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MOUNTING STRIP FOR SINGLE PANEL

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Fig. 1

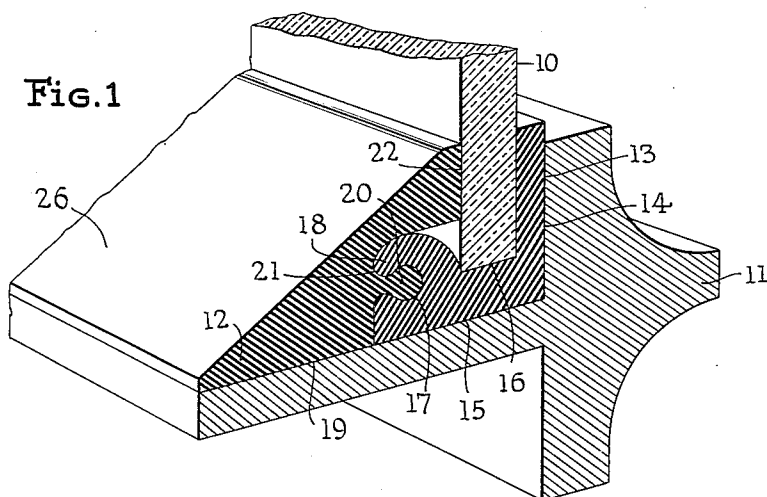


Fig. 3

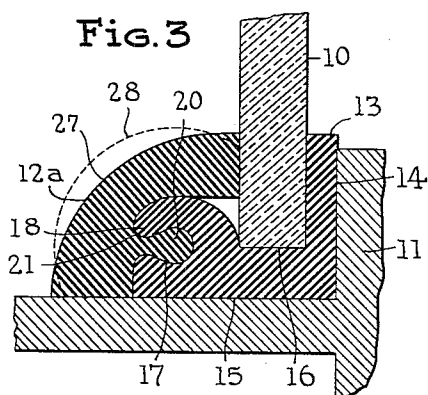


Fig. 2

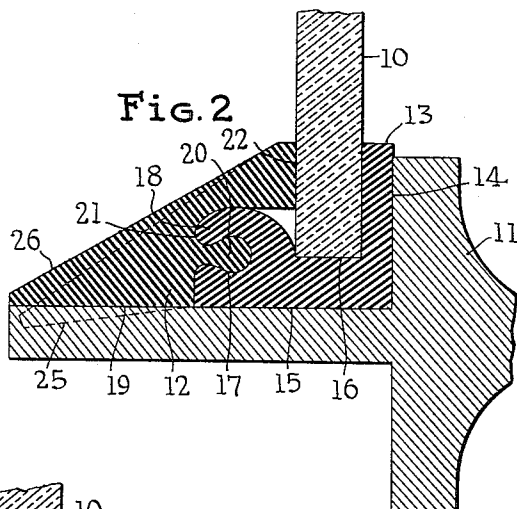
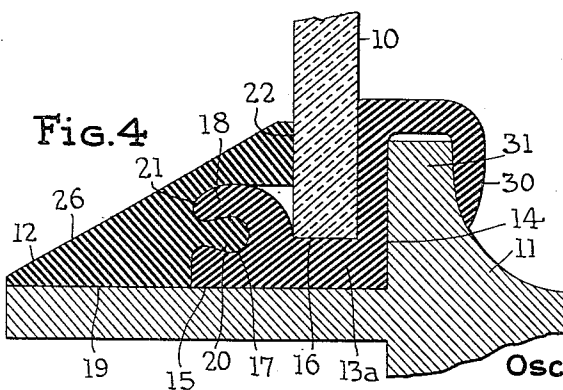


Fig. 4



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MOUNTING STRIP FOR SINGLE PANEL

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5 Claims. (Cl. 189—78)

This invention relates to window constructions and more particularly to improved means for glazing or mounting single panels of glass or the like in metal or wood window frames.

One object of this invention is the provision of a panel mounting construction which eliminates the necessity of using glazier's points, clips, putty, and paints.

Another object of this invention is the provision of an economical easily-mounted flexible glazing strip construction which effectively seals against the passage of air and moisture between a panel and a panel frame of metal or wood.

A still further object of this invention is the provision of an improved glazing strip construction which facilitates removal and the replacement of broken window panes.

Other objects and advantages of the invention will become more apparent from the following detailed description of preferred embodiments thereof.

In the drawings, Figure 1 is a fragmentary perspective view, enlarged, of a glass panel mounted in a section of window frame by a section of glazing strip embodying the principles of my invention.

Figure 2 is a vertical sectional view of the construction shown in Figure 1.

Figure 3 is a vertical sectional view of a modified form of glazing strip.

Figure 4 is a vertical sectional view of a still further modified form of glazing strip construction embodying the principles of my invention.

Referring to the drawings, a glass panel is indicated by the numeral 10, and a portion of a window frame or sash member is designated by the numeral 11. The member 11 may be a part of a wooden or metal window sash, part of a casement window, or part of a fixed window frame, or the like. For purposes of illustration, the window member 11 is shown as a mullion, but it is to be understood that the present invention provides improved means for mounting glass panels in mullions, transoms, and other parts of complete window constructions.

Glass panes are usually mounted in wooden sashes by means of glazier's points and putty, or mounted in metal frames by wire clips and putty or plastic cements. The present invention provides for mounting glass panels 10 in window members 11 by means of two interlocking flexible strips 12 and 13. The strip members 12 and 13 are preferably made of extruded rubber or similar resilient materials. The strip member 13 is of substantially L-shaped cross section and is provided with flat longitudinal surfaces 14 and 15 which engage the surfaces of the mullion 11, and is formed with a longitudinal groove 16 to receive the edge of the panel 10. Strip 13 also is provided with a longitudinal groove 17 surmounted by a longitudinal rib or tongue 18. The strip member 12 is formed with a flat surface 19 to engage one of the surfaces of the mullion 11, and has a longitudinal rib or tongue 20 for insertion in the groove 16, and has a longitudinal groove 21 to receive the tongue 18. The

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tongues 18 and 20 are of slightly larger cross section than the cross section of the grooves 17 and 21, and said cross sections may be substantially circular. Strip 12 also has a flat surface 22 to engage the panel 10.

The glazing strips 12 and 13 are preferably formed from extruded resilient rubber or the like with the two strips being of different hardness. Strip 12 may have a durometer of 40 to 50, and strip 13 may have a durometer of the order of 70 to 80, strip 13 thus being of greater hardness and less resilience than strip 12. However, both strips are resilient enough to provide effective sealing contact with the mullion 11, the panel 10, and with each other. The resilience is such that the tongue 20 is firmly interlocked and gripped in the groove 17, and the tongue 18 is firmly gripped in the groove 21. The surfaces 14 and 15 may be secured by an adhesive waterproof cement to the surfaces of the mullion 11, and cement may also be used to seal the surface 19 of strip 12 to the mullion 11. The strips 12 and 13 may be formed of rubber or resilient plastic compositions of the approximate durometer stated.

The strip 12 is preferably formed having a cross sectional shape as shown by the dotted line 25 in Figure 2. When the strip 12 is applied to the mullion 11 and strip 13 it is slightly compressed to the shape shown in solid lines in Figures 1 and 2 whereby the resilience of the material of strip 12 causes it to engage the panel 10 with pressure along the surface 22 and to engage the mullion 11 with pressure along the surface 19. Such pressure engagement produces a sealing contact which provides an effective moisture and vapor seal.

As shown in Figures 1 and 2, the strip 12 provides a flat sloping surface 26 after installation. In the modification illustrated in Figure 3, the strips 12a and 13 are similar to those shown in Figures 1 and 2, except that the outer surface 27 of strip 12a is curved rather than flat. Before installation, the Figure 3 strip 12a may have a shape such as shown by the dotted line 28 in order to provide sealing pressure against the panel 10 and mullion 11 when compressed during installation. After installation, the Figure 3 strip 12a has a cross section substantially quarter round.

The modification illustrated in Figure 4 is similar to the construction shown in Figures 1 and 2 except that the strip 13a is provided with a longitudinal overhanging lip 30 for engagement around the upper edge 31 of the mullion 11. In this construction it is unnecessary to cement the strip 13a to the mullion 11, since the lip 30 effectively secures the strip to the mullion.

It is to be understood that the improved panel mounting means herein described are particularly useful for securing and sealing glass panes in window frames without points, clips, and putty, and that the strips described are likewise useful for mounting other types of panels including translucent or opaque panels of plastic, metal, plywood, or the like. The difference in relative hardness of the strips 12 and 13 provides for easily keying the two strips together during the mounting of panels in frames, and provides a long-lasting effective seal.

It will be apparent to those skilled in the art that various minor modifications and variations in the nature and arrangement of the several elements of my construction are possible without departing from the spirit of this invention or the scope of the appended claims.

What I claim is:

1. A mounting construction for securing a panel in a frame, said construction comprising two strips of resilient material mounted on the frame, the first strip being of substantially L-shaped cross section and having an upright portion and a horizontal portion with the inside, vertical surface of the upright portion being adapted to

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receive one of the two largest surfaces of the panel and the inside, horizontal surface of the horizontal portion extending perpendicularly outwardly from the inside vertical surface of the upright portion for a distance approximating the edge thickness of the panel so as to receive the edge of the panel and thereafter extending further outwardly to form a longitudinal tongue extending along the length of the strip, and the second strip having a longitudinal groove extending along the length of the strip between upper and lower portions of the strip for interlocking engagement with the longitudinal tongue of the first strip, the upper portion of the second strip extending up over the tongue of the first strip and into retaining engagement with the other of the two largest surfaces of the panel when the tongue of the first strip is interlocked with the groove of the second strip, thereby enabling the second strip to retain the panel in place and present a continuous, unbroken vapor and moisture barrier from the point of its engagement with the panel to the point of its engagement with the frame.

2. The mounting construction as described in claim 1 wherein the inside horizontal surface of the horizontal portion of the first strip extends perpendicularly outwardly from the inside vertical surface of the upright portion for a distance approximating the edge thickness of the panel so as to receive the edge of the panel and thereafter extends further outwardly and upwardly to form the longitudinal tongue extending along the length of the first strip.

3. A mounting construction as described in claim 1 wherein the inside horizontal surface of the horizontal portion of the first strip extends perpendicularly outwardly from the inside vertical surface of the upright portion for a distance approximating the edge thickness of the panel so as to receive the edge of the panel and thereafter extends further outwardly to form a longitudinal tongue extending along the length of the strip and then returns inwardly to form a longitudinal groove extending along the length of the strip below the longitudinal tongue and wherein the second strip has a longitudinal groove and a longitudinal tongue extending along the length of the strip between the upper and lower portions of the strip for interlocking engagement with the longitudinal tongue and groove of the first strip.

4. A mounting construction as described in claim 1 wherein the inside horizontal surface of the horizontal portion of the first strip extends perpendicularly outwardly from the inside vertical surface of the upright portion for a distance approximating the edge thickness of the panel so as to receive the edge of the panel and

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thereafter extends further outwardly and upwardly to form a longitudinal tongue extending along the length of the strip and then returns inwardly to form a longitudinal groove extending along the length of the strip below the longitudinal tongue and wherein the second strip has a longitudinal groove and a longitudinal tongue extending along the length of the strip between the upper and lower portions of the strip for interlocking engagement with the longitudinal tongue and groove of the first strip.

5. A window mounting construction for securing a panel in a frame, said construction comprising in combination two strips of resilient material mounted on the frame, the first strip being of substantially L-shaped cross section and having an upright portion and a horizontal portion with the inside vertical surface of the upright portion being adapted to receive one of the two largest surfaces of the panel and the inside horizontal surface of the horizontal portion extending perpendicularly outwardly from the inside vertical surface of the upright portion for a distance approximating the edge thickness of the panel so as to receive the edge of the panel and thereafter extending further outwardly to form a longitudinal tongue extending along the length of the strip, a panel having its edge and one marginal face portion in engagement with the inside horizontal and vertical surfaces of the strip, and the second strip having a longitudinal groove extending along the length of the strip between the upper and lower portions of the strip for interlocking engagement with the longitudinal tongue of the first strip, the upper portion of the second strip extending up over the tongue of the first strip and into retaining engagement with the other of the two largest surfaces of the panel when the tongue of the first strip is interlocked with the groove of the second strip, thereby enabling the second strip to retain the panel in place and present a continuous, unbroken vapor and moisture barrier from the point of its engagement with the panel to the point of its engagement with the frame.

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