April 18, 1950 W. M. KRANTZ 2,504,700

STORM WINDOW FRAME

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Fig. 1.

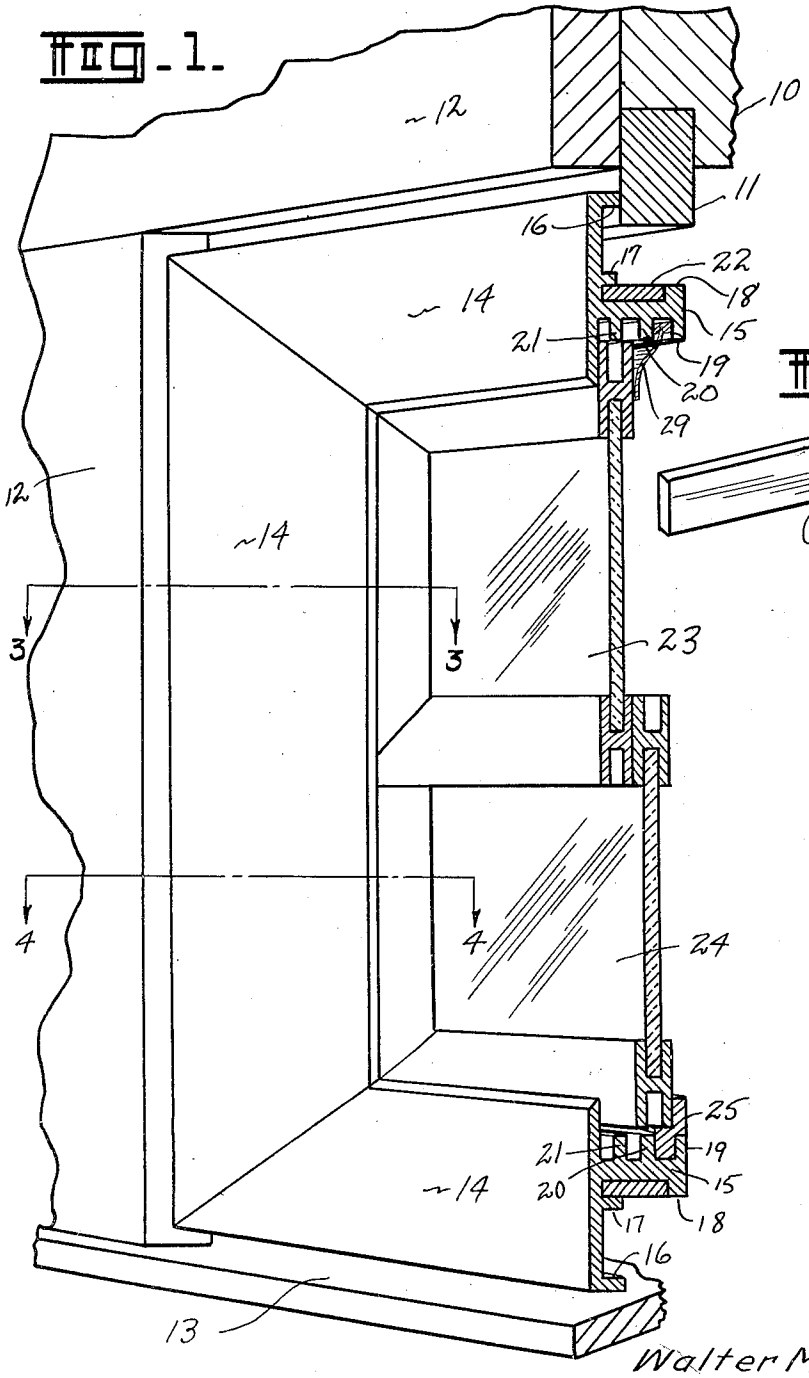
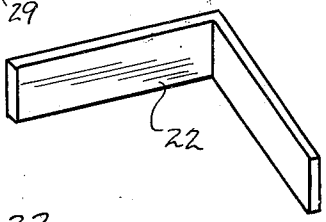


Fig. 2.



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Fig. 3.

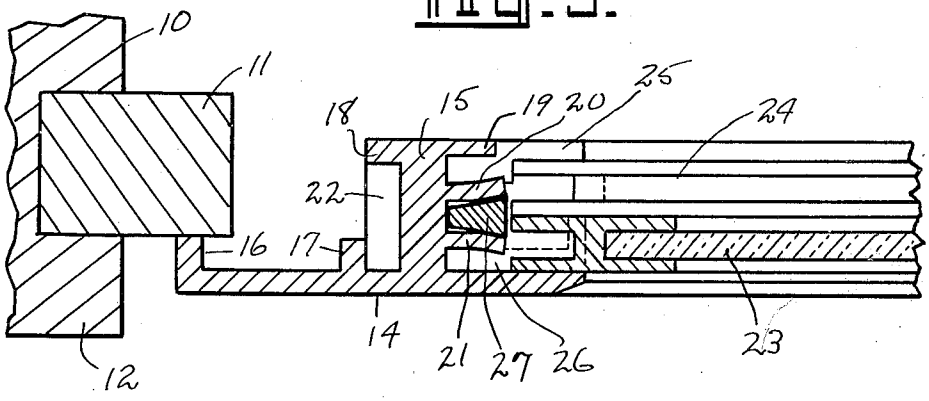


Fig. 4.

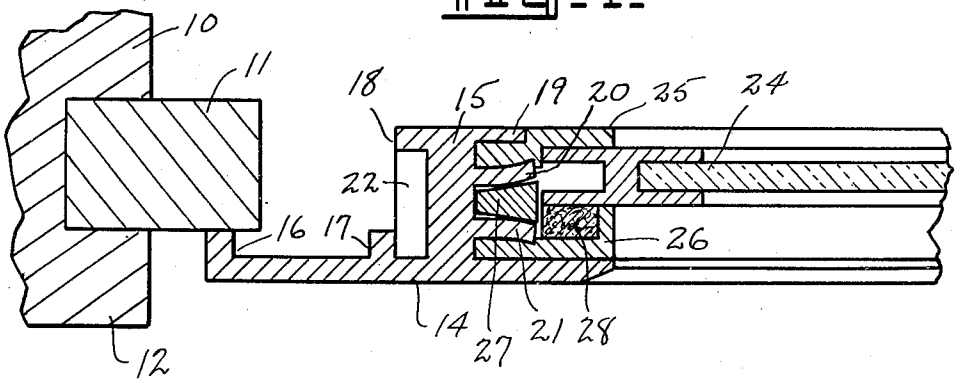
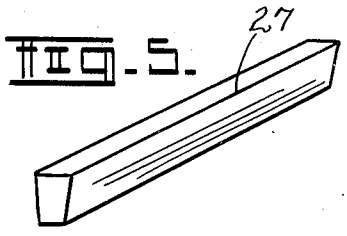


Fig. 5.



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STORM WINDOW FRAME

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Application July 3, 1946, Serial No. 681,245

3 Claims. (Cl. 189—75)

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This invention relates to a storm window and more particularly to a frame adapted to receive removable inserts to form a storm window.

The principal object of the invention is the provision of a storm window frame having sections engageable with portions thereof to form means for receiving and retaining glazed or screened inserts.

A further object of the invention is the provision of a storm window framing member and corner pieces for joining cut and mitered sections to the framing member to form a rectangular frame.

A still further object of the invention is the provision of a storm window framing member having means for receiving and retaining modifying strip sections to provide for the reception of glazed sash therein.

The storm window frame shown and described herein is formed from a master extrusion or metal shape to provide a framing section, cut and mitered sections of which may be used for forming various sizes and shapes of storm window frames applicable to dwelling house window openings.

The storm window frame includes channels for receiving modifying strips to alter the cross sectional shape of the frame for the reception of glazed sash inserts to be positioned therein and includes means for distorting portions of the framing section to lock the said modifying sections in place therein.

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 perspective elevation of a storm window frame with parts broken away and parts in cross section.

Figure 2 is a perspective elevation of a corner piece employed in forming the storm window frame illustrated in Figure 1.

Figure 3 is a horizontal cross section taken on line 3—3 of Figure 1.

Figure 4 is a horizontal cross section taken on line 4—4 of Figure 1.

Figure 5 is a perspective elevation of a wedge member used in forming the storm window frame shown in Figures 1, 3 and 4.

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By referring to the drawings and Figure 1 in particular, it will be seen that a dwelling house window opening has been indicated and that the window frame is indicated by the numeral 10, the blind stop by the numeral 11 and the outer casing by the numeral 12. The sill portion of the frame is indicated by the numeral 13. A storm window frame is shown in position on the blind stop portion of the window frame and is adapted to be secured in the window opening by any convenient means. The storm window frame, as illustrated in Figure 1, consists of a plurality of cut and mitered framing sections 14, each of which in cross sectional elevation, as illustrated in Figures 3 and 4 of the drawings, comprise a surface flange indicated in Figures 3 and 4 by the numeral 14, a section extending at right angles thereto indicated by the numeral 15, the surface flange having a pair of spaced inturned ribs 16 and 17 formed thereon and spaced with relation to the body member 15. The body member 15 has a single outwardly extending rib 18 on one side thereof adjacent the outermost portion of the body member 15 and three, spaced, parallel ribs 19, 20 and 21 formed on the opposite side of the body member 15 with respect to the rib 18.

The ribs 17 and 18 form a channel, in portions of which transversely L-shaped corner pieces 22 are positioned at the cut and mitered corners of the framing sections 14 so as to unite them in a frame structure. In Figure 2 of the drawings a perspective elevation of one of these transversely flat L-shaped corner pieces is illustrated, and in Figure 1 one of the corner pieces 22 is illustrated in cross section in position in the channel defined by the ribs 17 and 18, heretofore referred to.

It will thus be seen that the main framing section of the storm window frame is so formed as to enable it to be cut and mitered and formed, through the use of the corner pieces 22, into a square or rectangular frame, the outer diameter of which will correspond with the inner diameter of a casing of a dwelling house window to enable a storm window frame to be positioned therein.

In order that glazed inserts, such as indicated by the numerals 23 and 24 in Figures 1, 2 and 3 of the drawings, may be positioned in the frame, modifying strip sections are added to the framing sections, generally indicated by the numeral 14, and these modifying sections are best illustrated in Figures 3 and 4 of the drawings wherein cross sections are shown.

By referring to these figures, it will be observed that the cross sectional shape of the upper and lower half of the storm window frames are shown

and that the shape is altered by the application to the lower half of the frame of modifying strip sections 25 and 26. The modifying strip sections 25 and 26 are similarly formed members, each of which includes an offset, laterally extending portion, which are adapted to respectively engage the spaces between the parallel ribs 19 and 20 and the parallel rib 21 and the surface flange 14. In such position, the parallel ribs 20 and 21 are adapted to be moved apart with respect to one another so as to forcefully engage the modifying strip sections 25 and 26 thereby locking them in position in the window frame. Means for moving the ribs 20 and 21 to the locking position is provided and consists of a plurality of wedge members 27, a perspective elevation of one of which is shown in Figure 5 of the drawings.

Still referring to Figures 3 and 4 of the drawings, it will be observed that each of the modifying strip sections 25 and 26 have an axially extending, shallow groove formed in their surfaces lying adjacent the rib members 20 and 21 into which shallow groove the ribs 20 and 21 are moved by the positioning of the wedge member 27.

In Figure 4 of the drawings the cross sectional shape of the lower half of the storm window frame is shown and it will be observed that the glazed insert 24 is subsequently installed in the modified frame so that its edges engage the space between the modifying members 25 and 26 which form oppositely disposed channels in the lower half of the modified frame in which the insert 24 may move vertically. The space lying between the modifying strip section 26 and the outer edge of the insert 24 is filled with a felt strip 28 which cushions the insert 24 with respect to the frame so formed. It will be observed that in order to position this insert 24 in the storm window frame, it is necessary to first place it in the upper half of the frame, line it up with the channel defined between the modifying strip sections 25 and 26 and then lower it downwardly into position therebetween. In such position, its uppermost edge will extend above the uppermost ends of the modifying strip sections 25 and 26, as clearly shown in Figure 1 of the drawings. The upper insert 23 may then be positioned in the storm window frame by positioning its lower edge in the outermost portion of the frame so that it rests upon the upper ends of the modifying strip sections 26. It is thus located so that the lower rail of the insert 23 is positioned beside the upper rail of insert 24, as shown in Figure 1 of the drawings.

In Figure 3 of the drawings the upper insert 23 is shown in position in the frame and it is adapted to be retained in this position by a spring member such as shown in Figure 1 and indicated by the numeral 29, one end of which is positioned in the space between the ribs 19 and 20 on the storm window frame.

It will thus be seen that a storm window frame has been disclosed which is primarily formed of a single extruded metallic shape and that this metallic shape, when cut and mitered and formed into a frame by the use of the corner pieces 22, is further modified by the application

of the modifying members 25 and 26 which are held by the wedging action imparted by the wedge 27 and which modifying members, in connection with the frame, form means for the positioning of the upper and lower inserts.

It will be obvious that the lower insert may be removed and a screened insert substituted when desired.

It will thus be seen that a simple and efficient storm window frame has been disclosed which may be formed by simple manual operations enabling it to be economically produced.

Having thus described my invention, what I claim is:

1. A storm window framing member including a surface flange and a body section formed at right angles thereto, a plurality of ribs formed on the inner side of the body section forming three channels, modifying members positioned in the lower half of the frame in the outermost of said channels, and means engaged in the other of said channels for distorting the said ribs to move them against the said modifying members so that the distorted ribs hold the modifying members in the framing member, the modifying members forming sash receiving means.

2. A storm window frame comprising an assembly of four cut and mitered sections of framing material secured to one another at their ends, each section having a plurality of axially extending ribs formed on the inner side of said framing material and forming three inwardly facing channels therebetween, modifying members positioned in the outermost of said channels in the lower half of the window frame, and means engaged in the other of said channels for distorting the said ribs to move them against the said modifying members so as to cause them to be locked in the storm window frame, the said modifying members forming sash receiving means.

3. Frame element construction for a storm window comprising: a body member including a U-shaped channel; a pair of curved ribs extending from the web of said U in substantially the same direction as the flanges thereof to form three parallel channels; a modifying member in each of the outermost of said channels and adapted to receive the sash of said storm window, said modifying members each having a shallow groove along that side thereof which faces the other modifying member and adjacent the free edges of said ribs, and said ribs extending into said grooves for locking said modifying members to said body part.

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