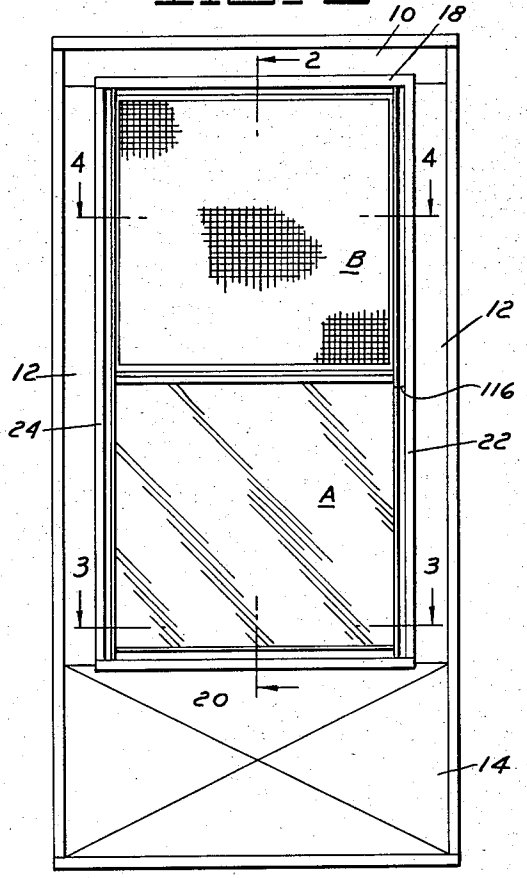
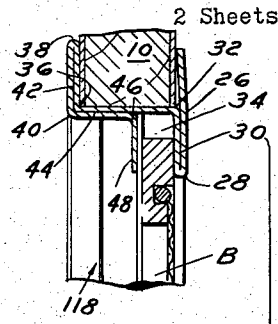
March 6, 1956 J. SYLVAN 2,737,271

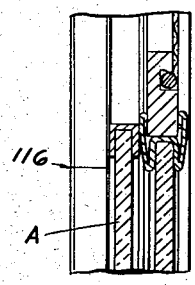
WINDOW FRAME ASSEMBLY

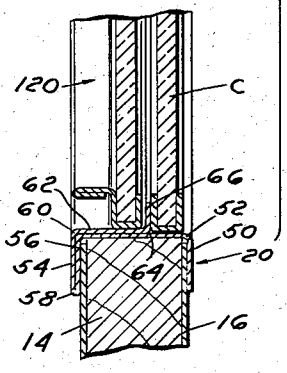
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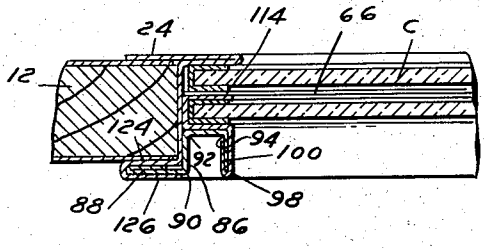
FIG. 1











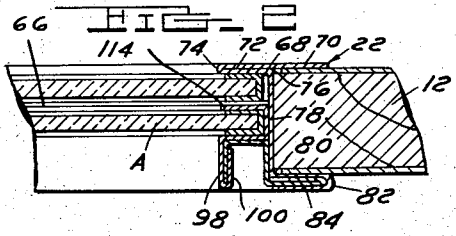


FIG. 3

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WINDOW FRAME ASSEMBLY

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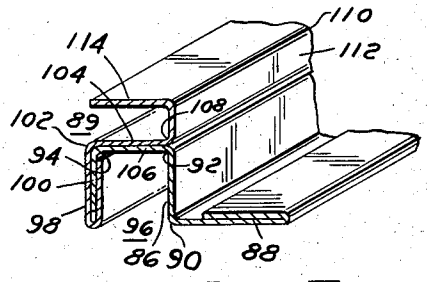


FIG. 5

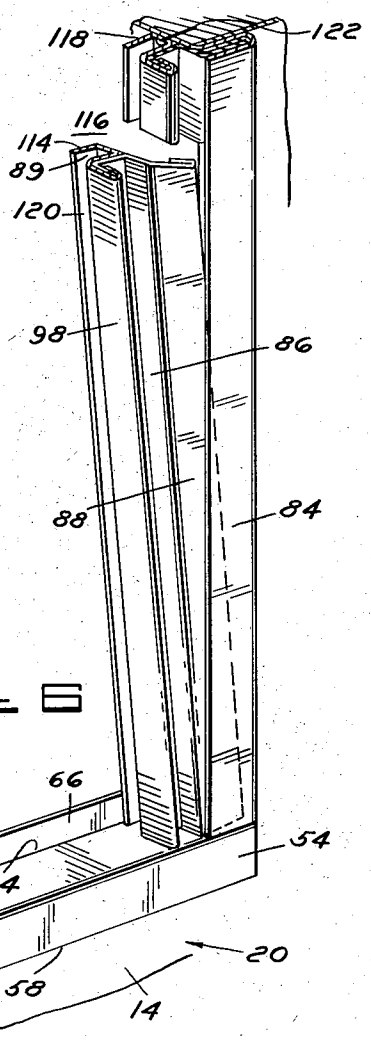


FIG. 6

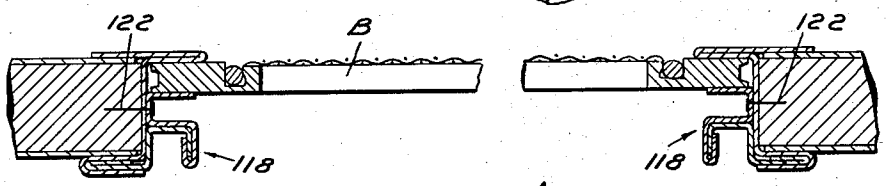


FIG. 4

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WINDOW FRAME ASSEMBLY

Joseph Sylvan, Berkley, Mich.

Application September 17, 1953, Serial No. 380,777

11 Claims. (Cl. 189—73)

This invention relates to an improved window assembly. It represents one modification as compared with somewhat similar structures disclosed in my copending applications, Serial Nos. 245,509, now Patent No. 2,719,585, issued October 4, 1955, and 245,510, now Patent No. 2,719,614, issued October 4, 1955, filed September 7, 1951; 293,886, now Patent No. 2,719,615, issued October 4, 1955, filed June 17, 1952, and 347,567, abandoned, filed April 8, 1953.

An object is to provide a window assembly formed primarily of parts built up out of sheet metal and designed to cooperate with the framework surrounding a window opening in either the wall of a building or in a door. The assembly is designed to accommodate three sash elements which together form a tight closure preventing the passage of air drafts therethrough.

A further object is the provision of a window assembly of the above character wherein the sash may be readily installed and removed.

A still further object is the provision of an assembly of the above character having removable jamb elements or sash guide runway channels thereby facilitating the removal of the sash as aforesaid.

More specifically, the assembly is of such a character that either the upper or the lower runways for the inner sash are removable and replaceable without the use of tools of any kind, and upon their removal the window sashes may be removed and replaced with one or more screen sashes or glass sashes for the sashes in use as may be desired.

A meritorious feature is the provision of runway elements or members for the inner sash which are so constructed and designed that they are divided into upper and lower sections with meeting ends abutting at substantially the meeting rails of the sashes to form continuous runway channels extending from the header to the sill of the window frame. The upper and lower sections are further slidably received within the window assembly and held therein in a manner to prevent the passage of air. The runway sections are further shaped to enable a person readily to grasp a runway and draw it out of engagement with the frame assembly. While in the illustrative embodiment of the invention shown and described hereinafter, the lower runway sections are shown as being removable and the upper sections as not being removable, it should be understood that the reverse construction might as well be employed, or on the other hand, both the upper and the lower sections could be removable.

Another meritorious feature of the invention is that the runway sections are provided with a flange portion adapted to be yieldingly grippingly engaged by the jamb members of the assembly, and are further provided with a channel opening laterally of the flange and which is engageable by one's fingers when withdrawing the runway section from, or replacing it in, the frame assembly. The runway sections are also provided with a second channel opening perpendicularly with respect to the

first mentioned channel of the runway, which latter channel is adapted to slidably receive a sash element to guide and hold the element within the frame.

An advantage of the construction of the assembly is that it is particularly well suited for window openings having surrounding frame members which have a thickness exceeding that of the combined thicknesses of the window sashes and the runway channels.

Other objects, advantages and meritorious features will more fully appear from the following specification, appended claims and accompanying drawings, wherein:

Fig. 1 is a front inside-the-building elevation of a door in which is mounted the improved window assembly;

Fig. 2 is a cross sectional view of the assembly taken on the line 2—2 of Fig. 1;

Fig. 3 is a cross sectional view through the lower half of the assembly taken on the line 3—3 of Fig. 1;

Fig. 4 is a cross sectional view through the upper half of the assembly taken on the line 4—4 of Fig. 1;

Fig. 5 is a fragmentary view of one end of the removable lower runway channel; and

Fig. 6 is a fragmentary view from the inside showing the manner by which the removable lower runway is received within the window frame.

While this assembly is shown as associated with a conventional metal-clad door, it should be understood that it might as well be associated with a wooden door or conventional window opening in a wall structure. The door shown is constructed of four pieces of wood covered with light weight metal and comprises a top frame 10, side frame members 12, and a lower member 14. Received over the edges of these pieces defining the window opening, and over the metal facing sheets generally indicated as 16, are the parts of the window frame assembly.

This frame assembly is constructed of resilient sheet or extruded metal and comprises generally the following parts: a header 18 received over the top frame member 10 of the door; a sill 20 received over the lower frame member 14 of the door; and a pair of opposed jamb members 22 and 24 received over the side frame members. The ends of these parts may be crossed in overlapping relationship to form a tight frame.

The header member 18 of the frame assembly is formed of one piece of metal, channel-shaped as shown in Fig. 2 but provided with an outside trim strip portion 26 which is folded upon itself as at 28 to form a stiffened area or wall 30 of double thickness. A right angled bend at 32 carries the header across the underside of the member 10 forming in the portion of the header adjacent the bend 32 a bottom wall for the outside sash receiving channel 34 of the header. Another bend as at 36 carries the header up the inside face of the member 10.

At 38 and 40 the header is bent back upon itself to form a double thickness area of increased stiffness at 42 and 44. Another bend, as at 46 carries the remainder of the strip downwardly, forming a depending wall 48 which serves as a side wall for the outside sash receiving channel 34 of the header. The walls 30, 32 and 48 together form the outside sash receiving channel 34 of the header.

The sill member, generally indicated as 20, is formed of one piece of material, and as shown in Fig. 2, is channel-shaped in cross section to fit over and seat upon the lower member 14 of the window opening of the door. The sill is shaped to provide a trim portion 50 overlying the outside of the door, and bent as at 52 to extend across the edge of the member 14. Another portion 54 of double thickness is formed by the bends 56 and 58 which overlie the inside of the door. A bend at 60 carries a portion 62 back across the sill until at a bend 64 it extends upwardly forming a wall 66.

The header and sill member are joined together by opposed jamb members. The opposed jamb members are of allochiral construction and therefore a description of one will suffice for both. The two jambs generally indicated at 22 and 24 are channel shaped in cross section and are adapted to overlie the interior edges of the side frame members 12.

Extending from the header 18 to the sill 20 the jambs comprise a somewhat chair-shaped base or jamb member having a trim strip portion, one edge 70 of which overlies the outside of the door and the opposite edge 72 of which is folded upon itself as at 74 to form an outer sash guide channel outer wall of a double thickness of material.

A bend as at 76 carries the base jamb member in the portion 78 across the inner edge of the frame member 12, and bends such as 80 and 82 form an inner trim strip 84 for the jamb. This inner trim strip is adapted to overlie the inside of the door adjacent the window opening edges of the side frame members 12.

The edge 70 of the outer trim strip and the folded portion 84 comprising the inner trim strip are tensioned toward each other so that they grippingly engage the side frame member 12 of the window opening thereby securely holding the jamb member 22 in position on the side frame member.

The trim strip 84 is channel shaped and adapted to grippingly receive one leg 86 of the inner sash runway channel element. The runway channel element comprises two members fitted together to form the runway for the inner sash A shown in Figs. 1, 2 and 3. One of these members, as shown in Figs. 3, 4 and 5, which forms the leg 86, is folded upon itself as at 88 and is received within the fold of the trim strip. It is bent as at 90 to extend part way over the portion 78 of the base member, and bent again as at 92 and 94 to form a channel 96 opening toward the inside face of the door, or inwardly of the window assembly.

The second member forming a part of the inner sash runway channel is shaped to provide a folded portion 98 which is grippingly received over leg 100 of the first member. A bend as at 102 carries a portion 104 of the second member over the bottom wall 106 of the first member, and similar bends 108 and 110 shape the bottom wall 112 and the side wall 114 to form with wall 104 sash guide channel 89. Wall 114 together with portion 78 and the folded leg 72 of the chair-shaped jamb member, form the outer sash guide channel for sashes B and C shown in Figs. 1–4.

The inner sash runway channel element extends from the sill to the header with the lower end of the member resting upon portion 62 of the sill and with the wall 114 just inside the upstanding wall 66 of the sill. Substantially midway between the header and sill and at substantially the meeting rails of the sashes, the runway channel member is severed as at 116 in Fig. 6 to provide upper and lower sections, numbered respectively 118 and 120. The upper and lower sections may be held in place by the action of the folded portion of the trim strip against the folded leg 88 of the section received therein. If desired, either the upper or the lower sections may be secured permanently within the window frame by nails 122 or the like.

In order to replace or remove the sashes A, B or C the lower sections of the inner sash runway or guide channels, may be withdrawn as shown in Fig. 6. The opposed walls 124 and 126 of the trim strip are tensioned together to hold the lower section securely in place, yet permit it to be withdrawn. The channels 96 of the lower sections are provided particularly to facilitate the removal and replacement of the lower sections in the frame assembly.

With the provision of channel 96, to remove a lower section, the fingers of one's hand are inserted into the channel near the top of the lower section and bearing against the folded leg 96 thereof, the section is withdrawn from the trim strip as shown in Fig. 6. When the lower runway channels on each side of the frame are removed in this fashion, the inside sash which must be elevated to its upper vertical limit during the removal of the sections, may be lowered and withdrawn from the frame. The remaining two sashes may then also be removed.

The lower sections may be replaced in the frame in a manner similar to their removal. Again the channel 96 in each strip serves as the means for holding onto the sections as they are replaced. If one's fingers are again inserted into the channel 96, the thumb overlies the opposite face of wall 98 and the section can be conveniently pushed back into the chair-shaped base jamb member.

With the lower sections in place, the channels 96 in both the upper and lower sections are aligned, and present a pleasing appearance to the eye in viewing the inside of the window.

It will be noted that this window frame structure, and the jamb elements in particular are peculiarly well suited for use in doors and window frame openings of buildings wherein the thickness of the surrounding window frame into which the assembly is to be inserted, is substantially greater than the combined thicknesses of the sashes and runway channels. As shown in Fig. 3, the members 12 are substantially thicker than the combined thickness of the sashes and guide channels.

It is also to be noted that the channel 96, and the folded leg 98 which together form a handle for the removal or replacement of the lower sections, lies substantially within the plane of the window opening.

While in the drawings the upper runway channel sections 118 are shown as being permanently secured in the window assembly and the lower sections 120 as being removable, it should be understood that the reverse construction is equally feasible, i. e. the lower sections permanently secured and the upper sections removable. It is also to be noted that both the upper and lower sections could be removable, the nails 122 being completely eliminated.

In Fig. 5 where is shown in perspective an end of one of the runway sections, the two channel shaped members which are fitted together to form the complete section are of substantially the same shape. The only differences between the two are that the folded leg 88 of one member does not have the spacing between the folds that the folded leg 98 of the other member has, and the channels 89 and 96 are not of the same width. However, it can be appreciated that by equating the dimensions of channels 89 and 96, and providing a very slight spacing between the folds of leg 88, the two members would take on identical characteristics. It is within the scope of my invention to construct the two members comprising my runway sections after this fashion and as a modified form of the section shown in Fig. 5.

What I claim is:

1. In a window assembly: opposed complementary jamb members; a runway channel element removably mounted on each jam member; each element shaped to define a sash guide channel, and further shaped to define a flange extending laterally away from a side wall of the sash guide channel and adapted to provide a finger grip portion to facilitate removal or replacement of the element.

2. In a window assembly: opposed complementary jamb members; a runway channel element removably mounted on each jamb member; each element shaped to define a sash guide channel, and further shaped to define a flange extending laterally away from a side wall of the guide channel with the flange spaced from the jamb face of the jamb member when the element is mounted thereon.

3. In a window assembly: opposed complementary jamb members; a runway channel element removably mounted on each jamb member; each runway channel element shaped to define a sash guide channel; each run-

way element further shaped to define a second channel opening laterally away from the runway channel and in a direction outwardly of the plane of the window assembly and adapted to facilitate insertion or removal of the runway element.

4. In a window assembly: opposed complementary jamb members; a runway channel element removably mounted on each jamb member; each runway element shaped to define a sash guide channel; each runway element further shaped to define a second channel opening laterally away from the runway channel and in a direction outwardly of the plane of the window assembly with the bottom wall of the second channel juxtaposing and coextensive with a side wall of the runway channel.

5. In a window assembly: opposed complementary jamb members; a runway channel element removably mounted on each jamb member; each runway element shaped to define a sash guide channel; each runway element further shaped to define a second channel opening laterally away from the runway channel and inwardly of the window assembly with the bottom wall of the second channel juxtaposing and coextensive with a side wall of the runway channel; each element adapted to overlie the jamb face of each jamb member with the bottom wall of the guide channel and a side wall of the second channel juxtaposing the jamb face of the jamb member.

6. In a window assembly having header and sill members, opposed complementary jamb members, each jamb member being formed of resilient material shaped along one marginal edge to define a trim strip of folded material with the folds of the strip being spaced apart to form a channel opening toward the opposed jamb member, a pair of runway channel elements for each jamb member with each pair adapted to be placed end to end upon the jamb member and when so placed to extend from the header to the sill with the abutting ends of the elements lying substantially midway between the header and sill, each element shaped along a marginal edge to define a jamb engaging flange grippingly receivable within the channel of the jamb members, each element further shaped to define a sash receiving channel offset laterally from the plane of the flange and opening in a direction opposite the flange; a second flange on each element projecting laterally from the first flange and the channel and adapted to provide a finger grip portion to facilitate insertion or removal of each element from the jamb member.

7. A sash runway channel element comprising, in combination, a pair of interfitting channel shaped members, one member shaped to define a flange portion and a channel portion with the flange extending laterally outwardly from one side wall of the channel, the other member shaped to define a flange portion and a channel portion with the flange folded upon itself and extending laterally outwardly from one side wall of the channel, one

side wall of the channel of the first member adapted to be received within the folds of the flange of the second member with said one side wall of the second member abutting the bottom wall of the channel of the first member.

8. A sash runway channel element comprising, in combination, a pair of similarly shaped interfitting channel members, each member shaped to define a flange portion and a channel portion with the flange being folded upon itself and extending laterally outwardly from one side wall of the channel; a channel side wall of one member being adapted to be received within the folds of the flange of the other member with the bottom of the channel of the first member abutting the channel side wall of the second member.

9. In a window assembly adapted to be mounted in a window frame having opposed side frame members; opposed complementary jamb members formed of resilient material each generally chair-shaped in cross section with the legs of the chair-shape tensioned toward each other and adapted to be grippingly received over and engage the opposed side frame members to hold the jamb members in position on the frame members, one leg of each of the chair-shaped jamb members being shaped to define a runway element supporting channel opening toward the complementary opposed jamb member, a removable runway element for each jamb member having a linearly extending lip adapted to be grippingly removably received within and held by said supporting channel, each runway element cooperating with the back portion of the chair-shape to form one sash guide channel with the runway itself shaped to form a second sash guide channel.

10. The invention as defined in claim numbered 9 characterized in that one of the legs of the chair-shaped jamb member is extended from the back of such chair shape and such back constitutes a sash guide channel side wall, and the other leg of the chair-shaped jamb member is the leg which is shaped to define the runway element supporting channel.

11. A sash runway channel element comprising: a pair of channels formed of resilient material and disposed with the bottom wall of one and the side wall of the other lying substantially in a common plane, and the free marginal edge of a side wall of one of the channels being extended angularly away from the channel to form a jamb receiving lip on the element.

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