

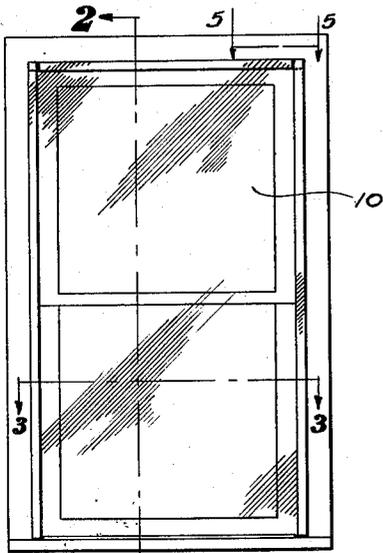
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2,646,117

STORM WINDOW STRUCTURE

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Fig. 1

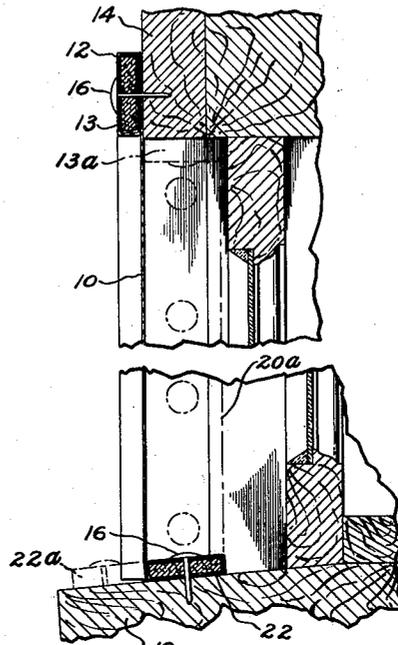


Fig. 2

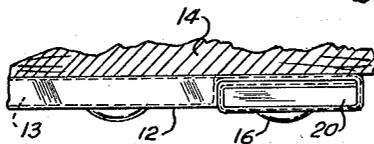


Fig. 5

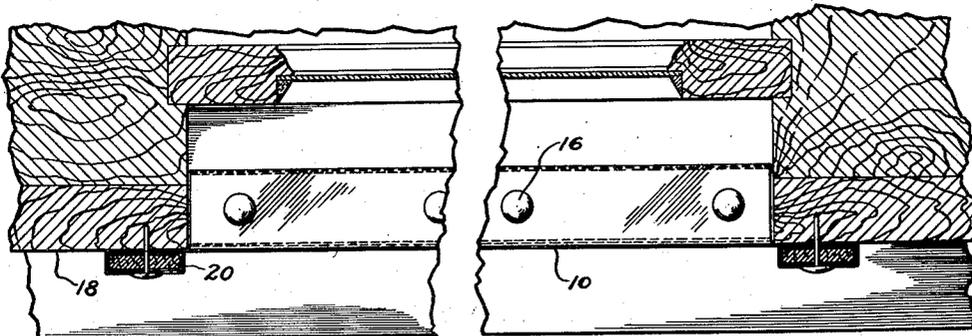


Fig. 3

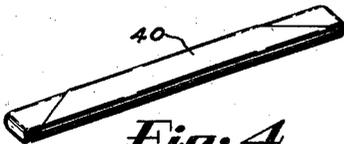


Fig. 4

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STORM WINDOW STRUCTURE

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The general object of the present invention is to provide a temporary storm window structure which will be simple in construction; durable and weatherproof for at least the cold weather season of a year in localities where the winter season is relatively extensive and which can be applied to a window casing by an unskilled person of average intelligence.

Another object of the present invention is the provision of a temporary storm window formed of light weight weatherproof materials in such manner that the product may be standardized for merchandising purposes and yet may be adapted readily to a variety of window casing sizes.

A still further object of my invention is the provision of a temporary storm window structure formed of such materials as to afford great economy and be readily applied to a window casing in such manner as to provide a moisture-proof seal of the window opening of a window casing.

Other objects and advantages of the invention will be apparent from the following detailed description of preferred forms of embodiment of the invention, reference being made to the accompanying drawings wherein—

In Fig. 1 there is shown in front elevation a wooden window casing to which my temporary storm window structure has been applied;

Fig. 2 is a cross-section of the window casing and of my temporary storm window structure applied thereto and taken substantially along the line 2—2 of Fig. 1;

Fig. 3 is a transverse cross-sectional view taken substantially along the line 3—3 of Fig. 1;

Fig. 4 is a perspective view of a merchandising package containing the materials comprising my storm window structure; and

Fig. 5 is a partial detailed sectional view taken at 5—5 in Fig. 1.

My invention contemplates the utilization of light weight and foldable thin plastic sheets of material as the storm window panes which will remain moisture proof over a considerable period of time when exposed to the elements and which, when tensioned, will afford the greatest degree of transparency compatible with my object of the attainment of economy. Any one of several plastic or synthetic sheet materials may be found to be satisfactory for my purpose. In the present instance I have found that Vinylite film or sheeting material of from one to three thousandths of an inch in thickness will give the desired results and yet be amenable to the par-

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ticular manner of securing the sheeting material in place over the window opening of the window casing. I have shown such a sheeting material at 10 in Figs. 1, 2 and 3 held or fastened in position on the window casing in the manner hereinafter disclosed.

Due to the thinness and non-self supportability of the sheet material, great and practically unsurmountable difficulties would be encountered in attempting to secure the marginal edges of the sheet by the use of fly screen binder strips and like well known means. I have devised a strip binder means, however, which when utilized in the recommended order of procedure reduces the application of such a film to the window casing to the simplest steps of manual effort.

To properly secure the margins of such a thin sheet material to the window casing in a weather-tight manner I utilize four marginal strips formed of relatively stiff material, about which the marginal edges of the Vinylite film may be wrapped in the form of two or three convolutions, whereby the thin film may be properly tensioned and be thoroughly secured to the strips. Thus in Fig. 2, at the top, several convolutions 12 of the sheet material are inwardly wrapped about a strip core 13, this top strip being secured to the outer top member 14 of the wooden casing structure with the plane of the film 10 substantially coincident with the outer vertical plane of the casing member 14. Securing means which I prefer to use are large-head tacks 16 which are driven through the convolutions and the strip core into the casing member 14. The wrapping and binding strip 13 is made preferably of heavy chip board stock, but can be made out of other materials which would be stiff enough for both film wrapping and ultimate binding of the film edge to the window casing surface in a moisture-tight manner.

I have found that the most convenient manner of applying the film to the window casing is to first apply the top strip 13 after having wrapped the top marginal portion of the sheet in the manner stated. To facilitate this wrapping step I prefer to have one face of the securing strip pre-coated with an adhesive, such, for example, as polyvinyl alcohol adhesive, which when dampened with water, will serve to secure the top strip 13 when placed along the top marginal edge of the sheet to the sheet whereby the marginal portion may be wrapped in a substantially tight manner about the core strip. To carry out the step, smooth applica-

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tion between strip and sheet should be obtained to avoid a subsequent wrinkling when the sheet is subjected to tension.

The side margins of the sheet are secured in the manner of securement of the top part and with the convolutes of the sheet disposed to the outer vertical side members 18 of the window casing structure, see Fig. 3. The lengths of these side strips as shown in Fig. 1 are such as to extend from the top edge of the top strip 13 down to the surface of the window sill member 19. Caution, of course, is to be exercised in forming the convolutions and wrapping of the side securing strips 20 to avoid uneven application or wrinkles.

After one side strip 20 is applied transverse or cross-tensioning of the sheet may be effected throughout the height of the sheet material during the securement of the second wrapped side strip. Details of the resulting structure of a corner are shown in Fig. 5, a top partial sectional view of a top corner. The corner seal resulting in such a structure is clearly apparent.

The final step is to wrap the bottom marginal region of the sheet material about the bottom securing strip 22, whereupon this strip can be disposed on the inner side of the sheet material 10, as shown in Fig. 2, or it may be disposed on the outside, as indicated by the dot and dash lines and the reference numeral 22a in Fig. 2. For drainage purposes I prefer to have the bottom securing strip disposed on the inside as illustrated in full lines in Fig. 2. During the final securement of this strip by the use of nails or tacks 16, the sheet of film material is tensioned in a vertical direction.

It will be found that in applying the temporary storm window as outlined above the sheet material may be sufficiently tensioned to eliminate the formation of all wrinkles and present a weatherproof transparent membrane to the elements.

The strips 13, 20 and 22 may be formed of a moisture proof paper board stock or heavy cardboard material having a sufficient rosin content for the purpose or they may be dipped in a suitable weather-proofing solution. The thickness of such board stock is such as to have sufficient beam strength to firmly press the edge convolutes of the film against the surface of the casing structure. However, it should be noted that with proper wrapping the strips practically are waterproofed by the several convolutes of the film material.

In preparing the kit package 40, the strips are made in pairs of maximum length for a maximum window area to be protected and the size of the sheet material is such as to afford this maximum area after the marginal portions thereof have been wrapped about the respective strips to bring the strips into the relative positions shown in Fig. 1. Any desired sizes less than such maximum can be obtained by cutting off the surplus length from the ends of the strips before the adhesive is wetted. The surplus film material may be wrapped about the strips or the film surplus may be trimmed off the proper amount to have the strips and convolutes of film material disposed substantially as shown in Fig. 1 and to assure proper sealing at the corners. Thus with the standard maximum height and width of film dimensions given in or on the package 40, the extent of trimming can be determined simply by subtracting the desired height and length from the standard given dimensions to determine the

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amount of trim to be made on the strips and on the height and width of the film in the package. Apart from obtaining neatness in appearance the corner seals will be obtained when the proper procedure is followed.

While I have shown the preferred manner of applying my temporary storm window structure to the window casing it will be understood that it can be an inside job, that is, the top strip 13 can be applied to the under upper surface of the casing member 14, as indicated by the dot and dash lines and the reference numeral 13a in Fig. 2. The side strips may be disposed on the inside of the transparent film 10 as indicated by the dot and dash lines and the reference numeral 20a in Fig. 2 and the bottom strip as shown in full lines in Fig. 2.

I claim:

1. A temporary storm window structure comprising a thin transparent membrane of moisture resistant sheeting material, four sheet tensioning strips of moisture resistant material tackable to the flat surfaces of a window casing and the marginal portions of the sheet being wrapped about the four tensioning strips and the strips serving to substantially uniformly tension the sheet material at the time of application of the temporary storm window structure to a window frame and securing means driven through the wrapped convolutes of the sheet material and the tensioning strips and into the window casing.

2. A temporary storm window structure comprising a thin transparent membrane of moisture resistant sheeting material, sheet securing strips of moisture resistant material having an adhesive applied to at least one of the sides thereof, which adhesive is compatible to a bonding relation with the sheet material and with the material of the strips, the marginal portions of the sheet being wrapped about the securing strips and the strips serving to substantially uniformly tension the sheet material at the time of application of the temporary storm window structure to a window frame.

3. A temporary storm window structure comprising a thin transparent membrane of moisture resistant sheeting material, sheet securing strips of moisture resistant material in the form of paper board stock, the marginal portions of the sheet being wrapped about the paper board securing strips to form a seal relative to the strips and the strips serving to substantially uniformly tension the sheet material at the time of application of the temporary storm window structure to a window frame.

4. A temporary storm window structure comprising a thin transparent membrane of Vinylite sheet material, sheet securing strips of moisture resistant material having a water soluble adhesive applied to at least one of the sides thereof, which adhesive is compatible to a bonding relation with the Vinylite sheet material and with the material of the strips, the marginal portions of the sheet being wrapped about the securing strips to form tight convolutes of the sheet material upon the strips and the strips serving to substantially uniformly tension the sheet material at the time of application of the temporary storm window structure to a window frame.

5. A temporary storm window structure comprising a thin transparent membrane of moisture resistant sheeting material, four sheet securing strips of heavy cardboard material serving as a wrapping core for the marginal portions of the

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sheet material and having an adhesive applied to at least one of the sides thereof, which adhesive is compatible to a bonding relation with the sheet material and with the material of the strip, the marginal portions of the sheet being wrapped about the four securing strips and the strips serving to substantially uniformly tension the sheet material at the time of application of the temporary storm window structure to a window frame, one of the wrapped strips being secured to the top vertical surface of a window casing with the plane of the sheeting material coincident with that surface, two of the wrapped strips being secured to the outer vertical sides of the casing and the fourth strip being secured to the window sill and with the transverse dimension thereof extending in a direction generally transverse to the plane of the tensioned sheet material.

6. A temporary storm window structure comprising a thin transparent membrane of moisture resistant sheeting material, four sheet tensioning strips of moisture resistant material tackable to the flat surfaces of a window casing, the marginal portions of the sheet being wrapped about the four securing strips with the convolutions about one strip at a corner of the transparent membrane being convoluted about the end portion of an adjacent strip and the strips serving to substantially uniformly tension the sheet material at the time of application of the temporary storm window structure to a window frame, and securing means binding the wrapped convolutes of the sheet material and the tensioning strips onto the window casing.

7. A temporary storm window structure comprising a thin transparent membrane of moisture resistant sheeting material, four sheet securing strips having an adhesive applied to at least one of the sides thereof, which adhesive is compatible to a bonding relation with the sheet material and with the material of the strips, the sheet material being of excess dimensions relative to the lengths of the strips and the marginal portions of the sheet being wrapped about the four securing strips with non-supported end portions of the convolutions about one strip being wrapped about

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the end portion of an adjacent strip thereby to form a corner seal between the strip ends and the sheet material, and means for securing the convolutions of the sheeting material and the strips to a window casing.

8. A storm window comprising a flexible transparent sheet, a relatively stiff tacking strip rolled up in and permanently secured to and extending across one transverse margin thereof, said strip being substantially shorter in length than the transverse width of the sheet and being centered with respect thereto so that the marginal portions of the sheet overhang the strip at both ends, and additional tacking strips for securement to the other margins of the sheet.

9. In a storm window attached to a framework circumscribing a window opening, the structure comprising a flexible transparent sheet forming a closure for the said framework, a relatively stiff tacking strip rolled up in and permanently secured to and extending across one transverse margin thereof, said strip being substantially shorter in length than the transverse width of the sheet and being substantially centered with respect thereto so that the marginal portions of the sheet overhang the strip at both ends, a second relatively stiff tacking strip rolled up in and extending across the transverse margin of the sheet opposite the first said margin and being substantially centered with respect thereto, additional tacking strips for securement to the other margins of the sheet, and fastening means passed through said tacking strips and sheet margins for securing the storm window structure to the said window framework.

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