

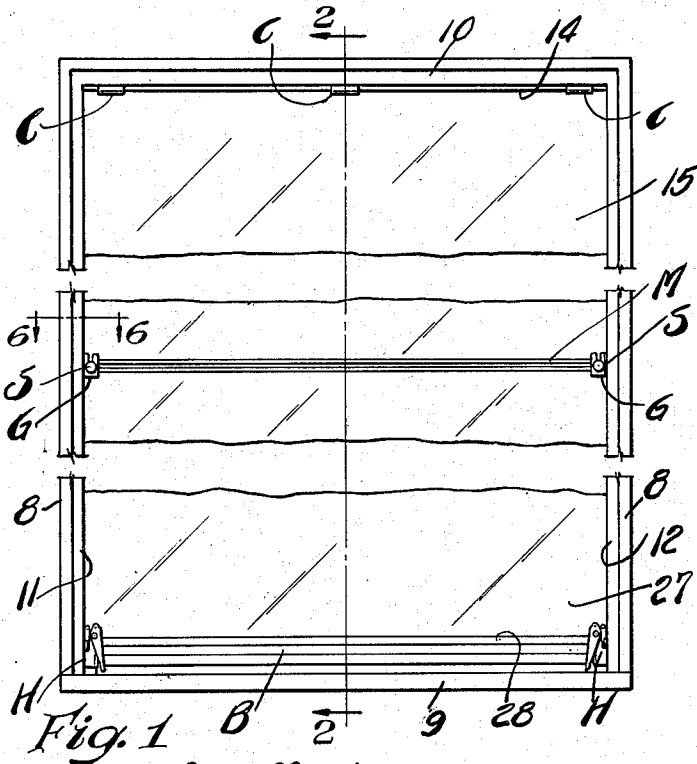
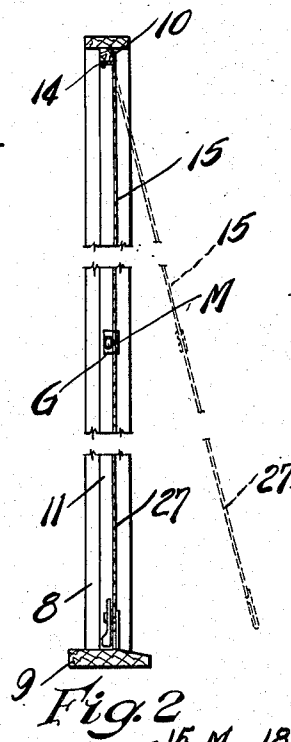
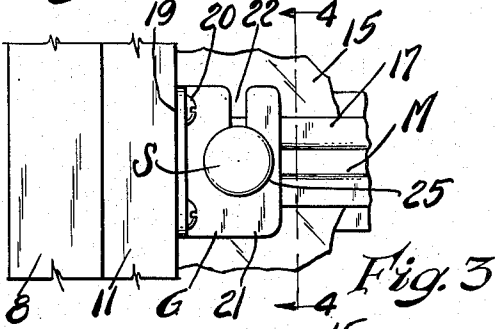
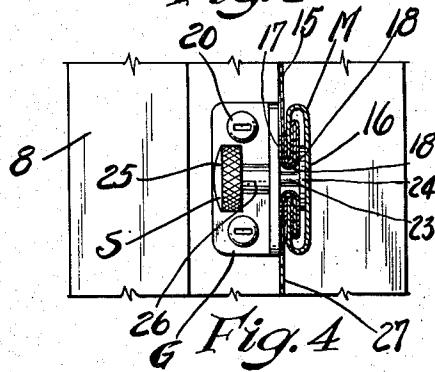
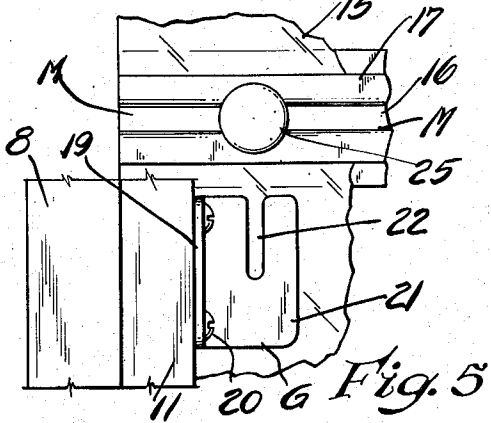
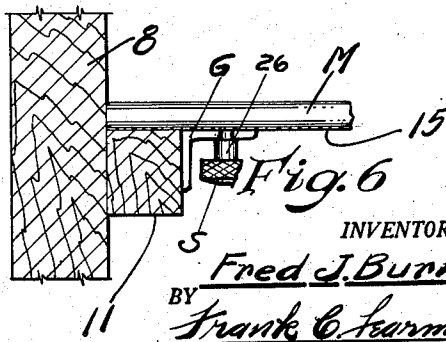
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CENTER BAR FOR FLEXIBLE STORM WINDOWS

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CENTER BAR FOR FLEXIBLE STORM
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8 Claims. (Cl. 160-184)

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This invention relates to center bars for frameless flexible storm windows and screens.

One of the prime objects of the invention is to design a center bar for connecting the adjacent ends of a sectional, flexible storm window formed of sheet plastic or other flexible material, and further reinforcing the storm window against severe wind pressure and/or weather.

Another object is to design a very simple, practical, neat-appearing center bar for releasably connecting the ends of sectional storm windows, and securing them in tight, weather-proof relation.

A further object is to provide simple, readily operable means for releasably securing the center bar of the storm window in position on the window frame and for holding it tightly against the blind stops of the windows to provide a tight, weather-proof installation.

Still a further object is to provide a center bar that can be made up and carried in stock in any desired lengths and from which sections may be cut to suit the width of the window to which they are to be applied.

A further object still is to provide a center bar together with fastening means associated therewith and readily shiftable therein so that the fastening means can be adjusted in the bar to suit the width of the window and/or be readily released when desired.

To the accomplishment of the foregoing and related ends, said invention then consists of the means hereinafter fully described, and particularly pointed out in the claims, the annexed drawing and following description setting forth, in detail, certain means and one mode of carrying out the invention, such disclosed means and mode illustrating, however, but one of the various ways in which the principle of the invention may be used.

In the drawing:

Fig. 1 is a face elevational view showing a window frame and storm window with my new center bar in position thereon.

Fig. 2 is a vertical section thereof taken on the line 2-2 of Fig. 1.

Fig. 3 is an enlarged, fragmentary, front sectional view showing the application of the center bar and securing means.

Fig. 4 is a transverse, sectional view taken on the line 4-4 of Fig. 3 and looking in the direction of the arrows.

Fig. 5 is a view similar to Fig. 3 showing the bar raised clear of the bracket.

Fig. 6 is a fragmentary, top, plan view taken

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on the line 6-6 of Fig. 1 and showing the center bar and flexible sheet tight against the window strip.

Referring now more specifically to the drawing in which I have shown the preferred embodiment of my invention, the letter W indicates a conventional window frame which comprises side jambs 3, a sill 9, and a header 10 as usual, and conventional stops 11 and 12 are provided on the side frames and header member respectively.

A flexible storm window assembly is mounted in this window frame W and includes a head bar 14 releasably secured to the header 10 by means of locking clips C, and one end of a plastic sheet 15 is releasably secured to this head bar 14 in a manner to be presently described.

The center bar M is designed particularly for use in connection with storm windows applied to conventional windows of relatively large area, where it is expedient to use two or more individual strips of transparent material such as plastic, to reinforce against high wind pressures which may cause the storm window to whip and bulge, permitting air to enter at the sides, and this center bar eliminates this possibility as it reinforces the entire storm window and holds the edges against any whipping action.

The center bar M spans the window frame from side to side, it is preferably C-shaped in cross section, and a relatively thin metal strip 17 forms a binding for the lower edge of the sheet 15 to prevent cracking or tearing, the end being bent hook-shaped as at 18, so that it readily engages the free end of the upper section of the C-shaped bar, and is insertable or removable endwise therefrom.

The upper end of the sheet 15 is formed and connected in exactly the same manner, but is attached to the lower free end of the head bar 14. The center bar M is usually located equidistant between the top and bottom of the window frame and is releasably connected to angular shaped brackets G, the legs 19 of which are secured to the stops 11 and 12 by means of screws 20, and the laterally projecting leg 21 is formed with a vertically disposed slotted passage 22 in which the shank 23 of a securing member S is anchored, the enlarged head 24 of said shank being interposed between the free end sections of the center bar and the side wall thereof, all as clearly shown in Fig. 4 of the drawing.

A head 25 is engageable with the shank 23 and is formed with a sleeve-shaped extension 26, and this can be interiorly threaded to accommodate the shank 23, or it can be solid thereon,

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if desired, the end of the extension 26 bearing against the face of the bracket leg 21 so that the bar can be drawn tightly against the outer face of the stops, and it will be understood that any other securing means may be employed without departing from the spirit of the invention.

The lower end of the lower sheet 27 is bound the same as the upper end and is secured to the hook-shaped end of an attaching member 28, all as shown and described in my application for U. S. Letters Patent entitled Flexible Storm Window Securing Means, filed October 21, 1950, Serial No. 191,439, now U. S. Patent 2,624,404, the lower end of said attaching member extending into a bottom bar B, and locking brackets H are provided on the opposite sides of the sill for engagement with the bottom bar for flexing the strips 15 and 27 and securing the storm window in locked position, all as described in my previously filed application for Storm Windows, Serial No. 191,438, filed October 21, 1950. It will be understood that the securing member S is never bottomed in the slotted passages 22, thus the sheet is tensioned at all times.

The bar 15 can be readily formed to shape and in any desired length and long sections can be carried in stock and cut to desired length. The brackets G can also be mass produced so that the entire assembly can be economically manufactured and readily assembled and installed.

From the foregoing description, it will be obvious that I have perfected a very simple, practical and neat-appearing center bar for frameless storm windows, screens and the like.

What I claim is:

1. The combination with a window frame, of a frameless flexible storm window associated therewith, an elongated bar spanning the outer face of said flexible storm window at a point intermediate its length, the side edges of the storm window being disposed in contact with the outer faces of the blind stops of the window frame, brackets secured to the sides of the blind stops of the window frame adjacent the ends of said bar, each bracket having a laterally projecting leg extending inwardly to overlie said storm window, laterally adjustable threaded posts mounted on the ends of said bars and engageable with the projecting leg of said bracket, and releasable means engageable with said posts and adjustable thereon to draw said bar and storm window toward the side brackets into intimate weather-tight contact with the outer face of the blind stops.

2. The combination as defined in claim 1 in which said bar is C-shaped in cross section with the flanges thereof disposed inwardly and parallel to form tracks, and shoes provided on said posts and slidable longitudinally in said tracks to provide a lateral adjustability of said posts to accommodate windows of varied widths.

3. The combination with a window frame, of a frameless, flexible storm window associated therewith, an elongated bar spanning the outer face of said flexible storm window at a point intermediate its length, the edges of the storm window being disposed in contact with the outer faces of the blind stops of the window frame, brackets secured to the sides of the blind stops of the window frame adjacent the ends of said bar, each bracket having a laterally projecting leg extending inwardly flush with the outer faces of the blind stops to overlie said storm window,

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and longitudinally adjustable means on the opposite end sections of said bar and releasably engageable with the laterally projecting leg of each bracket to maintain the edges of said storm window in intimate, weather-tight engagement with the outer face of the blind stops.

4. The combination with a window frame, of a frameless, flexible storm window associated therewith, an elongated bar C-shaped in cross section with the flanges bent inwardly and parallel to form tracks spanning the outer face of said flexible storm window at a point intermediate its length, the edges of the window being disposed in contact with the outer faces of the blind stops of the window frame, brackets secured to the sides of the blind stops, each bracket having a laterally projecting leg extending inwardly flush with the outer faces of the blind stops to overlie said storm window, the laterally projecting legs of each bracket having an open slot leading therein, longitudinally adjustable, threaded posts mounted on the end sections of said bar adapted to extend through said slots, and securing means engageable with said posts and adjustable to bear against the inner faces of the legs of said brackets and draw said storm window toward said brackets into intimate, weather-tight engagement with the outer faces of said blind stops.

5. The combination with a window frame, of a frameless, flexible storm window associated therewith, an elongated bar spanning the outer face of said flexible storm window at a point intermediate its length, the side edges of the storm window being disposed in contact with the outer faces of the blind stops of the window frame, brackets secured to the sides of the blind stops of the window frame adjacent the ends of said bars, each bracket being formed with a laterally projecting leg extending inwardly to overlie the inner face of said storm window, laterally projecting members on the ends of said elongated bar and movable into and out of locking engagement with said projecting bracket leg to draw said bar and storm window toward said brackets into intimate weather-tight contact with the outer face of said blind stops.

6. The combination with a window frame, of a flexible window covering associated therewith, an elongated bar spanning the face of said flexible window covering, the edges of the window covering being disposed in contact with the outer faces of the blind stops of the window frame, brackets secured to the sides of the blind stops of the window frame adjacent the ends of said bar, each bracket having a laterally projecting leg extending inwardly substantially flush with the outer faces of the blind stops to overlie said storm window, and longitudinally adjustable means on the opposite ends of said bar releasably engageable with the laterally projecting leg of each bracket to maintain the edges of said window covering in intimate, weather-tight engagement with the outer face of the blind stops.

7. The combination with a window frame, of a flexible window covering associated therewith, an elongated bar spanning the face of said flexible window covering, the edges of the window covering being disposed in contact with the outer faces of the blind stops of the window frame, brackets secured to the sides of the blind stops of the window frame adjacent the ends of said bar, each bracket having a laterally projecting leg extending inwardly substantially flush with the

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outer faces of the blind stops to overlie said storm window, and means on the opposite ends of said bar releasably engageable with the laterally projecting leg of each bracket to maintain the edges of said window covering in intimate, weather-tight engagement with the outer face of the blind stops.

8. The combination with a window frame, of a flexible window covering associated therewith, an elongated bar spanning the face of said flexible window covering, the edges of the window covering being disposed in contact with the outer faces of the blind stops of the window frame, brackets secured to the sides of the blind stops of the window frame adjacent the ends of said bar, each bracket having a laterally projecting leg extending inwardly to overlie said storm window, and means on the opposite end sections of said bar

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and releasably engageable with the laterally projecting leg of each bracket to draw said bar and covering toward the laterally projecting legs of the brackets and maintain the edges of said window covering in intimate, weather-tight engagement with the outer face of the blind stops.

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