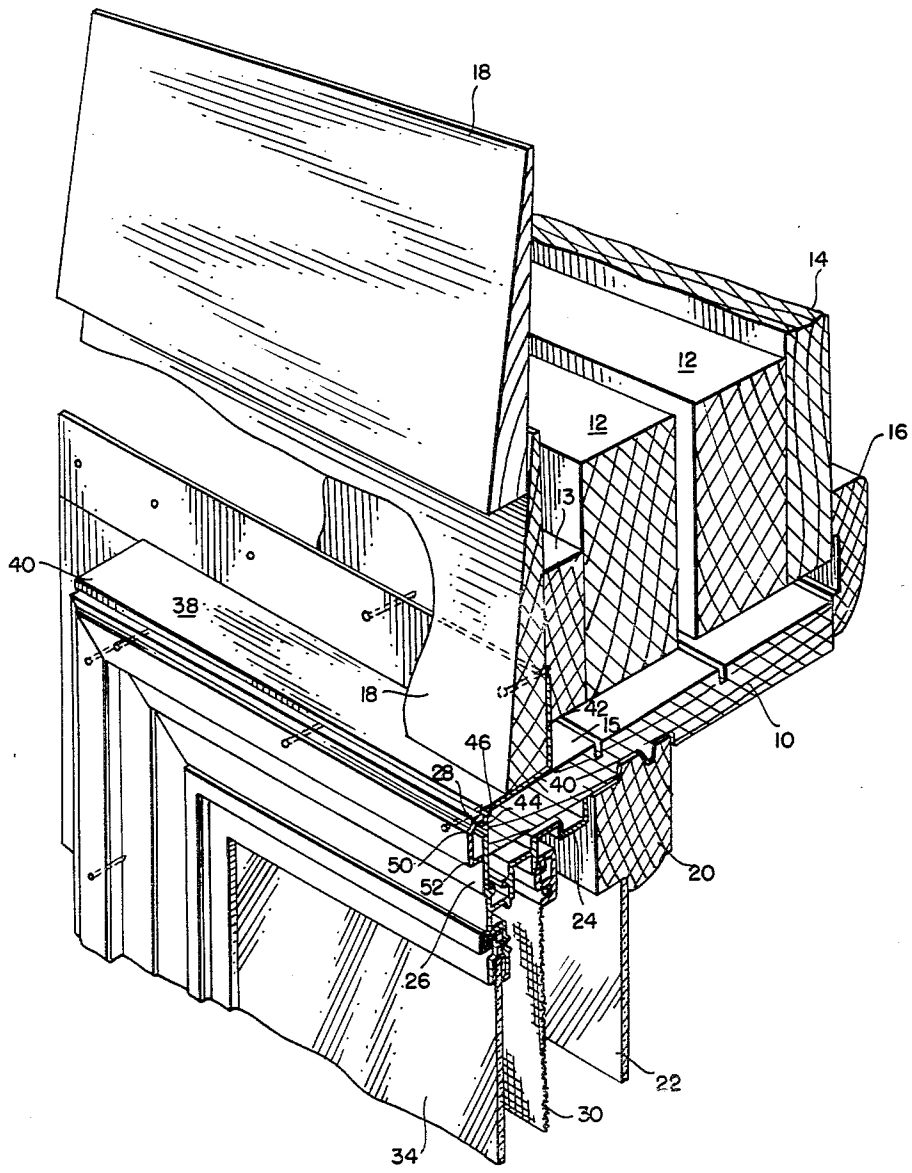
June 7, 1960 J. A. WAHLFELD 2,939,188

STORM WINDOW CASING

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FIG. 1



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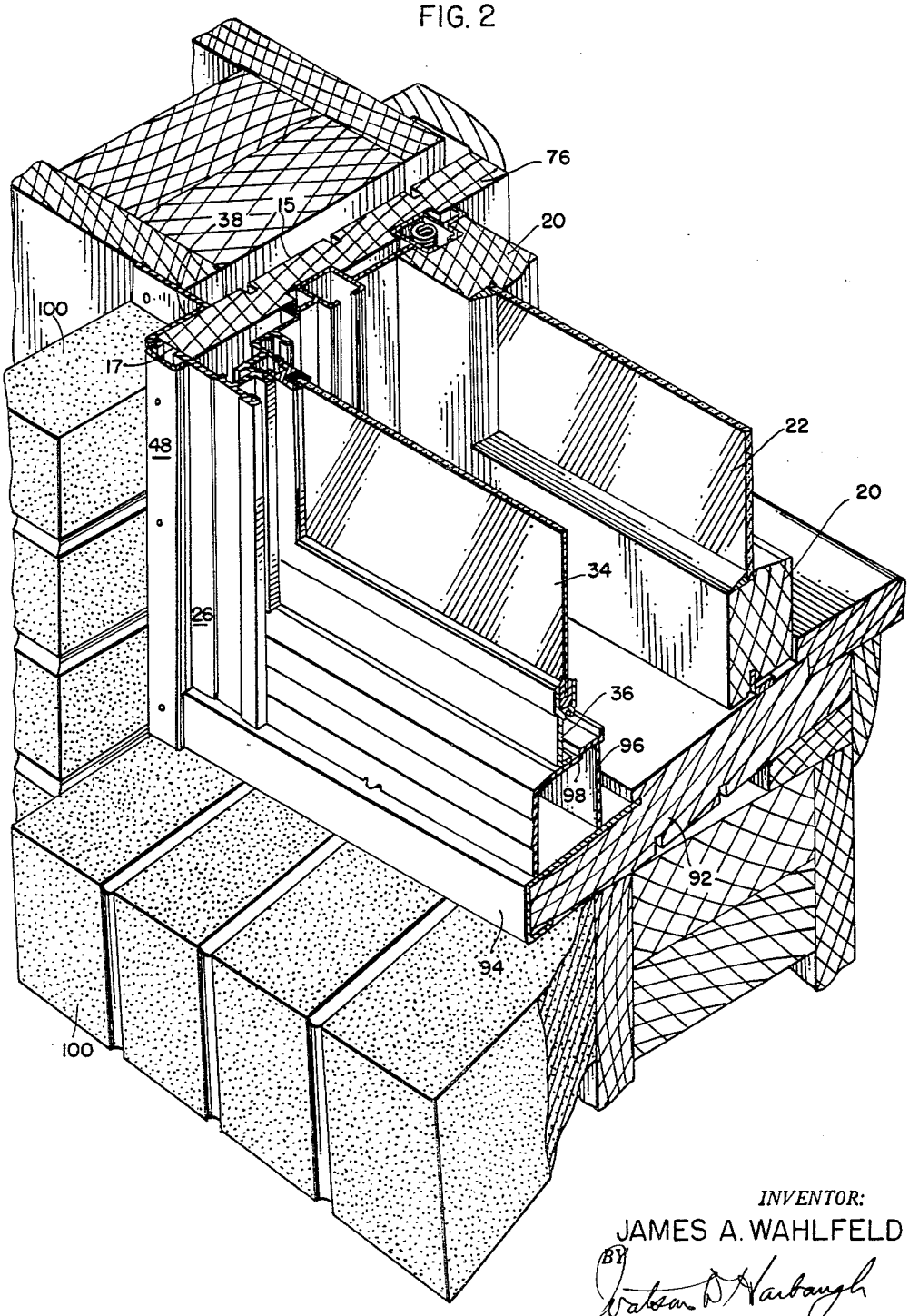
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STORM WINDOW CASING

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FIG. 2



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FIG. 3

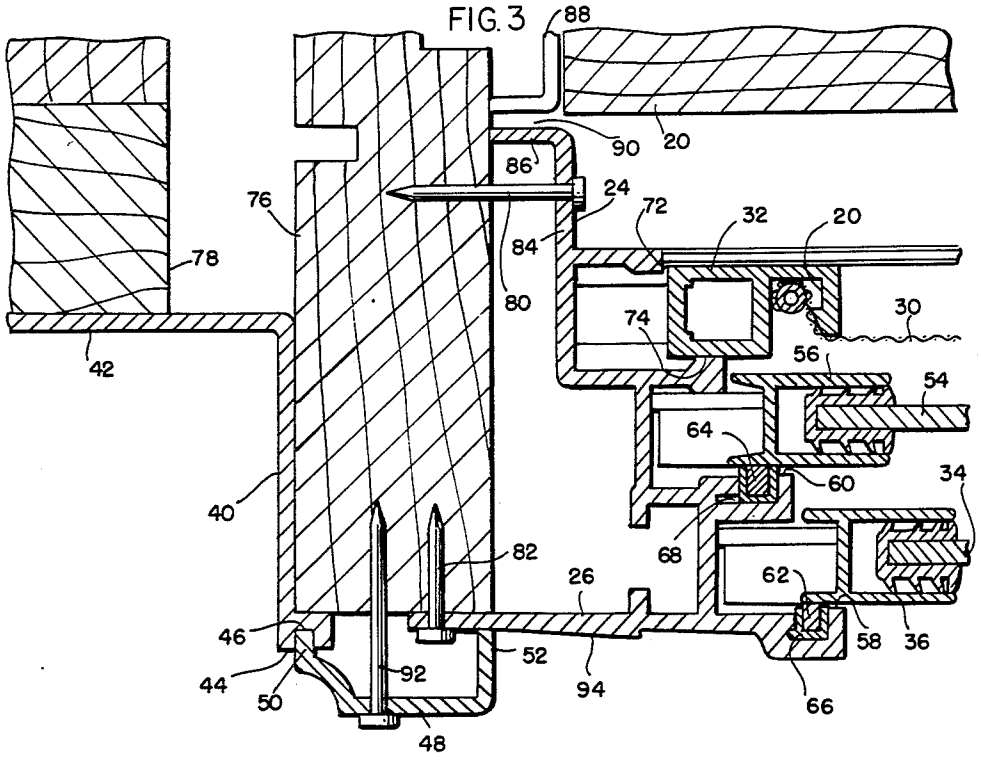
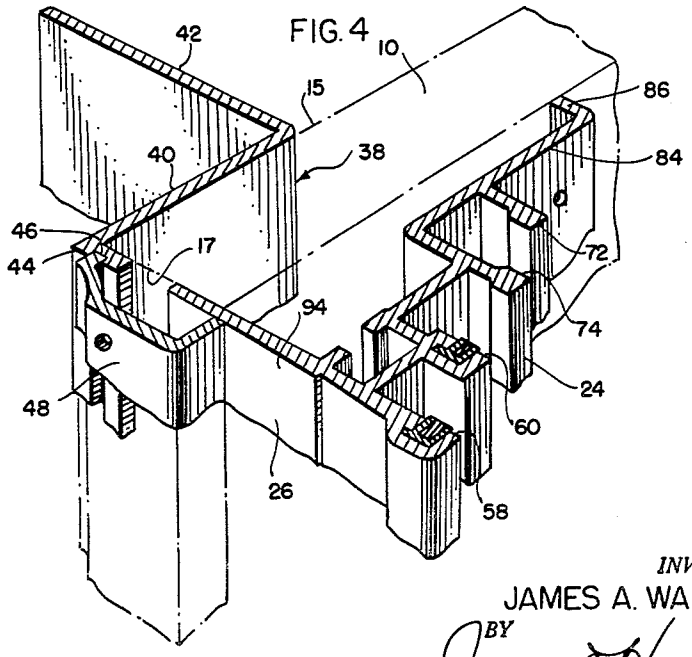


FIG. 4



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STORM WINDOW CASING

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7 Claims. (Cl. 20—55)

This invention relates to an improved device for use in building construction, more particularly it relates to an improved window unit with aluminum exterior fin casing containing an improved combination storm and screen as an integral part of a prime window unit with wood frame and exterior sash members.

Storm windows are mounted exterior of the conventional window in order to make the windows more weather tight and decrease the convective heat loss through the window pane due to the large winter time temperature differential between the two sides of the pane. The effectiveness of the storm window is determined in a large measure by the tightness of the seal about the edges thereof. The insulation effect of the storm window depends mainly upon the air in the space between the storm window and conventional window being sealed and still.

Another disadvantage in metal window-case construction is that metal is a good conductor of heat and transports heat through the metal window casings outward where it is lost. Hence, a metal storm window casing used in conjunction with a conventional metal window casing may, if precautions are not taken, transport enough heat out through the metal members supporting the panes at a rate that minimizes the beneficial insulation effects of the storm window. It is necessary to insulate the metal storm window casing from the conventional window metal casing.

Still another weatherproofing problem commonly encountered occurs when the exterior covering, whether it be brick or siding, pulls away from the exterior window casing. In severe climates thermal expansion and contraction of construction materials is sufficient to create openings about the window frames. Metal flashing positioned under the exterior covering and fastened to the window jambs and sheathing is a desirable thing to combat infiltration of elements of weather and help upon the insulation problem about the window casing. However, heretofore the use of metal sheating about window frames generally leaves an unsightly protrusion of the flashing material. Although it is possible to cover the edges of the flashing which shows around the exterior of a window frame with moulding trim such is not entirely satisfactory.

The present invention combines the functions of flashing. storm window casing, and functional trim about the window in a way best adapted to weatherproof the region about the window and insulate the storm window casing from the other interior metal portions of the conventional window structure.

Accordingly, one object of my invention is to provide a combined storm window casing and window frame flashing.

Another object is to provide a storm window casing readily adapted to be mounted on window frames of different designs and having rather wide tolerance variation in window frame dimensions and jamb dimensions.

Another object of my invention is to provide a combined adjustable metal storm window casing and metal flashing which affords a complete metal seal against the

climate, which preferably is an integral part of the original equipment and adjusts to the climatically induced thermal expansion and contraction of the building and the metal casing parts.

Still another advantage of my invention is the feature that access to or removal of the storm window casings where the sash and screen of the storm window are suspended is facilitated without defacing the exterior of the building.

These and other objects and advantages of my invention will be apparent from the following drawings, specification and claims.

My invention comprises briefly, an improved storm window casing and window frame flashing adapted for mounting to window jambs at the sides and top thereof and comprises a sash guide having an elongated flange adapted to extend out and around the inside corner and over a portion of the exterior surface of the window jamb; a flashing strip mounted on the window jambs and comprising a flat portion or web bounding the window frame and having a right angle flange at its outer edge extending over a portion of the outer surface of the jamb and having therein a groove, and preferably a second flange at its inner edge engaging a wall portion of the building bordering the window frame; and a channel strip having two free edges, one free edge being received in the groove and the second edge resting against the face of the elongated casing flange whereby a weather seal is created extending from the flashing about the exterior of the jamb to the metal sash guides which accommodates jambs of varying thicknesses.

My invention is further illustrated in the following drawings wherein:

Fig. 1 is a fragmentary cross section view of my window unit showing the storm window casing and flashing mounted to the upper portion of the window frame or head jamb in a typical frame construction;

Fig. 2 is a fragmentary cross section view of my invention adapted to brick veneer construction showing the lower portion of the window frame;

Fig. 3 is a cross section view of a typical embodiment of my metal storm window casing and metal window flashing such as is illustrated in both Figs. 1 and 2; and

Fig. 4 is a perspective view of a fragmentary section of the metal component parts of my invention such as is illustrated in Fig. 3.

Referring now to the drawings the head jamb **10** of a conventional window frame is shown in a cross section view in Fig. 1. The framing members **12** are shown supporting exterior sheathing **13**, and interior wall covering **14** and trim moulding **16**. The exterior siding in the embodiment of Fig. 1 is lap-board shown at **18**. The conventional window sash **20** and the glass pane **22** is shown in closed position against the underside of the head jam **10**. The foregoing is descriptive of conventional construction. A preferred embodiment of my invention is shown mounted to the head jamb **10** in Fig. 1. A combination storm window and screen casing **24**, is mounted to the head jamb **10**. In addition to the recesses adapted to guide and seal with the storm window and screen sash described in detail below, the casing **24** is provided with an elongated flange **26** which extends parallel with and partially covers the exterior surface **28** of the head jamb **10**. A screen **30** is mounted within a frame or screen sash **32** in supported relationship. Similarly, a glass pane **34** is mounted within a frame or sash **36** as supported by and seals disposed within the contours of the casing **24**.

Metal flashing **38** forms a weatherproof seal with the window frame, that is the upper surface of the jamb **10**. The flashing **38** is comprised of a web portion **40** and two right angle flanges **42** and **44**, which extend in oppo-

site directions, one from opposite edges of the web (Figs. 3 and 4). The first flange **42**, reduced in width for special installations, is preferably provided and is positioned to under lie the interior surfaces of the lap-boards **18** and exterior of the sheathing **13**; the web **40** is positioned against the outer surface **15** as distinct from the exterior surface **28** of the head jamb **10**; and the second flange **44** is positioned on the exterior surface of the jamb. That is, the flashing is mounted to the head jamb **10** and to the sheathing **13** behind the outer siding **18**, and extends over the exterior face of the jamb **10**. The flange **44** is provided with a groove **46** which runs parallel with the window jamb across the top and down both sides thereof.

A channel strip **48** having two parallel legs or free edges **50** and **52** is mounted to cover the jamb between the flashing flange **44** and the elongated casing flange **26**. The free channel edge **50** is inserted into and seals tightly within the groove **46**; the free channel edge **52** rests tightly against the exterior surface of the flange **26** and forms a weather seal but is free to slide across the flange surface in adjustment to jamb thickness tolerance variations and to thermal expansion and contraction of the metal casing and slight shifting of structural parts of the building.

Figs. 3 and 4 illustrate the shapes and relationships of the various parts of the embodiment of my invention, shown in Fig. 1 in greater detail as related to the side jamb of the window. Both Figs. 3 and 4 are sectional views taken on a plane cut through the side of the window frame and into the wall beyond the frame proper. In Fig. 3 the details of the recesses and contours of the storm window casing **24** are clearly illustrated. The upper storm window pane **34** is mounted within a frame or sash **36** which is made from extruded metal. The lower storm window pane **54** is mounted within a similar frame or sash **56**. Both the storm window sash **36** and **56** are constrained to slide parallel to guide surfaces **58** and **60** by means of contour nylon guide lugs **62** and **64** interlocked with recesses **66** and **68** within the casing proper **24**. The screen frame **32** is provided with suitable concave contours **70** wherein the edge of the screen **30** may be securely fastened thereto. The screen frame **32** is inserted between parallel guide surfaces **72** and **74**, which constrain it to vertical sliding motion within the casing **24**.

The storm window casing **24** is mounted to the internal side of the window frame comprised of the jambs on top and sides. The side jamb **76** and sheathing **78** are shown in Fig. 3, however the reference numerals for the various contours of my storm window casing are identical for top and side sections. The casing **24** is fastened to the inner side of the window frame by means of nails **80** and **82** driven into the jambs **10** and **76**. The contours of the casing **24** are recessed, successively from the first guide surface **58** to the screen sash guide surface **72** and then to a supporting web **84** and flange **86**.

The metal sash guide **88** for the conventional window is shown in Fig. 3. It is important to note that a free space **90** is provided between the casing flange **86** and the sash guide **88**. The space **90** contributes to insulating the storm window-casing **24** from the interior of the window frame.

The channel strip **48** is secured in place by nails **92**. A further feature which contributes to a tight all-metal seal about the exterior of the jambs is the raised tapered contour **94** on the exterior of the elongated flange **26**. Any lateral movement outwardly of the casing **24** will serve to seal the channel **48** to the flange **26** more tightly. The most likely movement of the casing **26** due to mechanical or thermal stresses is outwardly toward the sides of the window frame.

Fig. 2 illustrates the embodiment of my invention

shown in Figs. 1, 3 and 4 at the lower section of the window frame in a building of brick veneer construction. A window sill **91** forms the lower part of the window frame. The sill is covered with an extruded metal sill covering **93**; a metal channel **96** fits over the sill **93** and completes the lower portion of the casing. The storm window sash **56** seals against a recessed contour **98**. The brick covering **100** fits within the angle of the flashing **38** as is illustrated.

The foregoing specification and description of specific embodiments are only illustrative of my invention; the scope of which is set forth in the following claims.

What is claimed is:

1. An improved storm window casing and flashing adapted for mounting to window jambs comprising a sash guide having facing parallel surfaces for guiding storm window sash in sliding movements between them and an elongated flange adapted to extend over the exterior surface of the jamb, a flashing strip comprising a web engaging the jamb and having a right angle flange member engaging said exterior surface of the jamb spaced from said elongated flange and having a groove, and a channel strip having two free edges, one edge being received in the groove the other edge being juxtaposed against the exterior flange thereby forming a metal weather sealed structure from the flashing about the jamb to the storm sash.

2. The combination called for in claim 1 in which said sash guide has a jamb engaging flange supporting the inner edge of the window casing laterally in the jamb at a depth determined by said elongated flange and in spaced relationship to window sash guides mounted within said window jambs, said channel strip holding said sash guide in said spaced relationship upon said jambs.

3. An improved storm window casing and flashing adapted for mounting to window jambs of low heat conductive material comprising a sash guide having facing parallel surfaces for guiding storm window sash in sliding movements between them and an elongated metal flange adapted to extend over and rest against the exterior surface of the jamb, a flashing strip comprising a web portion resting against a surface of the jamb and having a right angle flange member engaging said exterior surface of the jamb spaced from said elongated flange and having an outwardly opening groove, a channel strip having two free edges one of which is received in the groove and the other edge being juxtaposed against the exterior flange, and means interconnecting said channel strip and said jamb for holding said flange member and said elongated flange in place on said jamb thereby forming a metal weather sealed structure from the flashing about the jamb to the storm sash.

4. An improved metal storm window casing and flashing adapted for mounting to window jambs and adapted for use with metal window sash guides comprising a storm window sash guide mounted to the side of the jamb and in spaced relationship to the window sash guides having in addition parallel surfaces for guiding storm window sash in sliding movements and an elongated flange adapted to extend over the exterior surface of the jamb, a flashing strip comprised of a web and two right angle flanges one at either edge of the web extended in opposite directions, one of said flanges being provided with a groove and a channel strip having two free parallel edges, one of said edges being inserted into the groove, the second of said edges being juxtaposed against the elongated flange thereby forming a weather tight seal from the flashing about the jamb to the storm window sash, but not connected by heat conducting metal to the interior of the window guides by reason of the spaced mounting of the storm window sash guide with respect to the window sash guides.

5. An improved exterior metal storm window casing and flashing for mounting onto a window jamb having an exterior side comprising in interlocked and juxtaposed

positions a flashing strip having a web and two right angle flanges extending in opposite directions one from either end of the web, a groove being provided in one flange, a guide track set having recessed contours adapted to slidably receive the storm sash, an exterior elongated flange, the grooved flange of the flashing and the said elongated flange being mounted to the exterior side of the jamb, and a channel strip having two legs, the first leg thereof fitted into the said groove, the second leg juxtaposed against the said elongated exterior flange, whereby an all metal sealed storm window casing adapted for mounting to a wooden window casing is provided.

6. An improved exterior metal storm window casing and flashing for mounting onto a window jamb having an exterior side comprising in interlocked and juxtaposed positions a flashing strip having a web and two right angle flanges extending in opposite direction one from either end of the web a groove being provided in one said flange, a channel strip having two free edges, one edge of which is inserted into the groove, and a guide track set adapted to slidably receive storm window sash and having an exterior elongated flange, the second edge

of the channel juxtaposed against the said elongated flange forming a weather tight seal between the flashing and the storm sash.

7. An improved exterior storm window and screen casing comprising a metal guide track set adapted for mounting to wooden window side and head jambs, the tracks adapted to slidably receive storm window and screen sash, the guide track being provided with an exterior flange which extends over a portion of the outer surface of the jamb, a flashing strip provided with two right angle flanges one of which is grooved and is disposed about the exterior of the jamb opposite the said casing flange, a channel strip having two legs, one leg of which is adapted to fit within the said groove and the other leg of which is juxtaposed on the casing flange, whereby a continuous metal storm window casing is provided extending from the flashing about the exterior of the jamb to the guide tracks.

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