Feb. 12, 1957 C. FISCHER 2,781,112

WINDOW SASHES

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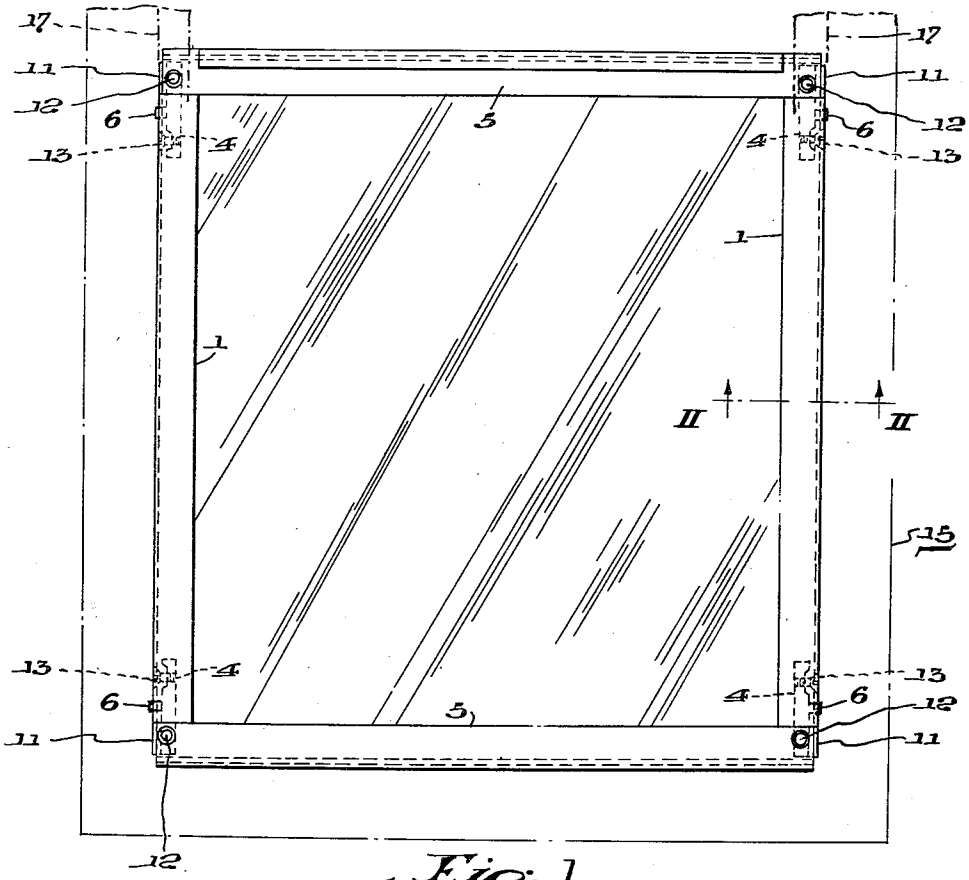


Fig. 1.

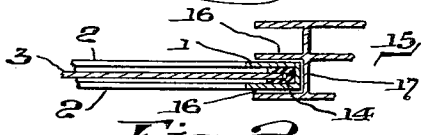
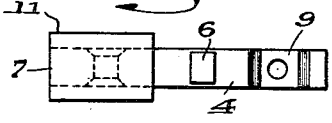


Fig. 2.

Fig. 3.



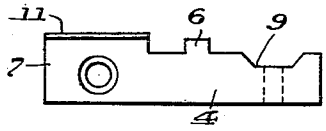


Fig. 4.

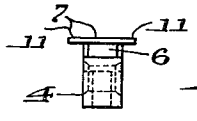


Fig. 5.

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WINDOW SASHES

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6 Claims. (Cl. 189—76)

My invention relates to window sashes, and is particularly applicable to sliding window sashes of metal for use in connection with metal window frames.

It has been common practice to make window frames and sashes of metal, and more frequently of aluminum. The result is that when the sashes are raised and lowered, the metal-to-metal contact results in scoring and marring of the slideways in the aluminum frame.

My invention has for its object the provision of a simplified means such as a splice bar or block, for connecting the frame members of a window sash at the corners and utilizing the connecting device also as a bearing shoe that will prevent metal-to-metal contact between the sash and the frame in which the sash slides, the connecting member being of non-metallic material which is softer than the aluminum or other metal frame. The invention is useful also in connection with frames and sashes of harder metal, such as stainless steel, since it will avoid screeching of the metal parts when the sash is being raised and lowered.

As shown in the accompanying drawing, Figure 1 is a face view of a sash made according to my invention and indicates in a schematic way, its mounting in a window frame;

Fig. 2 is a view taken on the line II—II of Fig. 1, with the window frame and its guideways included therein;

Fig. 3 is an edge view, on an enlarged scale, of one of the splice members used at the corners of the sash;

Fig. 4 is a side view thereof, and

Fig. 5 is an end view.

The sash comprises four bars 1—1 and 5—5 all of channel form between the flanges 2 of each of which a window pane 3 or a screen is supported. The sash frame members 1 and 5 are connected at each corner by a splice bar or block 4 that is disposed within the side channel members 1 and in the end channel members 5, the bars 4 each having a shoulder 6 that extends through a hole in the bottom wall of the channel 1 and is flush with the outer surface of the member 1. This provides an interlock that assists in holding the bar against sliding movement longitudinally of the channel.

The bar 4 is of softer material than the sash bars and frame and suitably may be of molded plastic either thermosetting or thermoplastic, of the type sold under the trade-name "nylon." It not only avoids scoring of the metal members during raising and lowering of the sash, but to some extent, serves as a permanent lubricant to reduce friction.

At its outer end, each block has a boss 7 that extends into the sash member 5 and protrudes slightly beyond the adjacent end of the bar. The extension 7 has lips 11 that overlie and extend slightly beyond the adjacent faces of the bar 5. A rivet 12 serves to connect the bar 4 to the frame member 5. The bar has a depression at 9 to receive a screw 13 that extends through the bottom of the channel 1, the bottom wall or web of the channel being indented somewhat, so that the head of the screw will not rub against the frame.

The outer face of the enlarged end or boss 7 of the bar serves as a shoe that bears against the bottom wall 17 of a channel in the window frame 15, thereby preventing metal-to-metal contact of the edges of the members 1 and the ends of bars 5, with the bottom wall 17 of this slideway. Likewise, the lips 11 extend across the ends of the flanges 16 of the slideway that is contained in the frame 15, to thus prevent metal-to-metal engagement between the sides of the sash members 1 and 5 and the slideway flanges 16.

The usual channel-shaped rubber gasket is provided in the sash members 1 and 5, for the window pane 3. It will be understood, of course, that screens instead of window panes could be used in the sash.

I claim as my invention:

1. A window sash that comprises sash bars provided with channels to receive the edges of window panes and the like, splice members secured in the ends of the channels of two oppositely-disposed bars and protruding at right angles therefrom and into the adjacent ends of the other bars whose ends abut the channel edges of the first-named bars, and fastening devices for connecting the splice members in the channels of the said other bars, the splice members each having a boss extending a slight distance beyond the ends of the first-named channel members and outwardly past the outermost edge of the adjacent bar, whereby it will serve as a bearing shoe when the sash is slid along slideways in a window frame.

2. A sash as recited in claim 1, wherein each boss has lips that extend laterally beyond the vertical planes of the frame member in which it is mounted.

3. A window sash that comprises sash bars provided with channels to receive the edges of window panes and the like, and splice bars secured in the ends of the channels of two oppositely-disposed bars and protruding at right angles therefrom and into the adjacent ends of the other bars whose ends abut the channel edges of the first-named bars, the bars having shoulders interlocking with the bottom walls of the second-named channels, and the splice bars each having a boss extending a slight distance beyond the ends of the first-named channel bar and outwardly past the outerwardly past the outermost edges of its associated sash bar, whereby it will serve as a bearing shoe when the sash is slid along slideways in a window frame.

4. A window sash that comprises sash bars in rectangular formation and provided with channels to receive the edges of window panes and the like, and splice members secured to the corners at which the channels meet and uniting the bars, the splice members each having a boss extending a slight distance outwardly beyond the edge of one bar and the end of the other bar at each corner of the sash, whereby it will serve as a bearing shoe when the sash is slid along slideways in a window frame.

5. A sash as recited in claim 4, wherein each boss has lips that extend laterally beyond the vertical planes of the frame member in which it is mounted.

6. A window sash that comprises sash bars in rectangular formation and provided with means for supporting the edges of window panes and the like, the bars being recessed where their ends meet at the corners of the sash, and splice members in said recesses and uniting the bars at the corners of the rectangle formed by the bars, each splice member having a portion that extends outwardly a slight distance beyond the sash bars, at two relatively remote edges of the sash, whereby it will serve as a bearing shoe.

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