

FOREIGN PATENTS

840,593	Germany	June 3, 1952