

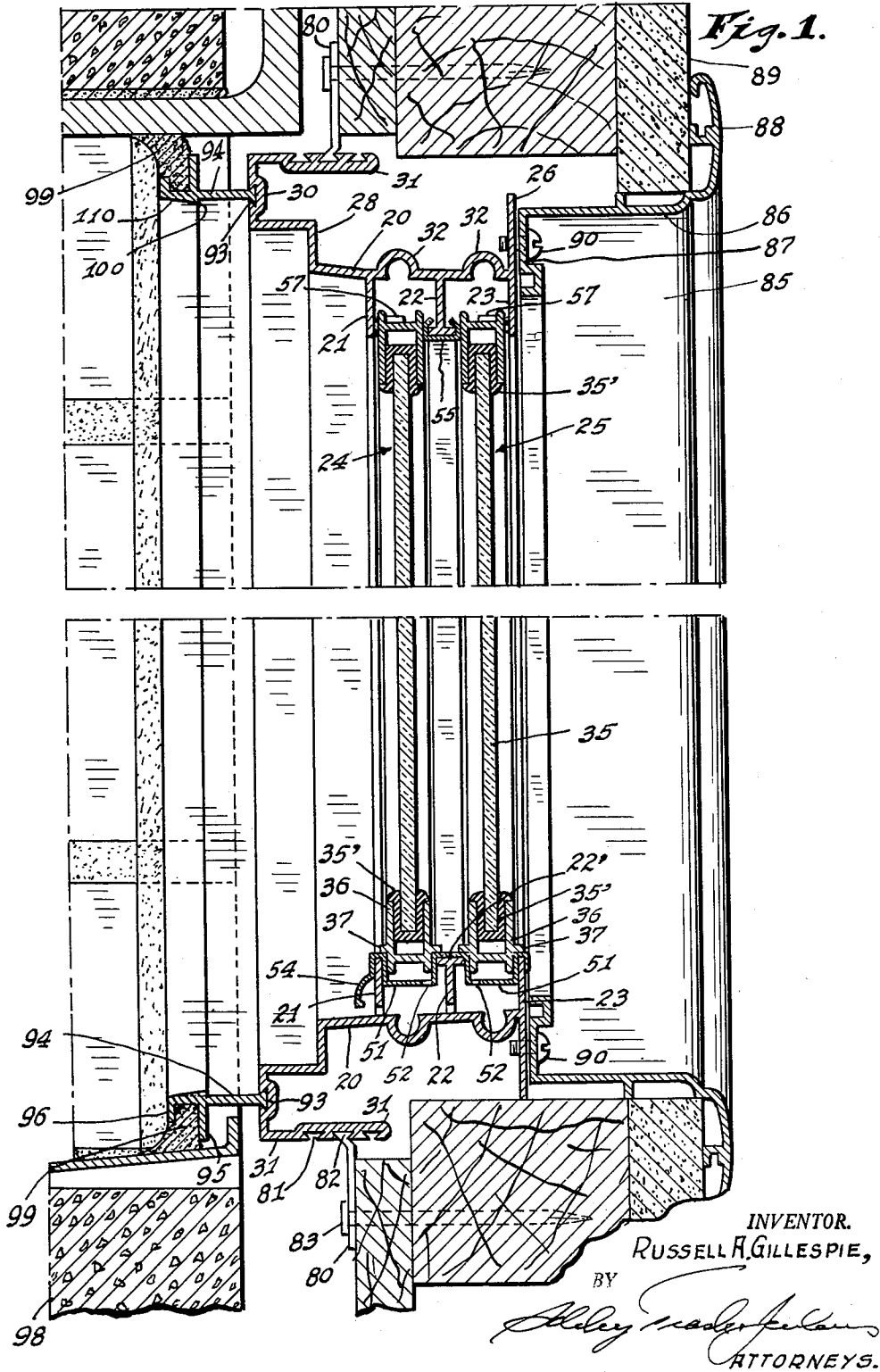
Sept. 3, 1957

R. A. GILLESPIE
METAL WINDOW FRAMING

2,804,954

Filed July 15, 1954

5 Sheets-Sheet 1



Sept. 3, 1957

R. A. GILLESPIE
METAL WINDOW FRAMING

2,804,954

Filed July 15, 1954

5 Sheets-Sheet 2

INVENTOR.
RUSSELL A. GILLESPIE,
Wash. Julius
ATTORNEYS.

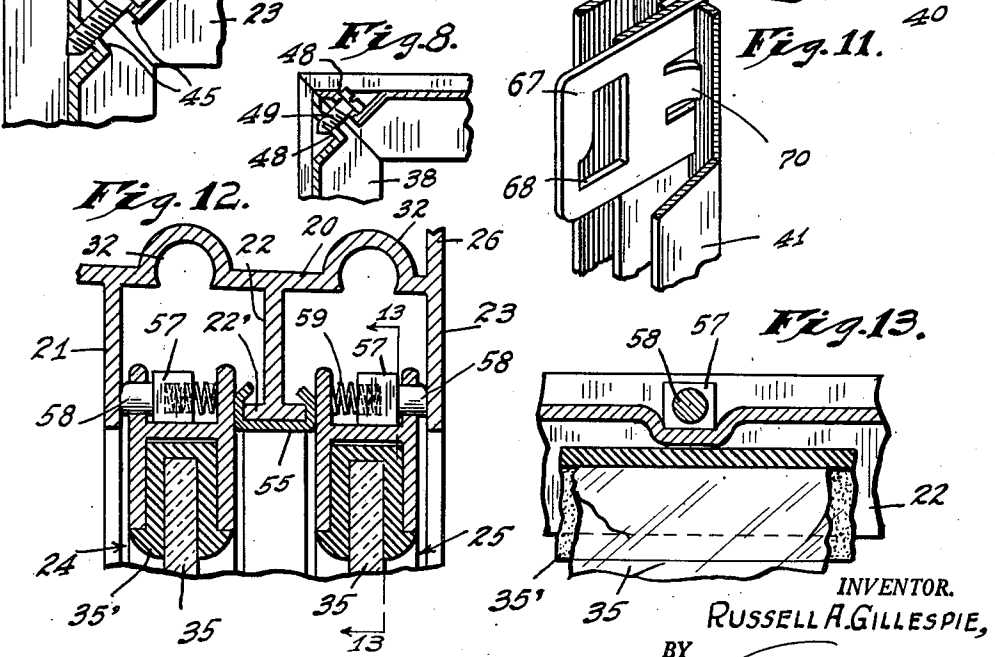
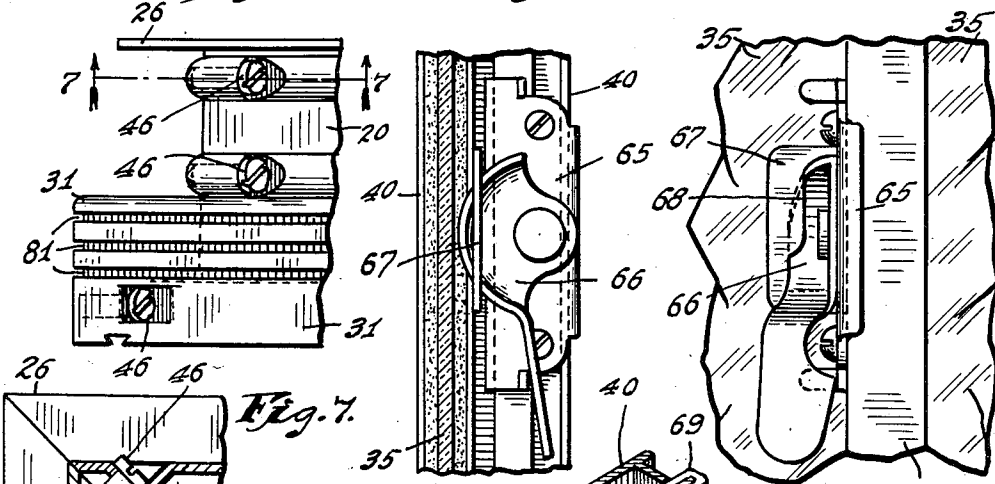
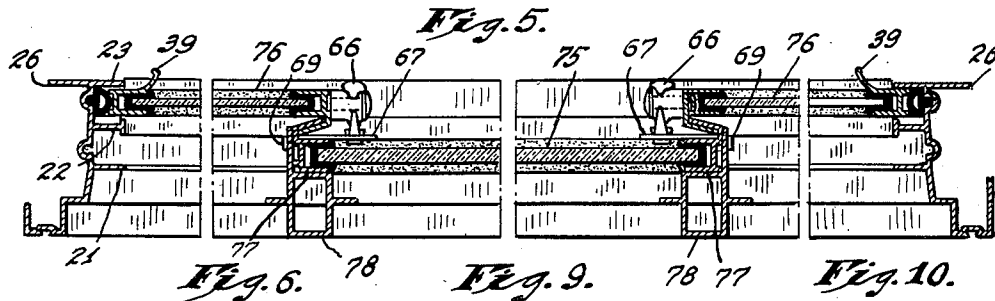
Sept. 3, 1957

R. A. GILLESPIE
METAL WINDOW FRAMING

2,804,954

Filed July 15, 1954

5 Sheets-Sheet 3



INVENTOR.
RUSSELL A. GILLESPIE,
BY
Alley Mackenzie
ATTORNEYS.

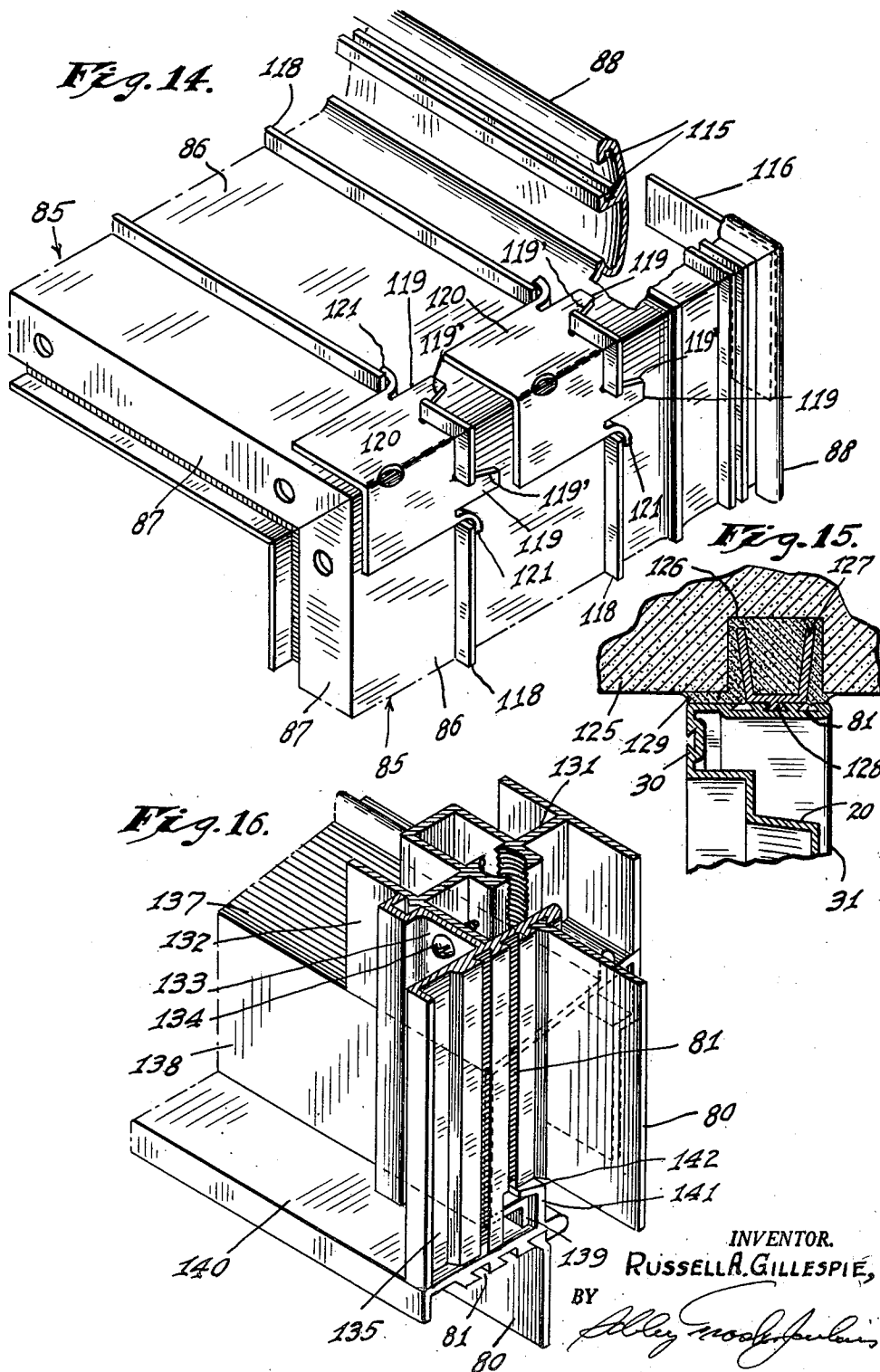
Sept. 3, 1957

R. A. GILLESPIE
METAL WINDOW FRAMING

2,804,954

Filed July 15, 1954

5 Sheets-Sheet 4



Sept. 3, 1957

R. A. GILLESPIE
METAL WINDOW FRAMING

2,804,954

Filed July 15, 1954

5 Sheets-Sheet 5

Fig. 17.

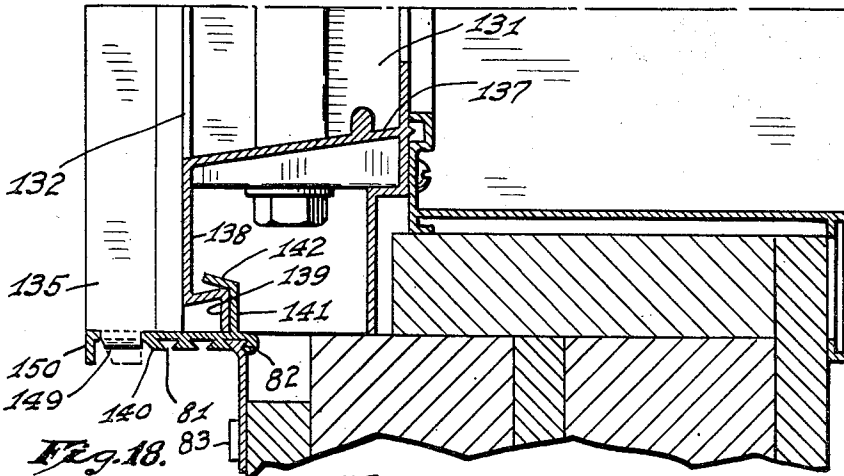
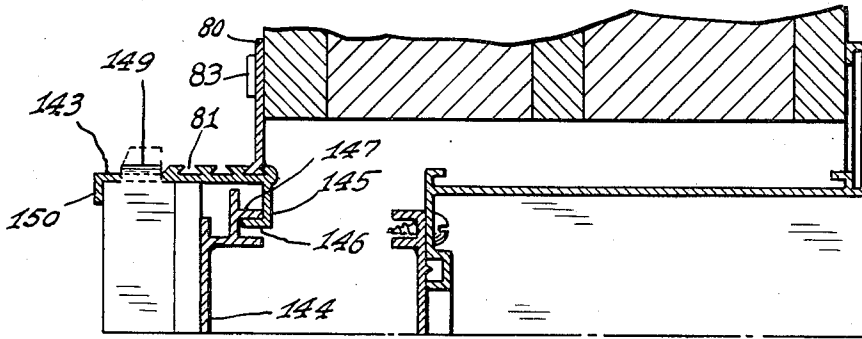
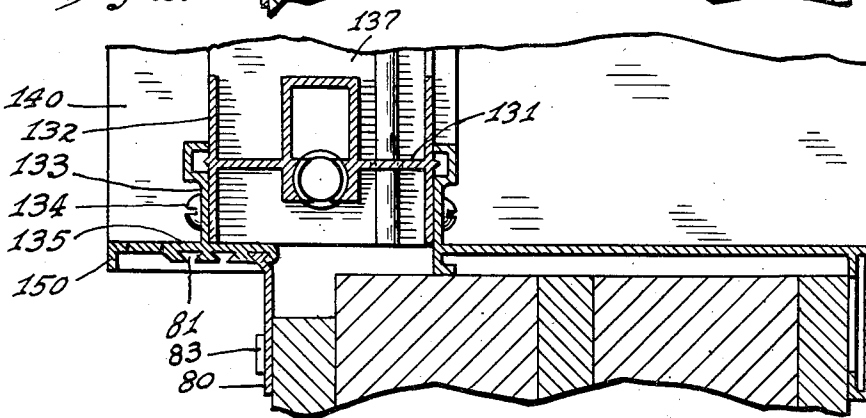


Fig. 18.



INVENTOR.
RUSSELL A. GILLESPIE,
BY
Alley, Washburn & Co.
ATTORNEYS.

1

2,804,954

METAL WINDOW FRAMING

Russell A. Gillespie, Indianapolis, Ind., assignor, by direct and mesne assignments, of thirty-three and one-third percent to Carl F. Spickelmier, thirty-three and one-third percent to Edith S. Greer, and thirty-three and one-third percent to Betty S. Spicklemire, all of Indianapolis, Ind.

Application July 15, 1954, Serial No. 443,675

13 Claims. (Cl. 189—75)

This invention relates to windows, particularly metal-frame windows. Some features of the invention are particularly applicable to windows in which the sash slide horizontally, while other features are as readily usable with windows of other types.

The general object of the invention is to improve the construction, reduce the cost, and facilitate the installation of metal-frame windows. More specific objects include the provision of means adapting a window for ready installation in walls of varying thickness; the provision of means reducing frictional opposition to sash-sliding and facilitating cleaning; and the provision of an improved and economical arrangement for securing together the meeting sides of a window frame or window sash.

In carrying out the invention as embodied in a window having horizontally sliding sash, a rectangular window frame may be made of top, bottom, and vertical side members all having the same shape in cross section. Conveniently, the stock from which the side members is formed is extruded aluminum or aluminum-alloy strip formed to provide inwardly opening channels in which the sash are slidably received. Associated with sides of the frame are mounting strips which are secured to the building wall at the edges of the window opening therein and which can be secured to the window frame at any of various positions to accommodate for variations of the position of the frame in the wall. On the exterior face of the window frame, the strip stock may be provided with an undercut groove adapted to receive slidably the edge portion of a caulking stop.

In the case of a window having horizontally slidable sash, the sill of the window carries a friction-reducing metal strip which is grooved for sliding reception of the sash and which can be readily removed from the frame for purposes of cleaning when the sash are removed. To permit removal of a sash, the head of the window frame is arranged to permit upward movement of the sash to the extent necessary to allow the lower edge of the sash to clear the groove in such strip, thus permitting the sash thereafter to be lowered out of association with the frame-head. To take up clearances necessary for such operation and provide a weather seal, the upper rail of each sash is equipped with buttons of antifriction material which are spring-pressed against one wall of the sash-receiving groove to force the rail into sealing engagement with the opposite groove-wall.

The corners of the window frame are mitered, and at each corner the stock of meeting side members is formed, as by a stamping operation, to provide walls parallel to the miter joint, and screws extend through such walls to hold the meeting side members together. A similar expedient may be used to join the sash rails at the corners of the sash.

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

The accompanying drawings illustrate the invention:

2

Fig. 1 is a vertical section through a window in a plane perpendicular to the wall in which the window is located;

Fig. 2 is a horizontal section through the window of Fig. 1;

Fig. 3 is a fragmental view similar to Fig. 2 illustrating a modified construction;

Fig. 4 is a fragmental horizontal section illustrating the manner in which two adjoining window frames may be employed to form a mullion window;

Fig. 5 is a horizontal section through a window having a fixed center panel and horizontal slidable sash disposed at the ends thereof;

Fig. 6 is a fragmental plan of the window frame illustrating the preferred corner construction;

Fig. 7 is a vertical section on the line 7—7 of Fig. 6;

Fig. 8 is a fragmental view similar to Fig. 7 illustrating the corner construction of sash-frames;

Fig. 9 is a fragmental vertical section illustrating details of a preferred form of window lock;

Fig. 10 is a fragmental elevation corresponding to Fig. 9;

Fig. 11 is a fragmental isometric view illustrating the mounting of the keeper of the window lock;

Fig. 12 is a fragmental vertical section through the head of the window frame;

Fig. 13 is a vertical section on the line 13—13 of Fig. 12;

Fig. 14 is a fragmental isometric view illustrating a preferred method for joining interior trim at corners of the window frame;

Fig. 15 is a fragmental section showing a modified frame-mounting means;

Fig. 16 is a fragmental isometric view showing a further modified mounting means; and

Figs. 17 and 18 are, respectively, vertical and horizontal sections through the window frame of Fig. 16.

The window illustrated in the drawing is of a type embodying horizontal slidable inner and outer sash. Conveniently, the head, side jambs, and sill of the window frame are all made of extruded metal stock having the same cross-section. Such section embodies a web 20 adapted to extend generally in a plane perpendicular to the plane of the window opening. Projecting into the window opening from such web are three spaced flanges 21, 22, and 23 defining two channels in which outer and inner sash, designated in their entirety by the reference numerals 24 and 25, are slidable. The middle flange 22 is preferably provided along its edge with a head 22' which increases the space between the sash 24, 25. The interior flange 23 is desirably located at the interior edge of the web 20 and is coplanar with a flange 26 which projects outwardly. The web 20 continues exteriorly of the window beyond the outer flange 21 for a distance and is there formed to provide an offset portion 28 which, in the assembled frame, provides a rabbet groove for reception of storm sash. Outwardly beyond the offset portion 28, the stock has a flange 30 extending in a plane parallel to that of the window opening, and from the outer edge of such flange there extends interiorly of the opening a flange 31. In the bases of the channels defined by the flanges 21, 22, and 23, the web is formed with inwardly opening longitudinal grooves 32 which (Fig. 2) are adapted to receive resilient sealing strips 33 cooperating with the adjacent ends of the sash. Such sealing strips will ordinarily be provided only in the side jambs, as other means are employed for providing a weather seal along the other edges of the sash.

Each sash of the window comprises a pane of glass 35 bordered by top, bottom, and side rails all formed with inwardly opening channels to receive the edge of the pane and a sealing strip 35' which embraces the pane-edge. The lower rail 36 of each sash is provided exteriorly with

longitudinal flanges 37 through which the weight of the sash is supported from the sill of the window frame. The vertical sash rail 38 at the jamb end of the sash is conveniently provided with a longitudinal flange-extension 39 serving as a finger piece for use in sliding the sash within the window frame. The vertical end rails 40 remote from the jamb-ends of the two sash are meeting rails and are provided with obliquely disposed flanges 41 which, in the closed position of the sash, engage each other to provide a weather seal. Like the side members of the window frame, the various sash rails are conveniently formed as aluminum or aluminum-alloy extrusions.

At the corners of the window frame, the side members thereof are conveniently mitered and secured together in a manner illustrated in Figs. 6 and 7. As there shown, portions of the strip stock forming meeting members are offset inwardly to provide walls 45 lying parallel to the oblique abutting faces of the side members, such walls being perforated for the reception of screws 46. As shown, three such screws 46 are employed at each corner of the window frame, two being located in the planes of the grooves 32 and the other being located in the flange 31.

As indicated in Fig. 8, a similar expedient may be employed in securing side rails of the sliding sash together. As there shown, the web of the rail stock is deformed inwardly to provide parallel walls 48 perforated for the reception of a screw 49. In both the window frame and in the sash-frame one of the holes provided for each screw is a clearance hole while the other is of smaller diameter, and the screw is preferably of the self-tapping variety.

To reduce friction and facilitate sliding movement of the sash, I preferably associate with the sill of the window frame a bearing strip 51 (Fig. 1) formed of a metal different from that of the lower sash-rails 36. If such sash rails are formed of aluminum, the bearing strip is conveniently formed of zinc. In cross-section, the strip 51 is shaped to provide three downwardly opening grooves which respectively receive the three frame-flanges 21, 22, and 23 of the frame-sill and two upwardly opening grooves into which the lower sash-rails extend. The strip 51 lies loosely on the upper edges of the flanges 21, 22, and 23 so that it can readily be removed for cleaning when the sash are removed in a manner to be described hereinafter. To provide for the escape of any moisture collecting in the sash-receiving grooves of the strip 51, such grooves are provided in their bottoms with holes 52, and the flanges 21 and 22 are provided adjacent the web 20 with openings through which any collected moisture can escape to the outside of the window frame. If desired, the exterior edge of the strip 51 may terminate in a flange 54 concealing the openings in the flange 21 but spaced upwardly slightly from the web 20 so as not to trap any moisture. The lower sash rails fit snugly within the grooves of the strip 51 to provide a weather seal.

To reduce sliding friction at the top of the sash, the head 22' of the flange 22 on the top member of the window frame may be embraced by a bearing strip 55 (Fig. 12), the edges of which are bent around the head 22' to hold the strip in place. To facilitate removal of the sash, the upper sash rails do not fit snugly between the bearing strip 55 and the flanges 21 and 23. To provide a weather seal between the upper sash rails and the bearing strip 55, I may use the arrangement illustrated in Figs. 12 and 13. As there shown, the web of each upper sash rail is offset downwardly at intervals to provide recesses each receiving the head of a wear button 57 having a shank 58 projecting through an opening in that flange of the sash-rail which is remote from the frame-flange 22 for engagement with the other sash-guiding frame-flange 21 or 23. The head of each button 57 is recessed for reception of a compression spring 59 which urges the button-shank 58 into engagement with such frame-flange 21 or 23 and, by reacting on the sash-rail, resiliently forces the latter into contact with the bearing strip 55.

As will be clear from Figs. 1 and 12, there is a substantial gap between the upper sash rails and the bases of the channels in the frame-head which slidably receive them. The extent of this gap is such as to permit each sash to be raised until the lower sash rail clears the walls of its groove in the bearing strip 51, whereupon the lower edge of the sash can be swung inwardly and the sash lowered to remove it from the window frame, as for purposes of washing. Conveniently, the heads of the buttons 57 are non-circular and engage the sash-rail to prevent rotation of each button about the axis of the shank 58, and the upper edges of the button-shanks 58 are chamfered to facilitate re-insertion of the sash in the frame.

A preferred form of means for locking the sliding sash in closed position is illustrated in Figs. 9, 10, and 11. As there shown, the meeting rail 40 of the inner sash carries a lock-base 65 upon which is pivotally mounted a cam-like locking member 66 co-operating with a keeper 67 secured to the meeting rail 40 of the outer sash. The keeper 67 is conveniently formed of a rectangular plate of resilient metal, preferably stainless steel, and is provided at one end with an opening 68 for the reception of the cam of the locking member 66. At its opposite end, the keeper 67 is bent back on itself, as indicated at 69 (Fig. 11) to embrace the edge of the intermediate flange on the meeting rail 40, the web of the meeting rail being perforated adjacent such flange to receive both the body of the keeper and the in-bent portion 69. At that end of the keeper remote from the opening 68 slots are provided defining a tongue 70 which is struck from the plane of the keeper, as shown in Fig. 11. The keeper is brought into association with the meeting rail 40 of the outer sash by passing it through the slots in the web of such rail. The slot which receives the body of the keeper has a width only slightly greater than the thickness of the material from which the keeper is formed so that, as the keeper approaches its final position, the out-struck tongue 70 engages the side of such slot and is resiliently deflected into the plane of the keeper. When the keeper reaches its final position, the free end of the tongue 70 clears the side of the slot, and the tongue springs back to its original position to engage the web of the rail 40 at the side of the slot and prevent removal of the keeper from association with the rail.

As so far described, the inner and outer sash, when closed, completely fill the window frame. In Fig. 5, I have illustrated an arrangement in which the window frame contains a centrally located fixed pane 75 which is shorter than the window frame to leave openings closed by sliding sash 76. The fixed pane 75 is received at top and bottom in the grooves between the flanges 21 and 22 of the head and sill members. The ends of the pane 75 are received in rails 77 similar to the meeting rails 40 on the outer sash in the construction shown in Fig. 2, such rails 77 being located by and secured to posts 78 extending vertically across the opening in the window frame and secured at their upper and lower ends to the head and sill. The sliding sash 76 are each similar to the inner sash in the construction of Figs. 1 and 2 and carry locking members 66 co-operating with keepers 67 mounted in the rails 77. The window may incorporate the bearing strips 51 and 55 of Fig. 1 extending for the full length of the window, and the fixed sash 75 may be provided along its upper rail with buttons 57 like those of Fig. 12.

For the purpose of securing the assembled window frame in place in a wall-opening, the flanges 31 of the head, sill, an side jambs carry nailing fins 80 which project outwardly from the flanges 31 parallel to the plane of the window to overlap and be secured to the outer face of the wall at the sides of the window-receiving opening therein. To accommodate the window 75 for mounting in various positions with respect to the

5

outer wall-face overlapped by the nailing fins, the outer face of each flange 31 is provided with a series of parallel longitudinally extending grooves 81 each of which is of undercut shape in cross-section to receive slidably a complementarily shaped bead 82 with which one edge of each nailing fin 80 is provided. If, as is shown, the head 82 is offset from the plane of the body of the nailing strip, and if the grooves 81 and beads 82 are shaped symmetrically so that the bead may be reversed with respect to any groove, the nailing fin will have two positions on the window frame for each of the grooves 81. Desirably, the bead 82 is offset with respect to the body of the fin by a distance equal to one-fourth the distance between the centers of the grooves, so that with the three equally spaced grooves 81 shown, the nailing fin has six equally spaced positions with respect to the window frame. The nailing fins are desirably perforated at intervals for the passage of nails 83 by which the fin is secured to the wall.

Interiorly, the window frame is finished by a trim strip 85, which conveniently is formed by extrusion to possess a web, a flange 87 which engages the interior face of the flanges 23 and 26 on the window frame, and a second flange 88 which projects from the opposite side of the web 86 to overlap the plaster 89 or other facing on the inner side of the wall in which the window is mounted. The trim 85 is secured to the window frame by screws 90 which extend through the flange 87 of the trim into the flange 26 of the window frame. Since the adjustably mounted nailing fin permits variation in the position of the window frame in the wall, the same interior trim 85 may be used in mounting the window in walls of different thicknesses.

The exterior face of the flange 30 of the stock from which the window frame is formed may be provided with an undercut longitudinally extending groove 92 which slidably receives a complementarily shaped bead 93 on one edge of an extension fin 94. The fin 94 conveniently embodies inner and outer flanges 95 and 96 which project laterally in the same direction from the fin, the inner flange preferably being wider than the outer and of such width that its outer edge is coplanar with the outer face of the frame-flange 31. The fin 94 may be used as a caulking stop in situations where the window frame itself does not overlap the veneer on the exterior face of the wall in which the window is located. Such an arrangement is illustrated in Figs. 1 and 2, where the fin 94 projects exteriorly of the frame into overlapping relation with the wall-veneer 98 to provide a space for the reception of caulking 99. To adapt the fin 94 for another use, described below, it is formed on its face opposite the flanges 95 and 96 to provide a longitudinally extending shoulder 100 presented interiorly of the window frame.

Where, as in Fig. 3, the window frame itself projects into overlapping relation with the veneer 98, the fin 94 may be omitted and the caulking 99 applied between the window frame and the veneer. Fig. 3 illustrates an additional modification in that the flange 31' of the window-frame stock has its free edge bent outwardly to form a fixed-position nailing fin 80'.

In Fig. 4, I have illustrated a construction in which two window frames of the type shown in Figs. 1 and 2 are mounted in a single wall-opening to form a mullion window. Here, the two window frames are placed in side-by-side relation with the flanges 31 of the adjacent side jambs in abutting relation and held together by a spring-steel clip 105 which is forced over them. On the interior-face of the window the adjacent side jambs of the two frames are lapped by a trim strip 106 secured to the fins 26 by screws 107. Exteriorly, the joint between the two frames may be concealed by mounting in the grooves 92 extension fins 94 and by providing a channel-like trim strip 109 which embraces the outer edges of the fins 94 and has its edges bent toward each

6

other to engage the shoulders 100 on the fins. Conveniently, the strip 109 is made of stock sufficiently resilient that it can be elastically spread to the extent necessary to force its in-bent edges past the shoulders 100, whereupon the strip will resume its original form with its in-bent edges engaged behind the shoulders to hold the strip in place. Installation of the strip 109 is facilitated if each fin 94 is provided with an inclined, strip-spreading surface 110 (Fig. 1) extending to the edge of the shoulder.

In Fig. 14 I have illustrated a preferred arrangement for joining the corners of the interior trim 85. For this purpose, the flange 88 is formed to provide on its rear side two opposed grooves 115 adapted to receive the opposite edges of one leg of an L-shaped connector 116 formed of sheet-metal. The meeting ends of interior trim strips 85 are mitered; and at each corner of the window there is a connector 116 arranged with its legs extending into the grooves 115 of the respective meeting trim strips. The connectors 116 locate the flanges 88 in coplanar relationship while permitting the meeting trim strips 85 to be drawn into abutting relationship by movement along the connector-legs. To secure meeting trim strips 85 in their abutting position, flanges 118 extending longitudinally on the outer side of the web 86 are notched near the corners of the window frame to receive fingers 119 of clamping members 120. The latter are conveniently formed of sheet metal bent into an L-shaped cross section to embrace the junction of the meeting trim strips 85. The fingers 119 have inclined faces 119' which, by engagement with sides of the notches in the ribs 118, draw the trim strips 85 tightly together as the clamping member 120 is forced transversely of the ribs 118. In addition to the fingers 119, each of the clamping members may be provided with tongues 121 which parallel the fingers and which, when the clamping member is forced home, may be bent around the sides of the notches of the ribs 118 to hold the clamping members in place.

Fig. 15 illustrates an arrangement which may be used for supporting a window frame from a masonry wall or wall-facing in situations where the nailing fin 80 of Figs. 1 and 2 cannot be used. In this arrangement, the masonry wall or wall-facing 125 is provided in those faces which define the window opening with a groove 126 adapted to receive a mounting member connected to the window frame through the medium of the groove 81 on the frame-flanges 31. As shown, the mounting member is in the form of a strip 127 generally U-shaped in cross-section and provided exteriorly and near the middle of its intermediate leg with a longitudinally extending rib 128 slidably receivable in any of the grooves 81. The mounting member may be disposed relatively to the window frame in any of the positions provided by the plurality of grooves 81, thus permitting the window frame to be disposed in a corresponding number of positions relative to the wall. Once the window frame is properly positioned, the grooves 126 and the space between the window frame and the sides of the window opening may be filled with grouting 129.

The adjustable mounting member, whether it be the U-shaped strip 127 of Fig. 15 or the nailing fin 80 of Figs. 1 and 2, may be employed with windows formed of elements not equipped with provisions for reception of the bead 82 of a nailing fin or the rib 128 of a U-shaped mounting member. Thus, in Figs. 16, 17, and 18, I have illustrated a window of the type shown in my copending application Serial No. 355,489, filed May 18, 1953. To provide such a window frame with provisions for utilizing the adjustable mounting member, I secure to the head, sill, and side jambs of such frame longitudinally extending auxiliary members having flanges which lie in planes normal to the window and which are provided in their outer faces with series of grooves 81 for attachment of the mounting member.

In the window frame shown in Figs. 16, 17, and 18, the side jambs 131 have flanges 132 which lie in the outer face of the window frame. An auxiliary member for use in association with such a side jamb may take the form of an extruded strip T-shaped in cross-section to provide a web 133 which is adapted to be attached to the outer face of the jamb-flange 132, as by screws 134, and a flange 135 which extends perpendicularly to the plane of the window and which is provided in its outer face with a plurality of the grooves 81. The sill 137 of the window has an outer flange 138 offset inwardly at its lower edge to provide a longitudinally extending shoulder 139. The auxiliary member 140 for the sill may have a body portion provided in its bottom with the grooves 81 and on its upper side with a flange 141 terminating in a lip 142 adapted to engage over the shoulder 139 of the sill. The auxiliary member 143 for the head 144 of the window frame may have a body portion containing the grooves 81 in its upper face and provided with a downwardly projecting flange 145 terminating in a lip 146 adapted to engage beneath an inwardly projecting longitudinal rib 147 with which the head 144 is provided.

Preferably the auxiliary members 140 and 143 for the sill and head respectively underlie and overlie the lower and upper ends of the auxiliary members on the side jambs, and the latter are provided with tongues 149 which project through slots in the members 140 and 143, as indicated in dotted lines in Fig. 17, and are bent over therebeyond as shown in full lines to secure the auxiliary members together. If desired, the auxiliary members may be provided with stiffening flanges 150 extending longitudinally along their outer edges.

In assembling the auxiliary members on the frame, the members for the side jambs are first positioned thereon and secured in place by the screws 134. The upper and lower auxiliary members 143 and 140 are then hooked into engagement respectively with the head 144 and sill 137 and swung into position abutting the ends of the side members. The tongues 149 pass through the slots in the members 143 and 140 as the latter are swung into position and are thereafter bent over as above set forth. The assembly will then possess a series of peripherally extending slots 81 for alternative reception of fins 81 or other mounting members by which the frame is supported on the wall opening.

I claim as my invention:

1. A metal window frame, comprising top, bottom, and side members defining a rectangular window opening, at least one of said members being provided with an integral longitudinal flange located exteriorly of the frame and projecting from the one face of the frame perpendicularly to the plane of the frame, said flange being provided with a plurality of similar parallel, longitudinally extending, undercut grooves, and an elongated mounting fin having an edge portion shaped complementarily to each said groove for sliding reception in any one of them and a body portion adapted to project from the flange parallel to the plane of the window frame into overlapping relation with a face of a wall at an edge of a window-receiving opening therein.

2. A metal window frame, comprising top, bottom, and side members defining a rectangular window opening, at least one of said members being provided with an integral longitudinal flange located exteriorly of the frame and projecting from the one face of the frame perpendicularly to the plane of the frame, said flange being provided with an undercut groove, and an elongated mounting fin having an edge portion shaped complementarily to said groove for sliding reception therein and a body portion adapted to project from the flange parallel to the plane of the window frame into overlapping relation with a face of a wall at an edge of a window-receiving opening therein.

3. The invention of claim 2 with the addition that

the body portion of said fin is essentially plane, said edge portion being offset from the plane of the body portion and reversible in said groove.

4. A metal window frame, comprising top, bottom, and side members defining a rectangular window opening, at least one of said members being provided with an integral longitudinal flange located exteriorly of the frame and projecting from the one face of the frame perpendicularly to the plane of the frame, said flange being provided with an undercut groove, and a mounting member having an edge portion shaped complementarily to said groove for sliding reception therein and a body portion adapted to project from the flange for attachment to a wall having an opening in which the frame is received.

5. In combination, a rectangular metal window frame, a mounting fin adapted to extend along one side of said frame and to project therefrom parallel to the plane of the frame into overlapping relation with one face of a wall at an edge of a window opening therein, and means for attaching said fin to said frame in any one of a plurality of predetermined positions spaced apart perpendicularly to the plane of the frame.

6. In combination, a rectangular window frame, an interior trim strip removably secured to the inner face of said frame and having a longitudinally extending flange adapted to overlap the inner face of a wall at an edge of a window opening therein, a mounting fin adapted to extend along a side of the frame in parallel spaced relation to said flange to overlap the outer face of such wall, and means for attaching said fin to said frame in any one of a plurality of predetermined positions spaced apart perpendicularly to the plane of the frame.

7. A metal window frame, comprising top, bottom, and side members defining a rectangular window opening, at least one of said members being provided in the outer frame with an undercut, longitudinal groove spaced inwardly from the edge of the frame, and an elongated caulking stop strip having an edge-portion shaped complementarily to said groove and slidably received therein and a body portion projecting outwardly from the frame for disposition in generally parallel spaced relation to the side of a wall-opening in which the frame is mounted.

8. In a mullion window, a pair of rectangular window frames disposed in side-by-side coplanar relationship, each of said frames comprising metal side members, each of said side members having a web provided with longitudinal flanges projecting toward the center of the frame in spaced relation to define sash-receiving grooves, the adjacent side members of the two frames having integral longitudinal connecting flanges each of which projects from one face of its window frame toward the other face in spaced relation to said web and in engagement with the connecting flange of the other frame, means securing said flanges together, said side members being spaced apart at said other face of the frame to provide an opening affording access to said securing means, and a removable closure for said opening.

9. In a window, a rectangular frame having a central opening, said frame comprising metal side members meeting at the corners of the frame, each of said side members including a web lying generally in a plane transverse to the plane of the frame and spaced flanges lying in planes parallel to that of the frame, the two side members meeting at a corner of the frame being mitered and having portions of their webs adjacent the corner offset into mutually parallel relationship, and a screw extending through said mutually parallel wall portions to secure the meeting side members together.

10. A metal side member for a window frame, said member being formed in cross-section to provide a web, a first longitudinal flange projecting from said web, and a second longitudinal flange projecting from said first flange in opposed spaced relation to the web, said second flange being provided in its outer face with a longitudinal groove for the sliding reception of a nailing fin, and said first

9

flange being provided with a longitudinal groove for the sliding reception of a caulking stop.

11. A metal side member for a window frame, said member being formed in cross-section to provide a web, a first longitudinal flange projecting from said web, and a second longitudinal flange projecting from said first flange in opposed spaced relation to the web, said second flange being provided in its outer face with a longitudinal groove for the sliding reception of a nailing fin.

12. A window frame as set forth in claim 4 with the addition that said flange is removably attached to the frame.

13. In combination with a metal window frame, interior trim comprising strips of similar cross-section secured to the frame to extend along the sides and meet at the corners thereof, each of said strips comprising a web extending from the frame and terminating in an out-turned flange adapted to overlie the inner surface of a wall in which the frame is to be located, said strips being mitered at the corners of the frame and having longitudinal ribs projecting from said web, each of said ribs

10

being notched at a point near but spaced from its end, and a connecting clip located at each corner of the frame, each said clip being of L-shaped cross-section and having two legs respectively overlying the webs of meeting strips and provided with fingers extending into the notches in the webs of such strips.

References Cited in the file of this patent

UNITED STATES PATENTS

| | | |
|-----------|---------------|----------------|
| 1,552,436 | Lancaster | Sept. 8, 1925 |
| 1,650,640 | Michaels | Nov. 29, 1927 |
| 2,011,152 | Kessler | Aug. 13, 1935 |
| 2,101,349 | Sharp | Dec. 7, 1937 |
| 2,257,703 | Peremi et al. | Sept. 30, 1941 |
| 2,288,548 | Peremi et al. | June 30, 1942 |
| 2,304,598 | Plym | Dec. 8, 1942 |
| 2,375,553 | Hodson | May 8, 1945 |
| 2,473,657 | McClintock | June 21, 1949 |
| 2,538,138 | Webster | Jan. 16, 1951 |
| 2,569,386 | Peremi et al. | Sept. 25, 1951 |