Dec. 9, 1958 R. A. GILLESPIE 2,863,534

METAL WINDOW

Filed Jan. 13, 1956

Fig. 3.

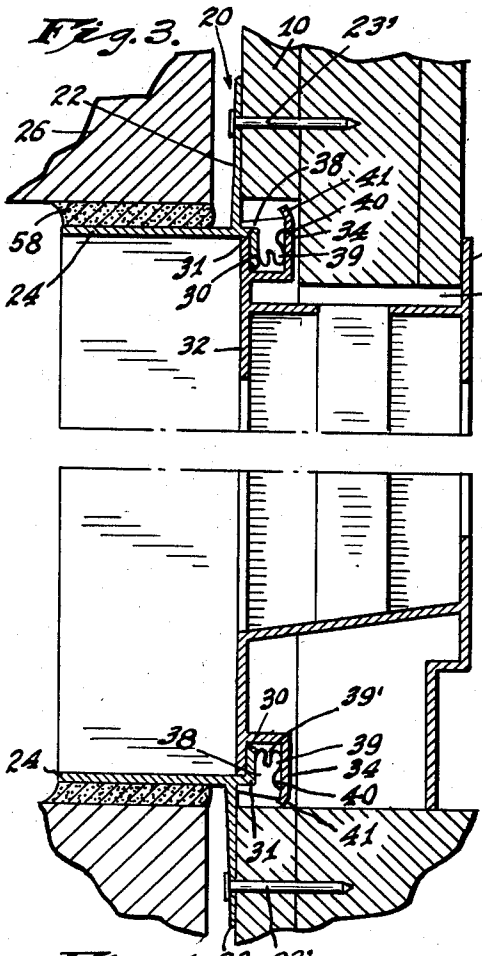


Fig. 1.

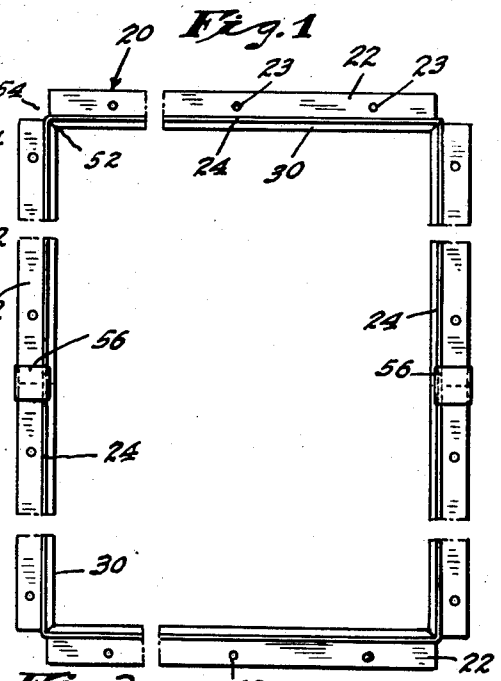


Fig. 2.

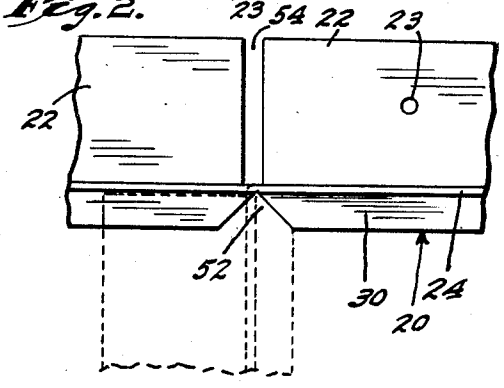


Fig. 4.

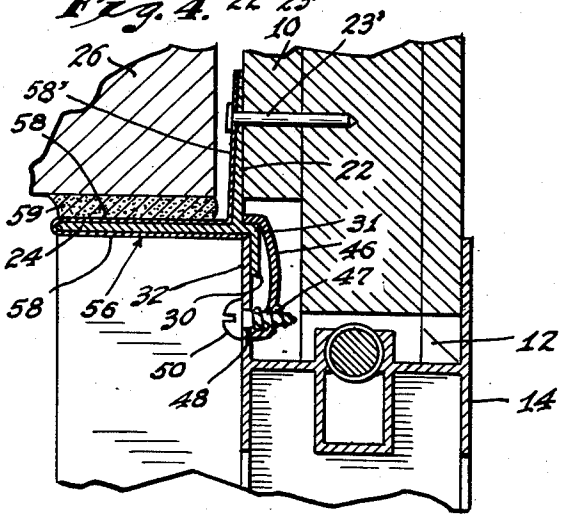
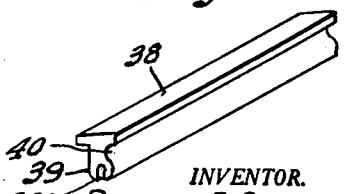


Fig. 5.



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METAL WINDOW

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8 Claims. (Cl. 189—75)

This invention relates to windows, particularly metal-framed windows, and is primarily concerned with means for anchoring such a window in position in a wall. More specifically, the invention is concerned with a nailing strip, which extends along the sides of the window frame and overlaps the wall sheathing, and with means for securing such a strip to the metal frame.

In carrying out my invention in a preferred form, I employ a metal window frame having a peripheral flange projecting therefrom in the plane of the outer face of the frame. The nailing strip, which is of uniform section throughout its length has a first flange engageable with the inner face of the frame flange and a second flange, or nailing fin, which lies parallel to but offset outwardly from the first flange. The intermediate portion of the strip, through which the two flanges are united provides a shoulder which, when the strip is applied to the frame, seats against the edge of the frame-flange. The strip may additionally embody a third flange projecting perpendicularly to the other flanges and adapted to form a caulking stop. Means, which may take various forms, is provided for securing the strip to the frame in such a position that the nailing fin will project from the frame to overlap and be nailed to the wall framing at the sides of the window. Preferably a single length of the strip will be bent intermediate its length to extend along two or more sides of the window frame.

Other objects and features of the invention will become apparent as the detailed description of a preferred embodiment thereof proceeds.

The accompanying drawing illustrates the invention. In such drawing:

Fig. 1 is a front elevation of a nailing-strip ready for application to an associated window frame;

Fig. 2 is a fragmental view similar to Fig. 1 but showing on an enlarged scale that portion of the strip which will be positioned at a corner of the window frame, the full lines showing the strip in an original condition, and the dotted lines showing the strip bent to provide a corner portion of the complete strip shown in Fig. 1;

Fig. 3 is a vertical section through a window, showing one means for securing the nailing strip in place on the window frame, with the nailing strip and frame secured to the house framing;

Fig. 4 is a view similar to Fig. 3, but showing a modified form of means for securing the nailing strip to the window frame; and

Fig. 5 is an isometric view of a length of a wedging element constituting the strip-securing means shown in Fig. 3.

As shown, the house framing, including sheathing **10** is formed from lumber to provide a framed opening **12** slightly larger than the outside dimensions of the metal window frame **14** to be installed therein. In accordance with customary practice in carpentry, the framed opening **12** need be and here is only roughly corresponding in size and shape to the window frame to be installed.

In accordance with my invention, I provide a metal nailing-strip member, as indicated generally by the numeral **20**, for securing the window frame **14** to the house framing. As shown in section in Figs. 3 and 4, the nailing-strip **20** desirably comprises a flange or nailing fin **22** adapted to lie against the front face of the sheathing **10**. Such nailing fin may be provided at intervals with openings **23** for the passage of the nails **23'** by which the strip is secured to the sheathing or, alternatively the strip may be made of metal soft enough and the fin **22** thin enough to require no such holes. Offset but parallel to the fin **22** is a flange **30** united to the fin **22** through a web **31** which lies in a plane perpendicular to the fin **22** and flange **30**. The strip **20** may also include a caulking stop **24** which projects perpendicularly from the fin **22**, conveniently in the plane of the web **31**.

In the embodiment shown in Fig. 3, the window frame **14** is provided in the plane of its front face with a peripheral flange **32** and, spaced inwardly of the wall from such flange; with a second flange **34**. When applied to such a window frame, the flange **30** of the strip **20** lies against the inner face of the frame flange **32** with the web **31** of the strip seated against the edge of the flange. To hold the strip in such position I may employ keys **38** (Fig. 5) adapted to be forced between the flanges **30** and **34** in the manner shown in Fig. 3. Each key **38** comprises a length of metal stock of a general T-shape, the web **39** of which is adapted to be forced between the strip-flange **30** and the frame-flange **34**, as shown in Fig. 3. To accommodate for dimensional variations, the frame-flanges **32** and **34** are spaced far enough apart to enable the web **39** of the key to be of relatively great thickness and such web is provided along its free edge with a slit or groove **39'** which leaves the web portions on each side of it still of substantial thickness and strength. That side of the web **39** which engages the strip-flange **30**, and the meeting surface of the key-flange are shaped to conform respectively to the strip-flange **30** and strip-web **31**, but the opposite side of the key-web is relieved at its junction with the flange, as indicated at **40** in Fig. 5, to insure that the wedging effort created when the key is finally positioned will be centered well within the limits of the area of contact between the strip-flange **30** and frame-flange **32**.

The keys **38** may be relatively short, and several may be used at spaced intervals along each side of the window. After a nailing strip has been applied to the window frame, each key is forced into the space between the flanges **30** and **34** until the key-flange engages the web **31** of the nailing strip and forces it against the edge of the frame-flange **30**. To retain each key in its strip-clamping position, the free edge of the flange **34** may be bent over it, as indicated at **41** in Fig. 3.

In the modified arrangement shown in Fig. 4, the frame-flange **34** is eliminated, but the flange **32** is retained; and the nailing strip is secured thereto by clips **46** conveniently of sheet-metal formed into a shallow channel section to provide an outer lip which overlies the strip-web **31** and an inner lip which engages the inner face of the frame-flange **32**. Closely adjacent the latter lip, the clip is provided with one or more holes **47** which receive the threaded ends of screws **50** passing through openings **48** in the flange **32**. Desirably, the screws **50** are tapered and of the self-typing variety and the holes **47** are located so close to the inner lip that as the screws are tightened they crowd the clip inwardly in the plane of window to draw the web **31** of the nailing strip tightly against the outer edge of the frame-flange **32** while, at the same type, clamping the strip-flange **30** against the inner face of the frame-flange **32**.

As shown in Fig. 1, the complete nailing strip **20** for

a window is desirably formed from two sections, each bent into a general U-shape from straight lengths of stock. At the location of each bend in the strip, the flange **30** is notched as at **52** (Fig. 2) and the nailing fin **22** is slit as at **54**, thus leaving only the caulking stop **24** to be bent. Where the ends of the two U-shaped sections abut at each side of the window frame, the joint between them is desirably concealed as by a sheet-metal clip **56** having opposed walls **58**, which grip the abutting ends of the caulking stop **24**, and an extension **58'**, which overlies the nailing fin so that it may be pierced by one of the nails **23'**.

After the nailing strip **20** has been secured to the window frame the latter is positioned in the wall opening with the nailing fin **32** projecting outwardly from the frame to overlap the sheathing **10**, and the nails **23'** are driven to secure the window firmly in place with the caulking stop **24** projecting forwardly from the sheathing. When the desired facing **26** is later applied to the wall, space is left between it and the stop **24** for the reception of caulking **59**.

I claim as my invention:

1. In combination with a metal window frame having a peripheral flange; a nailing strip for securing the frame in a wall opening, said strip comprising a locating flange overlying the rear face of said peripheral flange, a web projecting forwardly from said locating flange and engaging the edge of the peripheral flange, and a nailing fin projecting from said web to overlie and be secured to a face of a wall, said nailing fin being spaced forwardly from the rear edge of said web to provide a shoulder; and removable means engaging said shoulder and acting between said strip and frame for firmly holding said locating flange against the face of the peripheral flange and said web against the edge of the peripheral flange.

2. The invention of claim 1 with the addition that said nailing strip including a caulking stop projecting forwardly from the nailing fin.

3. The invention of claim 2 with the addition that said window frame is rectangular, said nailing strip being formed of two sections each bent into a U-shape to extend along one side of the window frame and partly along each of the two adjacent frame sides to bring its ends into abutting relation with the ends of the other section, said locating flange being notched and said nailing fin being slit at each point where a section is bent, said caulking stop extending continuously from one end of each section to the other.

4. The invention of claim 1 with the addition that said window frame is rectangular, said nailing strip being formed of two sections each bent into a U-shape to extend along one side of the window frame and partly along each of the two adjacent frame sides to bring its ends into abutting relation with the ends of the other section.

5. In combination with a metal window frame having a first peripheral flange, a nailing strip for securing the frame in a wall opening, said strip comprising a locating flange overlying the rear face of said peripheral flange, a web projecting forwardly from said locating flange and engaging the edge of said first peripheral flange, and a nailing fin projecting from said web to overlie and be secured to a face of a wall, and means acting between said strip and frame for firmly holding said locating flange against the face of the peripheral flange and said web against the edge of the peripheral flange, said frame having a second peripheral flange, located in opposed spaced relation to said locating flange, said holding means comprising a key forced into the space between the locating flange and said second peripheral flange.

6. The invention of claim 5 with the addition that said key is of T-shaped cross-section having a web occupying the space between the locating flange and the second peripheral flange, said key also having a flange which overlies the web of the nailing strip.

7. The invention of claim 5 with the addition that the edge of said second peripheral flange is bent over said key to prevent its removal.

8. The invention of claim 1 with the addition that said holding means comprises a clip having a first edge portion overlying said shoulder and a second edge portion engaging the rear face of said peripheral flange, and a screw extending through said peripheral flange and into said clip.

References Cited in the file of this patent

UNITED STATES PATENTS

2,219,594	Lang	Oct. 29, 1940
2,742,120	Rosebrook	Apr. 17, 1956

FOREIGN PATENTS

649,459	Great Britain	Jan. 24, 1951