

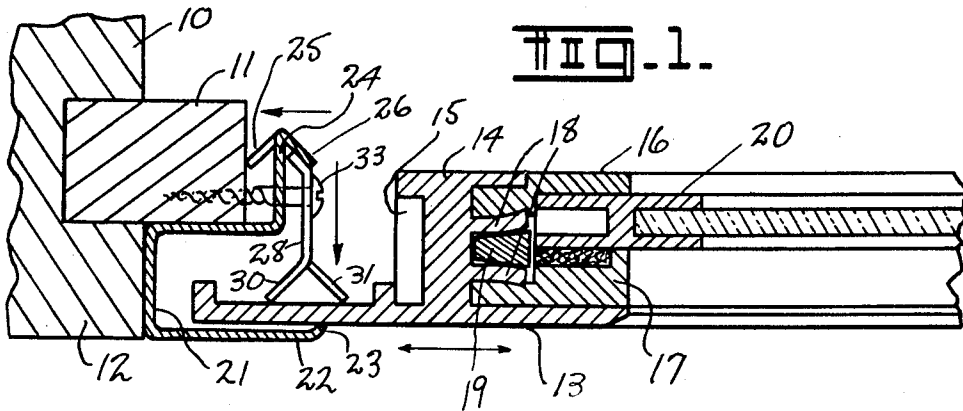
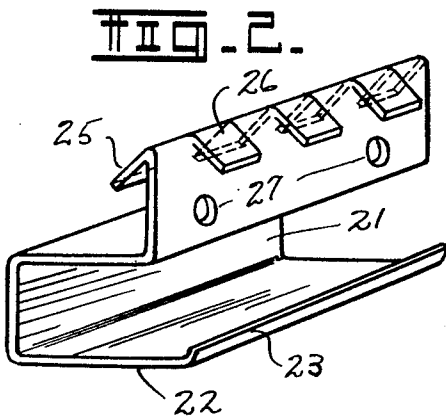
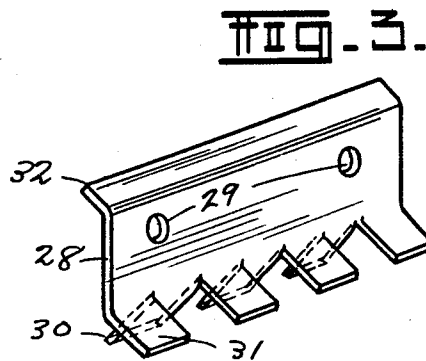
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EXPANSIBLE STORM WINDOW FRAME

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EXPANSIBLE STORM WINDOW FRAME

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4 Claims. (Cl. 20—55)

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This invention relates to a storm window and more particularly to a storm window frame, the overall dimensions of which can be altered after its formation.

The principal object of the invention is the provision of an expansible storm window frame.

A further object of the invention is the provision of a storm window frame, the component parts of which can be pre-cut and formed in predetermined standard sizes and manually adjusted by expanding portions of the said storm window frame to accommodate various sizes of window openings.

A still further object of the invention is the provision of an expansible storm window frame including means for tensioning the storm window frame in adjusted position and affixing the storm window frame to a window opening.

A still further object of the invention is the provision of a storm window frame mounting means including a tensioned mounting member engageable with a flange of a storm window frame for adjustably receiving the said storm window frame and mounting it with respect to a window opening.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein—

Figure 1 is a cross section of an expansible storm window frame.

Figure 2 is a perspective elevation of a portion of the expansible storm window frame.

Figure 3 is a perspective elevation of another portion of the expansible storm window frame.

By referring to the drawings and Figure 1 in particular, it will be seen that a dwelling house window opening has been generally indicated by the numeral 10, the blind stop by the numeral 11 and the outer casing by the numeral 12. A storm window frame such as shown and described in my co-pending patent application, Serial No. 681,245, filed July 3, 1946, is illustrated and a surface flange is indicated by the numeral 13.

A body member 14 is positioned at right angles to the surface flange 13 and cut and mitered sections of the frame are held together by corner pieces 15. Modifying members 16 and 17 engage

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channels defined by a plurality of axially extending ribs 18 and two of the axially extending ribs 18 are adapted to be distorted by means of a wedge 19 to hold the modifying members 16 and 17 in the frame. In such position in the frame, they define channels and areas for the reception of glazed inserts, one of which is shown in Figure 1 of the drawings, the inner lower glazed insert being shown and indicated by the numeral 20.

This storm window frame is mounted in the dwelling house window frame 10 and in flush engagement with the casing 12 and on the blind stop 11 thereof by means of a doubly flanged mounting member 21 including a frame engaging flange 22 inturned at its outermost end, as indicated by the numeral 23. The other one of the flanges of the doubly flanged mounting member 21 is indicated by the numeral 24. It will be seen that it is positioned at right angles to the flange 22 and spaced inwardly with respect to the outermost portion of the doubly flanged mounting member 21 so that, in effect, the doubly flanged mounting member 21 forms a modified U-shape, one arm of which is shorter than the other and turned outwardly with respect to the other.

The outermost end of the flange 24 is provided with a plurality of alternately spaced, inturned and outturned lugs 25 and 26, respectively, each forming an acute angle with respect to said flange 24 and with a plurality of openings 27.

At intervals along the double flanged mounting member 21, tensioning members 28 are provided which are provided with openings 29 and alternately spaced, inwardly and outwardly extending lugs 30 and 31. The innermost edge of the tensioning member 28 is positioned at an angle with respect to the body portion thereof and is indicated by the numeral 32. The angle of inclination of this innermost edge 32 is the same as the angle of inclination of the plurality of lugs 26 formed on the doubly flanged mounting member 21.

By referring to Figures 2 and 3 of the drawings, perspective elevations of cut sections of the doubly flanged mounting member 21 and the tensioning member 28 may be seen and again referring to Figure 1, it will be observed that the doubly flanged mounting member 21 and the tensioning member 28 are adapted to be positioned on the opposite sides of the surface flange 13 of the storm window frame to be mounted and are held in this position by means of screws 33 positioned through the openings 29 and 27, respectively, and engaging the blind stop 11. The storm window frame has four of these doubly flanged

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mounting members positioned on its four edges and the corners of the doubly flanged mounting members are cut square and overlap one another rather than being cut and mitered as in the case of the storm window frame.

It will thus be seen that when the assembled storm window frame and the mounting means therefor are positioned in a window opening, as shown in Figure 1, and the screws 33 tightened, the lugs 25 will bend downwardly as the flange 24 of the doubly flanged mounting member 21 is moved inwardly by the screws 33 thereby tending to move the whole assembly inwardly with respect to the casing 12 to insure a tight mounting of the storm window in the dwelling house window opening. At the same time, the inward movement of the screws 33 will tend to straighten out the inclined inner edge 32 of the tensioned member 28, thus increasing its tensioning on the inner side of the flange 13 of the window frame and thereby hold the same securely with respect to the flange 22 of the doubly flanged mounting member 21 which lies on the opposite side of the storm window frame.

When the assembly is first positioned on a window opening, the storm window frame is centered with respect to the opening and the screws 33 driven into the blind stop 11 which will cause the movement of the doubly flanged mounting member 21 with respect to the storm window frame 13, causing the complete assembly to be accurately positioned in the window opening and at the same time lock the assembly together as the screws 33 are completely tightened.

It will thus be seen that a simple and efficient means of mounting a storm window frame in a dwelling house window has been disclosed. The frame mounting means may be economically formed of rolled steel or other metal as can the tensioning members employed therewith. It will be observed that an air-tight seal is readily obtained between the inner surface of the casing 12 as well as upon the storm window mounting means and the blind stop 11.

It will be obvious to those skilled in the art that by providing this improved structure on storm window frames the said storm window frames may be pre-formed to regular sizes and adjusted at the time of installation to individual sizes and shapes of dwelling house window openings.

Having thus described my invention, what I claim is:

1. Means for mounting a storm window, said storm window having a peripherally extending guide member, onto a frame surrounding a window opening, comprising in combination: a substantially U-shaped channel for receiving said guide member; one leg of said U being bent to form a flange positioned perpendicularly to the said one leg and extending away from the other leg thereof; a plurality of lugs extending from the free edge of said flange in a direction away from the web of said U-shaped channel and de-

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fining acute angles with respect to said flange; a tensioning member substantially parallel with said flange and received into the angle formed by said flange and said lugs, said tensioning member engageable with said peripherally extending guide member for urging it against the said other leg of said U; and means holding said channel member and said tensioning member in predetermined relation with respect to each other and on said window frame.

2. For a storm window having a peripherally extending guide member, and a frame having a blind stop thereon, said frame surrounding a window opening, means for mounting said storm window onto said frame and outwardly of the blind stop thereof, said means comprising in combination: a substantially U-shaped channel for receiving said guide member; one leg of said U being bent to form a flange positioned perpendicularly to the said one leg and extending away from the other leg; a plurality of lugs extending from the free edge of said flange and defining acute angles with respect thereto on each side thereof; a tensioning member substantially parallel with said flange and received into the angle formed by said flange and those lugs on the side thereof remote from the web of said U-shaped channel, said tensioning member engageable with said peripherally extending guide member for urging it against the said other leg of said U; and means holding said channel member and said tensioning member in predetermined relation with respect to each other and on said window frame.

3. The structure defined in claim 2 wherein said last-named means comprise a screw extending through said tensioning member adjacent said first-named group of lugs, through said flange and into said blind stop and wherein said one leg of said U-shaped channel is positioned for bearing against the outer face of said blind stop when said flange and screw are in place.

4. The structure defined in claim 2 wherein said last named means comprise a screw extending through said tensioning member adjacent said first-named group of lugs, through said flange and into said blind stop, and said one leg of said U-channel and the web thereof are proportioned for fitting snugly into the angle between the outer face of said blind stop and the window frame when said flange and screw are in assembled position, whereby said tensioning member is locked in position but is resiliently related to said other leg of said U-channel for providing a firm but resilient holding of said peripherally extending guide member on said storm window.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,765,442	Patl	June 24, 1930