Dec. 23, 1941. R. J. HORTON 2,266,973

AUXILIARY WINDOW SASH

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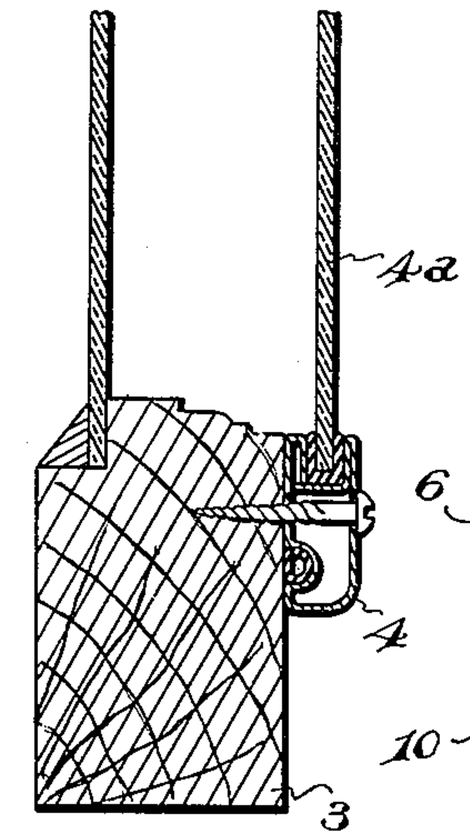

Fig. 1

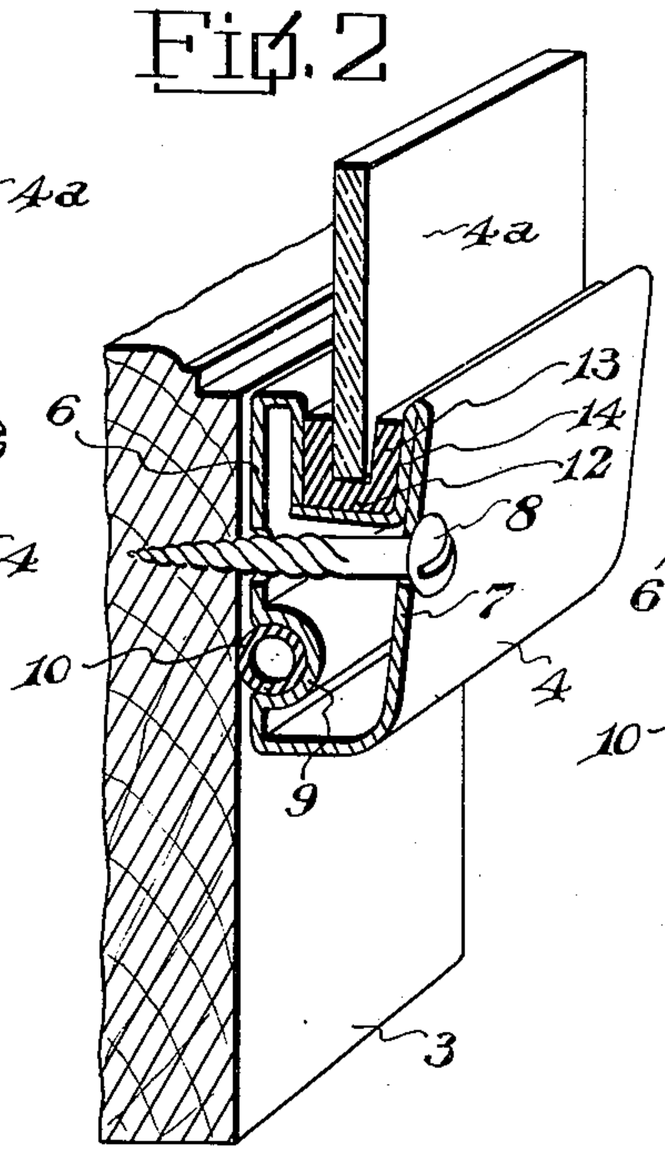

Fig. 2

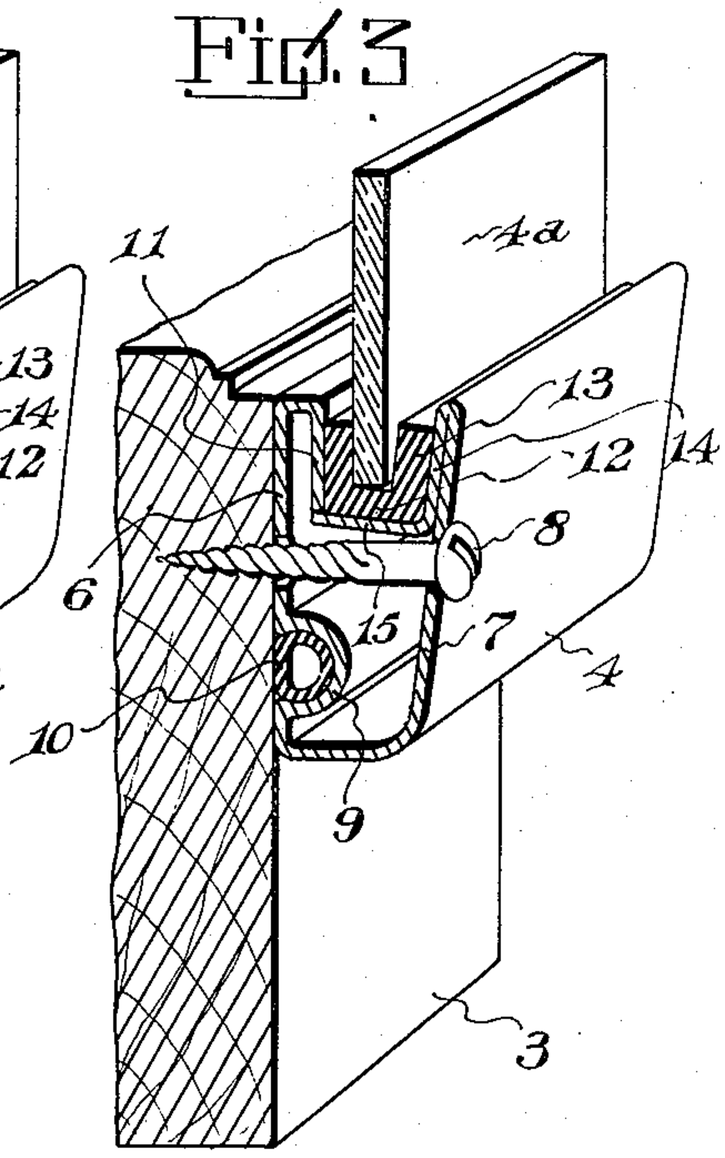

Fig. 3

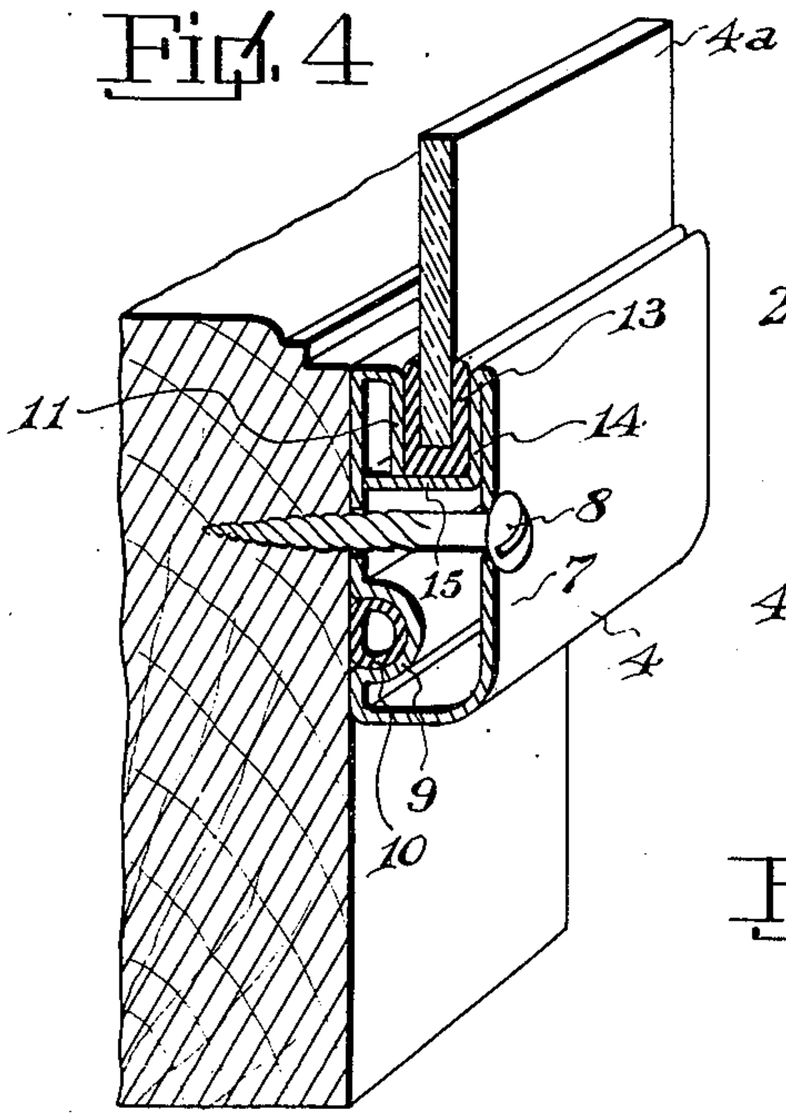

Fig. 4

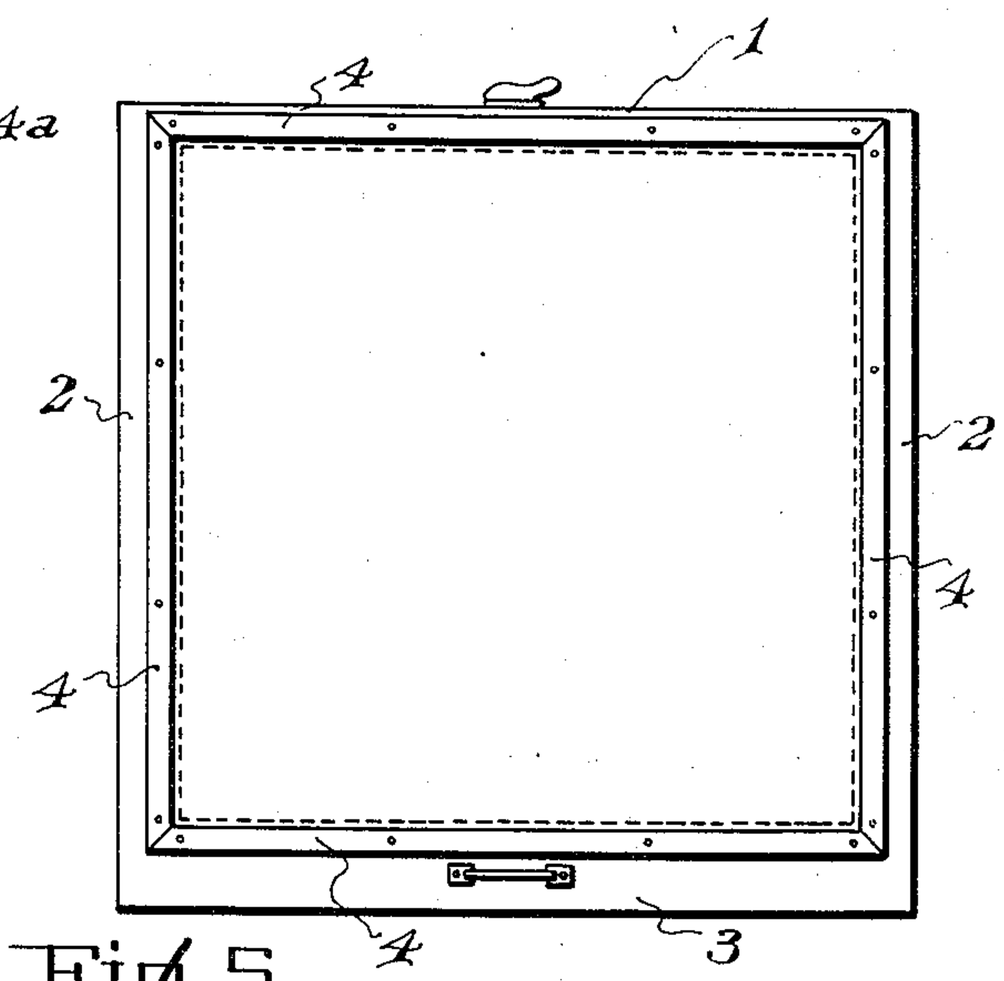

Fig. 5

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AUXILIARY WINDOW SASH

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3 Claims. (Cl. 20—56.5)

The invention relates to auxiliary window sash, and has for its object to provide a device of this character adapted to be attached to the main sash in a manner whereby the construction of the main sash is not varied.

A further object is to form the frame of the auxiliary sash from sheet metal, substantially rectangular in cross section with its flanges flared and with a contractible pane receiving channel in the inner edge thereof for the reception of a resilient insulating strip and an insulating strip in the inner face of the frame and securing means extending through both flanges of the frame for simultaneously compressing the packing strips for forming an airtight connection between the face of the sash, the inner face of the auxiliary frame and the marginal edges of the pane.

A further object is to provide the outer flange of the auxiliary frame with a downwardly extending flange terminating in an inwardly extending flange forming the bottom wall of the pane channel and to proportion said last named flange whereby it will engage the inner wall of the auxiliary frame and limit the compression of the insulating strip when the screws, passing through the frame, are tightened.

A further object is to provide the inner side of the auxiliary frame with a channel, semicircular in cross section for the reception of a tubular packing strip so that a large packing area will be provided when the auxiliary frame is drawn to closed position and in face engagement with the sash frame.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawing, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawing:

Figure 1 is a vertical transverse sectional view through the bottom rail of a conventional form of window sash and through the auxiliary frame.

Figure 2 is a view similar to Figure 1 showing one of the frame members in position to be attached to the sash rail and before the tightening screws are tightened.

Figure 3 is a view similar to Figure 1, but showing the initial compressing of the tubular packing by the tightening of the screws and the inner side of the frame against the sash rail.

Figure 4 is a view similar to Figure 1, showing the position of the parts wherein the screws are tightened and the limiting flange in final position for limiting the compression of the U-shaped packing strip in which the pane edge is disposed.

Figure 5 is a view in elevation of a conventional form of window sash showing the auxiliary sash applied thereto.

Referring to the drawing, the numeral 1 designates the upper rail of a conventional form of window sash, 2 the stiles thereof and 3 the bottom rail.

The auxiliary sash or frame is formed from metallic members 4, mitered at their corners 5, and are preferably independently assembled, usually by first assembling the lower member 4 on the rail 3 and supporting the pane 4 thereon as the vertical members 4 and upper member 4 are assembled.

Each of the members 4 are of the same construction, however for purposes of illustration the sections shown in the drawing are through the lower member. The members 4 are formed from sheet metal, bent to form, and each comprises inner and outer flanges 6 and 7. It will be noted that before the screws 8 are tightened the flange 7 diverges in relation to the flange 6, the purpose of which will presently appear. The flange 6, adjacent its outer edge is provided with a semicircular shaped channel 9 for the reception of a tubular packing member 10 which extends beyond the outer face of the flange 6 into engagement with the outer face of the sash rail 3, and is adapted to be compressed as shown in Figures 3 and 4 when the screws 8 are tightened for forming an air tight packing between the member 4 and the sash rail, and at which time the flange 6 is in face engagement with the rail 3. The inner edge of the flange 6 extends inwardly and downwardly thereby forming a flange 11 in spaced relation to the flange 6 and one side of a channel 12 for the reception of a pane packing strip 13, U-shaped in cross section, which receives the marginal edge of the pane 4*a*. The other side of the channel 12 is formed by the downwardly extending flange 14 which is bent upon the inner side of the flange 7 and terminates in a flange 15 which extends towards the flange 6 adjacent the lower end of the flange 11. The packing tube 10 has greater resiliency than the packing strip 13, therefore it will be seen that upon initial tightening of the screws 8, the tubular packing strip 10 will be compressed as shown in Figure 3 and the flange 6 brought into face engagement with the rail 3. The continued tightening of the screws will then compress the packing strip 13 in the channel 12 for gripping the marginal edge of the

pane 4 and this gripping compression is limited when the flange 15 comes into engagement with the inner side of the flange 6 as shown in Figure 4, therefore it will be seen that the pane is resiliently mounted and an airtight condition provided, and at the same time the possibility of breaking the pane of glass is obviated. It will also be seen that the single line of screws 8 are disposed between the two packings, consequently they serve the double function of compressing both packings, one following the other.

The invention having been set forth what is claimed as new and useful is:

1. An auxiliary sash secured to the face of a main sash, said auxiliary sash comprising a frame having a pane receiving contractible channel therein, a U-shaped packing strip within said channel and in which a pane edge is received, a compressible strip in the inner side of the frame and adjacent the outer edge thereof and securing means passing through said frame between the packing strips and into the main sash and contracting said frame and simultaneously compressing the packing strip carried by the inner side of the frame.

2. A device as set forth in claim 1 including a member within the frame and forming the bottom of the channel therein and also forming means for engaging the inner side of the frame and limiting the contraction of the contractible channel of the frame.

3. An auxiliary sash secured to the face of a main sash, said auxiliary sash comprising frame members U-shaped in cross section and having flexible flanges in diverging relation, one of said flanges engaging the main sash, said last named flange having an outwardly and downwardly extending member forming one side of a pane channel, the other diverging flange having a downwardly and inwardly extending member forming the other side and bottom of the pane receiving channel, the portion of said last named flange forming the bottom of the channel also forming means for engaging the inner side of the frame and limiting the contraction of the frame, a packing strip disposed in a channel in the inner side of the frame member and engaging the main sash and contracting means extending through said flanges and into the main sash between said packing and forming means whereby the packing in engagement with the main sash will be initially compressed upon initial tightening of the contracting means.

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