

Sept. 22, 1959

R. M. ADAMSON
WINDOW CONSTRUCTION

2,904,854

Filed Aug. 23, 1956

3 Sheets-Sheet 1

FIG-1

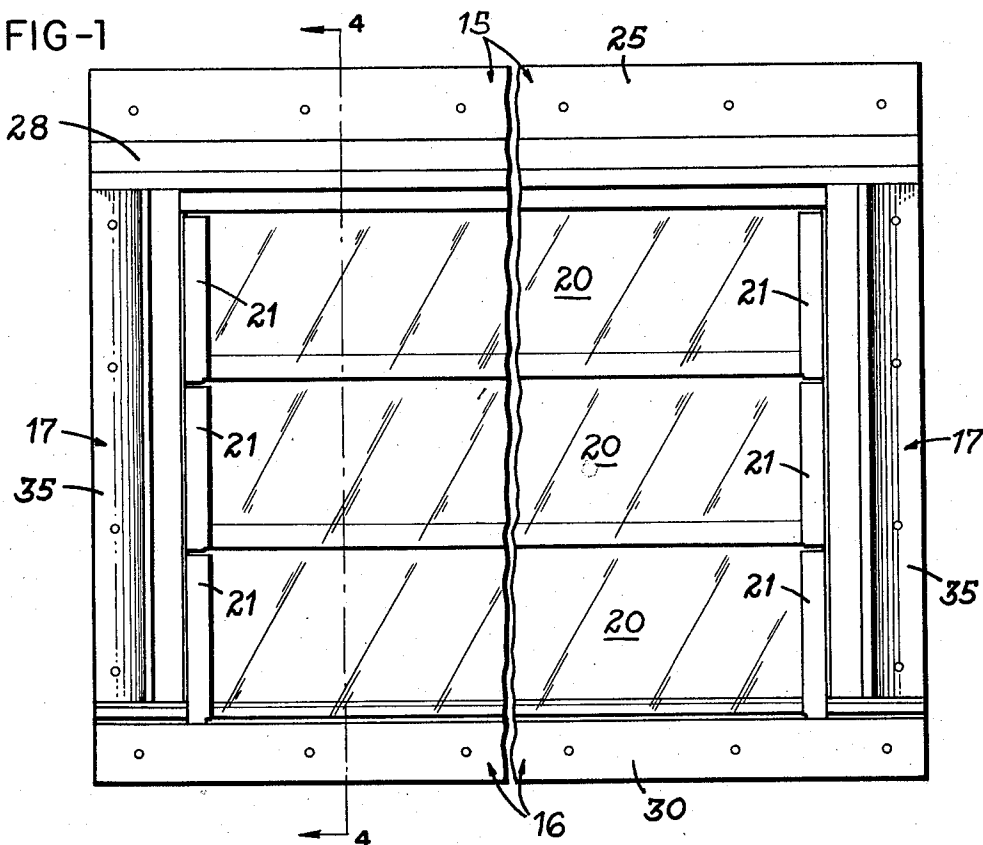


FIG-2

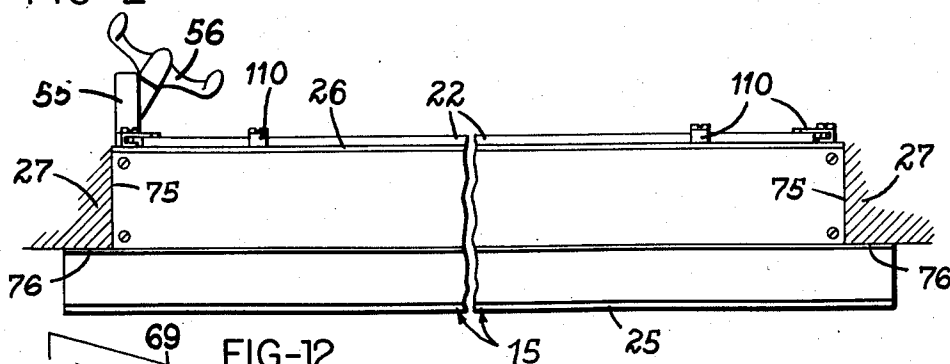
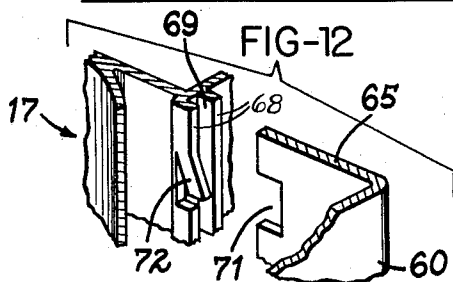


FIG-12



INVENTOR.

ROBERT M. ADAMSON

BY

Marshall, Biebel, French & Bugg
ATTORNEYS

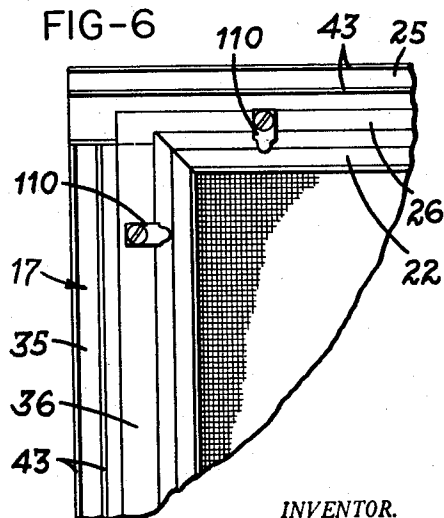
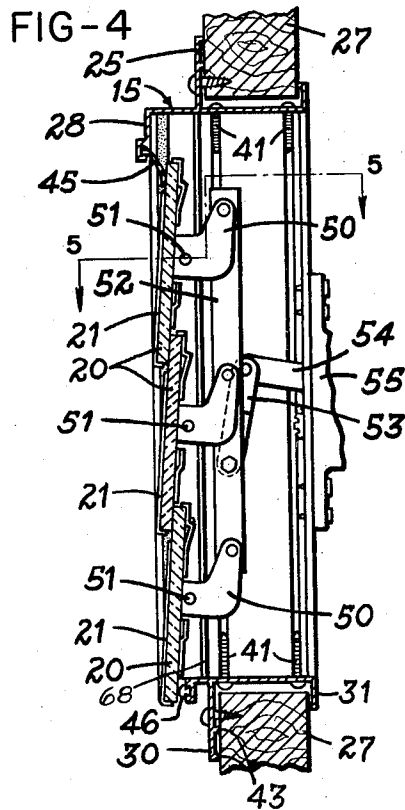
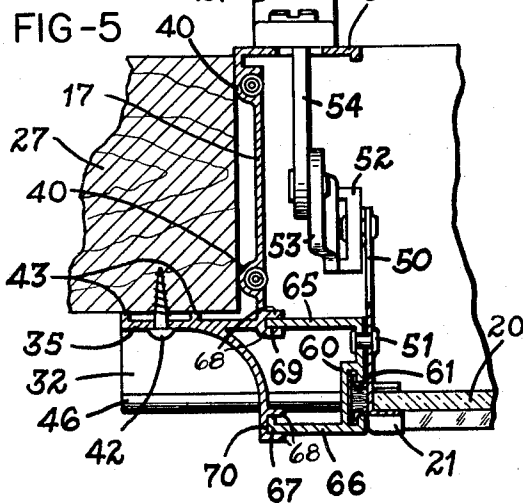
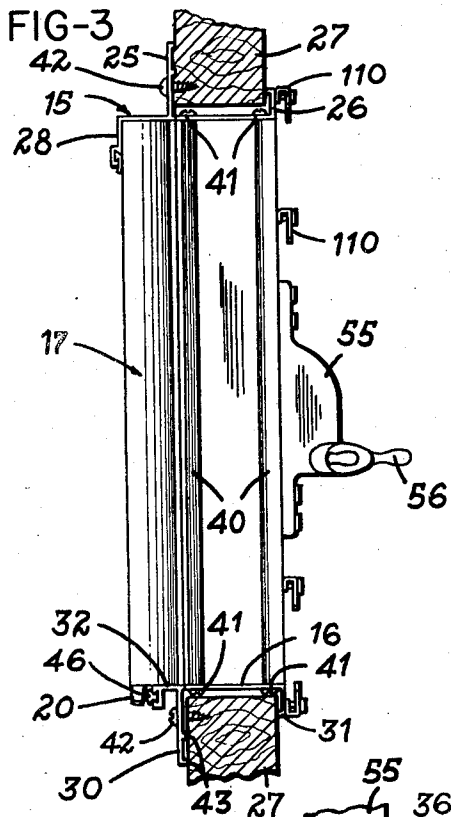
Sept. 22, 1959

R. M. ADAMSON
WINDOW CONSTRUCTION

2,904,854

Filed Aug. 23, 1956

3 Sheets-Sheet 2



INVENTOR.

BY ROBERT M. ADAMSON

Maruchal, Riebel, French & Rugg
ATTORNEYS

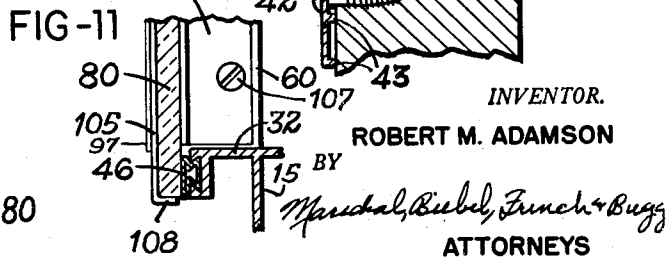
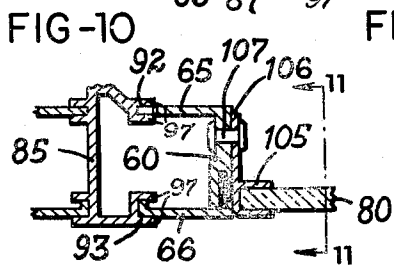
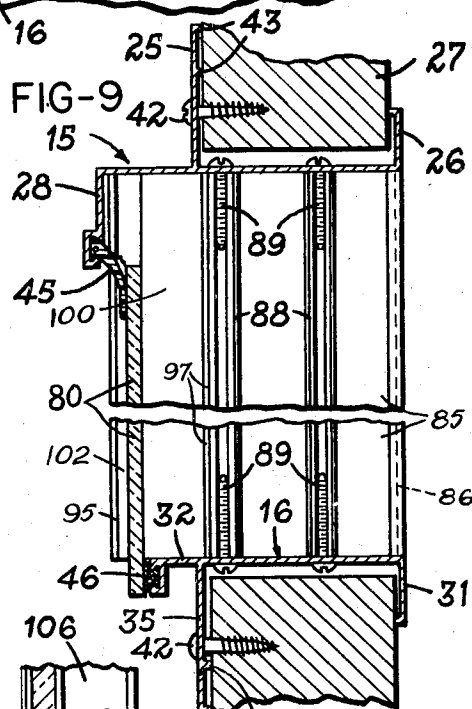
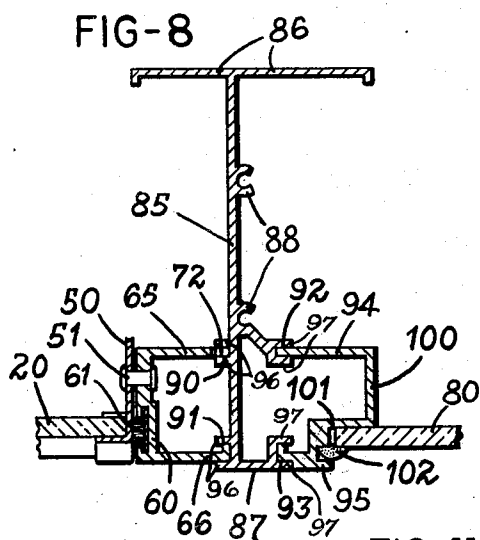
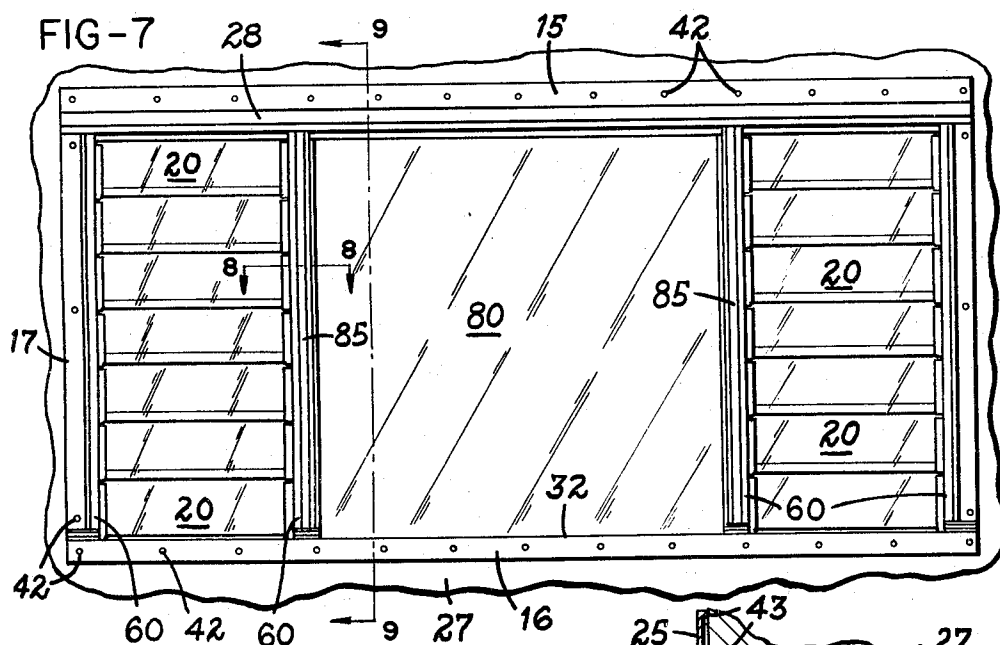
Sept. 22, 1959

R. M. ADAMSON
WINDOW CONSTRUCTION

2,904,854

Filed Aug. 23, 1956

3 Sheets-Sheet 3



INVENTOR.

ROBERT M. ADAMSON

BY

Marchal, Biebel, French & Bugg

ATTORNEYS

1

2,904,854

WINDOW CONSTRUCTION

Robert M. Adamson, Dayton, Ohio

Application August 23, 1956, Serial No. 605,767

6 Claims. (Cl. 20—40)

This invention relates to a window construction and, more particularly, to metal window frame structural elements adapted to be utilized for a plurality of different types and sizes of windows.

Window constructions, embodying, for example, extruded aluminum frame members, may be fabricated or prefabricated for installation in houses, house trailers or the like. With such constructions, it may be desirable to have available a plurality of different types of windows—e.g., non-operable picture windows, jalousies, casement windows, double-hung windows, and combinations thereof—as well as windows of different shapes and sizes. If it is attempted to supply window constructions, either for fabricating or as prefabricated, to satisfy the many possible permutations and combinations of size and variety desired by builders, architects, and designers, it may be necessary to provide many different sizes and constructions of metal frame members requiring a number of different joining and fitting operations in the fabricating or prefabricating of the windows.

According to this invention, however, a window construction is provided in which the various constructional elements are utilizable for many different sizes and varieties of windows, and such constructional elements are provided so that assembly and fabrication of the window requires a minimum of the simplest cutting and fitting operations. Furthermore the constructions of this invention also include constructional elements which may be utilized for interchanging or converting one type of window to another in the same frame structure.

One object of this invention is to provide a window construction of the character described including metal frame members which can be utilized to form the window substantially regardless of the size of the window opening and/or the type of pane or closure desired therefor.

Another object of this invention is to provide a window construction which can be readily converted from one type of window to another after installation and without complete disassembly or reconstruction of the window frame structure installed in the wall of a house or house trailer.

A further object of this invention is to provide a minimum plurality of metal frame elements which can be assembled to form a window construction of the character described for a large plurality of window sizes and types.

A still further object of this invention is to provide, in a window construction of the character described, means for the ready replacement and/or conversion of the pane or closure without having to disassemble or remove the window frame structure.

Still another object of this invention is to provide, in a window construction of the character described, window frame structural elements adapted interchangeably for use in constructing windows of many different sizes and closure constructions.

A still further object of this invention is to provide, in a window construction of the character described, window

2

frame structural elements adapted for constructing a wide range of different size windows and additional closure elements of a plurality of varieties and types all adapted to interfit interchangeably with the same frame structural elements to produce a variety of window closures and/or to convert one type of closure to another in the same frame.

Other objects and advantages of this invention will be apparent from the following description, the accompanying drawings, and the appended claims.

In the drawing,

Fig. 1 is an outside elevation of a window construction embodying this invention and having a jalousied closure; Fig. 2 is a top plan view of the window construction of Fig. 1;

Fig. 3 is a side plan view of the window construction of Fig. 1 with the interior window screen removed;

Fig. 4 is a vertical section through the window construction of Fig. 1 along the line 4—4 thereof;

Fig. 5 is a horizontal section through one side of the window construction of Fig. 1 along the line 5—5 of Fig. 4;

Fig. 6 is a fragmentary detail of an interior plan view of the window construction according to Fig. 1;

Fig. 7 is an exterior plan view of a multiple window construction embodying the invention and having a picture window closure and two jalousied closures;

Fig. 8 is a section through a mullion of the window construction of Fig. 7 along the line 8—8 thereof;

Fig. 9 is a vertical section partly broken away of the window construction of Fig. 7 along the line 9—9 thereof;

Fig. 10 is a fragmentary horizontal section of a modification of the closure support elements of Fig. 8;

Fig. 11 is a fragmentary vertical section adjacent the bottom of the window and along the line 11—11 of Fig. 10; and

Fig. 12 is a detailed fragmentary view showing an interlocking device in a window embodying this invention.

Referring to the drawings, in which like reference characters designate like parts throughout the several views thereof, a window construction embodying the invention is shown in Fig. 1 as having a top frame member 15, a bottom frame or sill member 16 and two substantially identical side frame members 17. In the particular embodiment illustrated in Figs. 1—5, the window pane or closure construction is shown as being jalousied and comprising a plurality of openable glass panes 20 mounted in multiple end frames or clips 21. Also an interior window screen 22 is shown mounted on the interior of the top, bottom, and side frame members 15—17.

Top, bottom, and side frame members 15—17 may satisfactorily be constructed of unitary extrusions of aluminum and the like, and preferably exhibit the cross sections indicated in Figs. 3—5. Thus, top frame member 15 has an upstanding exterior framing flange 25 and an upstanding interior framing flange 26 for overlying and framing the upper edge of a window opening in the wall 27 of a house or trailer. Top member 15 also has an exterior overhanging flange 28 clear across the top of the exterior of the window.

Bottom frame sill member 16 includes an exterior depending framing flange 30 and an interior depending framing flange 31 for overlying and framing the bottom edge of a window opening in wall 27, and an exterior outwardly extending sill member 32 extending all along the bottom of the window.

Side frame members 17 are both substantially identical in cross section, and include an exterior framing flange 36 for overlying and framing the side edges of a window opening in wall 27 and an interior flange 36 forming side uprights on the inside of the window joining interior

flanges 26 and 31 of top and bottom frame members 15 and 17.

Side frame members 17 also include two vertical channels 40 for the reception of screws 41 by means of which side frame members 17 are joined with top and bottom frame members 15 and 16, and the thus joined window frame construction is affixed to wall 27 by means of a plurality of screws 42 driven into wall 27 through the respective exterior framing flanges 25, 30, and 35. Preferably each of these framing flanges has a plurality of inwardly extending ribs 43 therealong for stiffening the flange and for providing fulcrums against which the flanges may be pulled into intimate and weather-tight relation with wall 27 by screws 42.

The top and bottom edges of the window pane or closure are sealed by means of a resilient plastic gasket 45 depending from overhang 28 on the exterior of top frame member 15 and another resilient plastic gasket 46 in the outer edge of extending sill 32 of bottom frame member 16. The side edges of the particular window pane or closure construction are sealed by various means depending upon the particular type of pane or closure, as appears hereinafter.

In the construction shown in Fig. 1, where the closure is illustrated as jalousied, the individual jalousie panes 20 are carried in multiple end frames or clips 21 at each end thereof, which clips 21 are carried on bell cranks 50 pivoted at 51 and interconnected by a link 52 at each side of the window. Link 52, in turn, at one side of the window is connected by the linkage 53, 54 to an operating structure in housing 55 affixed to the inside of one of the interior side flanges 36, and including known mechanism operated by handle 56 to tilt the various panes 20 into open or closed position—all in well understood manner with jalousied windows.

The closure construction of panes 20, clips 21, bell cranks 50, etc., is carried, through the pivots 51, by a closure support element 60 at each side of the window. This closure support 60 includes a resilient sealing gasket 61 for sealing engagement with the ends of panes 20 and/or carrying clips 21 thereat when the closure is in the closed position. The closure support 60, which may satisfactorily, like the various window frame elements, be extruded of aluminum and the like, preferably exhibits the channel-like cross section substantially as shown at Fig. 5 and including two spaced-apart frame engaging flanges 65 and 66, the latter of which has an intumed rigidifying and thickening rib 67. Each of the side frame members 17 includes two pairs of vertically extending ribs 68 arranged to define two spaced-apart vertical channels or grooves 69 and 70 for receiving, engaging, and interlocking in frictionally interfitting telescoping relation with the edges of frame engaging flanges 65 and 66 respectively, on closure support member 60. It will thus be noted that, in connection with the jalousied closure of Figs 1-5, the window panes and closure mechanism are carried by the closure support members 60 at either side of the window, and that each of these closure supports 60 interfits with and is engaged by the grooves 69 and 70 in side frame members 17.

Thus, after the window frame members 15-17 are assembled and inserted in a window opening in wall 27, the two closure supports 60 with their apertaining linkages 50-52 and with the pane clips 21 (but without the window panes) are readily inserted in the window frame structure and engaged in grooves 69 and 70, by lateral movement in the plane of the window opening toward their respective frame members. Thereafter, when the window panes 20 are inserted in the clips 21, in known manner, the panes themselves aid in maintaining the whole structure in assembly and alignment, by bracing the supports 60 against movement toward each other tending to cause disengagement of their flange portions from the grooves in the frame members. Such a construction, also, because of the separate closure support member 60,

provides a structure in which the heads of pivot 51 are not visible from the exterior of the window frame, yet should any of the closure structure need repair or replacement, the entire closure is readily removable and the pivots 51 readily accessible after removal notwithstanding the fact that they are essentially hidden when in assembled position.

It will also be noted from the foregoing that, so far as the window frame structure itself is concerned, any variation in window size requires merely a variation in the length of frame members 15-17. Thus, instead of having to manufacture a different type of top, bottom, or side frame member for each different window design, a construction embodying this invention merely requires the minimum of three extrusions—i.e., one with each of the cross sections of top frame member 15, bottom frame member 16 and side frame members 17.

Considering these structural elements as being made of extruded aluminum alloy, it is apparent that lengths of only these three extrusions need be kept on hand to provide a window frame of virtually any size. That is, the extruded elements are merely cut so that the length thereof corresponds to the desired height and width window. It should also be noted, in this connection, that side frame members 17, as well as closure support 60, are merely cut off square at the ends, without any mitering or other complicated operations, to be affixed between the flat inner faces of top frame member 15 and bottom frame member 16. The only joining operation necessary with this construction is a square cut at each end of top member 15 and bottom frame member 16 the edges of which cut are indicated in Fig. 2 at 75 and 76. Also, the bearing support between the flat ends of side members 17 and the flat inner surfaces of top and bottom frame members 15 and 16 along the line between screws 41 therein, gives sufficient rigidity and trueness of square to obviate the need for mitered, rabbeted, or interlocking joinings among the various frame members, and especially when the external framing flanges 25, 30, and 35 are affixed to wall 27 by screws 42.

As will be apparent, it may be desired to have some form of window pane closure other than the jalousied structure just described and/or a plurality of contiguous windows, instead of one single window, with, perhaps, a plurality of different closures. For example, illustrated in Fig. 7 is a multiple window construction having a large stationary picture window pane 80 with two contiguous jalousied side sections, all in the same frame structure. As will be apparent from the foregoing, this wider multiple window construction is still all enclosed within top, bottom, and side frame members 15-17 which, although having the same cross sections as shown in Figs. 1-5, are merely cut to different lengths to accommodate the larger multiple window. Such a construction provides the advantages over installing three separate prefabricated windows side by side in that, among others, top frame member 15, and its exterior overhanging portion 28, and bottom frame member 16, with its exterior sill portion 32, extend continuously all along the window, thereby enhancing the weather-tight construction, particularly in stormy or rainy weather.

In the construction shown in Fig. 7, the three parts of the multiple window are separated by two mullions 85 extending vertically between top and bottom frame members 15 and 17 in much the same manner as do side frame members 17. These mullions 85, like the frame members and closure supports, are preferably extruded from aluminum alloy and exhibit a cross section substantially as indicated at Fig. 8. Mullion 85 has an interior framing flange 86 as well as an exterior framing flange 87. It is also provided with two longitudinal channels 88 for receiving and engaging screws 89 to hold the mullion in position between top and bottom frame mem-

5

bers 15 and 16 in much the same manner as side frame members 17 are engaged by screws 41 in channels 40.

Mullion 85 also includes, adjacent its exterior side, two spaced-apart grooves or channels 90 and 91 for receiving and engaging frame engaging flanges 65 and 66 of closure support 60 which carries the jalousied closure of the ends of the window of Fig. 7 in the same manner as described for the engaging and mounting of such closure supports 60 in grooves 69 and 70 of side frame members 17. Mullion 85 also includes another set of spaced-apart grooves 92 and 93, spaced from but aligned with grooves 90 and 91 for receiving and engaging edge portions of frame engaging flanges 94 and 95 of a different closure support member 100 adapted to support a different type of closure than the jalousie closure support 60. As shown in Figs. 8-10, the grooves 90-91 and grooves 92-93 are formed by pairs of vertically extending ribs 96 and 97 respectively which are located on opposite sides of the mullion 85 in the same relative spacings as the ribs 68 on the side frame members 17.

As indicated in Fig. 8, closure support 100, in addition to the frame engaging flanges 94 and 95 thereof, is particularly adapted for receiving a stationary or non-openable window pane 80 to be held in a place in a pane receiving recess 101 of closure support 100 by a glazing compound such as putty or the like indicated at 102 in known manner.

As will be apparent from the foregoing, the grooves 69 and 70 in side frame members 17 as well as the grooves 90-91 and 92-93 on mullion 85 are aligned and spaced to receive any of a plurality of closure supports such as 60 or 100, each of which is particularly adapted to support a different kind of window closure—for example, a jalousie closure support 60 is illustrated in Figs. 5 and 8, a stationary pane closure support 100 is illustrated in Fig. 8, or other closure supports for double-hung and/or casement type windows, etc., the design of which will be apparent to men skilled in the art. All such closure support members, however, include spaced-apart frame engaging flanges such as 65-66 and 94-95 to be received in and engaged by the grooves 69-70 on side supports 17 or grooves 90-91 or 92-93 on mullion 85. In this manner, the type of closure can readily be changed from jalousied or stationary to casement to double-hung as may be desired merely by selecting and/or changing the appropriate closure support 60, 100, etc., and without otherwise altering the window frame structure.

Actually, as indicative of the further versatility of the structure embodying the invention, there is illustrated in Figs. 10 and 11 an adapter for installing a stationary pane 80 in a window utilizing the jalousie closure support 60. This adapter includes a side clip 105 for pane 80, constructed much like clips 21 for jalousie panes 20, and having an inwardly extending flange 106 which is riveted to closure support 60 at 107 just as the jalousie structure is pivoted to closure support 60 at 51. The bottom edge of side clip 105 has an upturned lip 108 for supporting the weight of pane 80 vertically and, as indicated, the top and bottom edges of stationary pane 80 are sealed against weather by the resilient gaskets 45 and 46 on top and bottom frame members 15 and 16. Although Fig. 10 shows closure support 60, with its stationary pane adapter 105, as being engaged in mullion 85, it will be obvious that the same closure support structure can also be engaged in side frame members 17 as explained above.

It will also be apparent from the foregoing that, just as with top, bottom, and side frame members 15-17, mullion 85 may be produced as a single extrusion and need only be cut to length to fit the size of the windows. The ends of mullions 85 engaging the top and bottom frame members are square cut, like the ends of side frame members 17, and held in position along a substantial bearing line by screws 89. Actually, one or more mul-

6

lions 85 can be added to an already existing window and without disassembly or removing the window frame. Thus an existing large window can be converted into a series of smaller windows by simply removing the existing closure as described and inserting into the frame one or more mullions 85 with appropriate new closure supports to accommodate whatever new type closure is desired. Similarly, even a mullioned window, according to this invention, requires merely that a maximum of three different extensions for the frame and a fourth for the mullion be carried in stock to provide a window of virtually any size and virtually any number of subdivisions. In addition thereto, there need only be carried in stock support members for the various types of closures desired, all of which are merely square cut to length without complicated joining operations in fabricating or prefabricating the windows and, with the interchangeability of these closure supports in the same frame, complete versatility is provided according to the invention. These support members are accordingly advantageously referred to as adapters, since by simple exchange of one type for another, an entirely different closure can be mounted in the same window opening without requiring any modification of the frame members already installed therein.

Also, with a single window, or with multiple windows, an interior screen (or, in wintertime, an interior storm window) is provided having a frame 22 with screening or storm window closure 23. Such a screen or storm window is readily and releasably attached as by means of clips 110 to the interior framing flanges 26, 31, and 36 of the top, bottom and side frame members 15-17 and/or to interior flange 86 or mullion 85 so that the screen or storm window 22, 23 may be provided to cover the whole interior of a window embodying this invention or merely one or more sections or subdivisions thereof.

Furthermore, as indicated in Fig. 12, an interlocking arrangement is provided, preferably in windows where the closure is of the jalousied type, to prevent any tendency of the operating mechanism to urge or force the closure supports upwardly against the top of the window. This arrangement includes a notch 71 near the top of arm 65 of closure support member 60 and positioned to receive a portion 72 of one of the ribs 68 which is bent to project into the adjacent groove 69. Upon assembly, the indent 72 engages in notch 71 for positive locking of the closure support 60 against upward movement during operation of the closure mechanism.

It will accordingly be seen that a window construction embodying this invention provides extreme versatility in size and variety of windows and requires but a minimum number of different parts for the assembly of windows of various sizes and types as well as for the conversion from one type of window to one or more different types of window readily and with a minimum of complicated joining, assembly, or disassembly operations, and provides a structure in which the closure mechanism can be readily replaced and/or repaired and/or interchanged and/or converted to a different type as desired.

While the forms of apparatus herein described constitute preferred embodiments of the invention, it is to be understood that the invention is not limited to these precise forms of apparatus, and that changes may be made therein without departing from the scope of the invention which is defined in the appended claims.

What is claimed is:

1. A window construction adapted for selective incorporation of a plurality of closures including jalousie panes, stationary panes and the like, comprising a pair of frame members of extruded material of relatively thin section proportioned to extend substantially from top to bottom of a window opening of predetermined size, each said frame member including a main web portion adapted

to extend from front to back of said window opening throughout the full height thereof, means for securing said frame members in said opening in predetermined laterally spaced relation for mounting therebetween a closure of predetermined structure and predetermined width corresponding to said spaced relation of said frame members, a pair of adapters for supporting said closure associated with and of substantially the same height as said frame members, said adapters being of generally channeled structure in horizontal section including two parallel side flanges, rib means extending vertically on the opposed surfaces of said frame members adjacent the front of said web portions thereof and proportioned for frictionally interfitting telescoping engagement with said flanges of the associated said adapter to hold said adapter against movement normal to the plane of said opening, retaining means on said adapters for receiving and holding said closure in laterally fixed relation with said adapters following said engagement of said flanges with said rib means, said retaining means including portions for laterally overlapping said closure to hold said closure in bracing relation with said adapter against movement toward each other tending to cause disengagement of said flanges from said rib means, and said frame members each including an integral framing flange extending substantially normally from the inner edge of said web portion thereof toward the other said frame member to provide support for an additional closure located inwardly of said predetermined closure and to provide support for operator means when said predetermined closure is of the jalousie type.

2. A window construction adapted for selective incorporation of a plurality of closures including jalousie panes, stationary panes and the like, comprising a pair of frame members proportioned to extend substantially from top to bottom of a window opening of predetermined size in a wall and each including a main web portion adapted to extend from front to back of said opening throughout the full height thereof, means for securing one of said frame members in one side of said opening in abutting relation with the portion of the wall defining said side of said opening, means for securing the other said frame member in predetermined laterally spaced relation with said one frame member for mounting therebetween a main closure of predetermined structure and predetermined width corresponding to said spaced relation of said frame members, a pair of adapters for supporting said closure associated with and of substantially the same height as said frame members, said adapters being of generally channeled structure in horizontal section including two parallel side flanges, rib means extending vertically on the opposed surfaces of said frame members adjacent the front of said web portions thereof and proportioned for frictionally interfitting telescoping engagement with said flanges of the associated said adapter to hold said adapter against movement normal to the plane of said opening, retaining means on said adapters for receiving and holding said closure in laterally fixed relation with said adapters following said engagement of said flanges with said rib means, said retaining means including portions for laterally overlapping said closure to hold said closure in bracing relation with said adapters against movement toward each other tending to cause disengagement of said flanges from said rib means, said one frame member including a framing flange extending substantially normally from said web portion thereof to overlie the front side edge of said wall portion, and said frame members each including a framing flange extending substantially normally from the inner edge of said web portion thereof toward the other said frame member to provide support for an additional closure located inwardly of said main closure and to provide support for operator means when said main closure is of the jalousie type.

3. A window construction of the jalousie type adapted to include a plurality of panes as the closure thereof,

comprising a pair of frame members proportioned to extend substantially from top to bottom of a window opening of predetermined size, each said frame member including a main web portion adapted to extend from front to back of said window opening throughout the full height thereof, means for securing said frame members in said opening in predetermined laterally spaced relation for mounting jalousie panes of predetermined width corresponding to said spaced relation of said frame members, a pair of adapters for supporting said panes associated with and of substantially the same height as said frame members, said adapters being of generally channeled structure in horizontal section including two parallel side flanges, rib means extending vertically on the opposed surfaces of said frame members adjacent the front of said web portions thereof and proportioned for frictionally interfitting telescoping engagement with said flanges of the associated said adapter to hold said adapter against movement normal to the plane of said opening, holder means for said panes on said adapters including pivot means extending through said adapters to the interior thereof between said side flanges, said holder means including retaining members constructed to receive said panes therein in overlapping relation with the ends of said panes following said engagement of said flanges with said rib means to hold said panes in bracing relation with said adapters against movement toward each other tending to cause disengagement of said flanges from said rib means, at least one of said frame members including a framing flange extending substantially normally from the inner edge of said web portion thereof toward the other said frame member, and operating means for said panes mounted on said framing flange and operatively connected with said holder means.

4. A window construction of the jalousie type adapted to include a plurality of panes as the closure thereof, comprising a pair of frame members proportioned to extend substantially from top to bottom of a window opening of predetermined size, each said frame member including a main web portion adapted to extend from front to back of said window opening throughout the full height thereof, means for securing said frame members in said opening in predetermined laterally spaced relation for mounting jalousie panes of predetermined width corresponding to said spaced relation of said frame members, a pair of adapters for supporting said panes associated with and of substantially the same height as said frame members, said adapters being of generally channeled structure in horizontal section including two parallel side flanges, rib means extending vertically on the opposed surfaces of said frame members adjacent the front of said web portions thereof and proportioned for frictionally interfitting telescoping engagement with said flanges of the associated said adapter to hold said adapter against movement normal to the plane of said opening, holder means for said panes on said adapters including pivot means extending through said adapters to the interior thereof between said side flanges, said holder means including retaining members constructed to receive said panes therein in overlapping relation with the ends of said panes following said engagement of said flanges with said rib means to hold said panes in bracing relation with said adapters against movement toward each other tending to cause disengagement of said flanges from said rib means, at least one of said frame members including a framing flange extending substantially normally from the inner edge of said web portion thereof toward the other said frame member, operating means for said panes mounted on said framing flange and operatively connected with said holder means, and means on each said frame member arranged in vertically overlapping relation with a portion of its associated adapter to lock said adapter against vertical movement with respect to said frame member.

5. A window construction adapted for selective incor-

poration of a plurality of closures including jalousie panes, stationary panes and the like, comprising a pair of frame members of extruded material of relatively thin section proportioned to extend substantially from top to bottom of a window opening of predetermined size in a wall, each said frame member including a main web portion adapted to extend from front to back of said window opening throughout the full height thereof, means for securing said frame members at opposite sides of said opening in abutting relation with the respective portions of the wall defining said sides of said opening, at least one vertical mullion member associated with and of the same height as said frame members, means for securing said mullion member in said opening in laterally spaced relation with both of said frame members to provide a plurality of window sections in said opening of predetermined width for receiving closures of predetermined structure and corresponding predetermined width, a pair of adapters of substantially the same height as said frame members for supporting each said closure, said adapters being of generally channeled structure in horizontal section including two parallel side flanges, rib means extending vertically on the opposed surfaces of said frame members adjacent the front of said web portions thereof and on both surfaces of said mullion member proportioned for frictionally interfitting telescoping engagement with said flanges of the associated said adapter to hold said adapter against movement normal to the plane of said opening, retaining means on said adapters for receiving and holding said closure in laterally fixed relation with said adapters following said engagement of said main flanges with said rib means, said retaining means including portions for laterally overlapping said closure to hold said closure in bracing relation with said adapter against movement toward each other tending to cause disengagement of said flanges from said rib means, an integral framing flange extending substantially normally from said web portion of each of said frame members away from the other said frame member to overlie the front side edge of the adjacent said wall portion, and an integral framing flange extending substantially normally from the inner edge of said web portion of each said frame member toward the other said frame member and from the inner edge of said mullion member toward both said frame members to provide support for an additional closure located inwardly of each said predetermined closure and to provide support for operator means when said predetermined closure is of the jalousie type.

6. A window construction adapted for selective incorporation of a plurality of closures including jalousie panes, stationary panes and the like, comprising a pair of frame members proportioned to extend substantially from top to bottom of a window opening of predetermined size in a wall, each said frame member including a main web portion adapted to extend from front to back of said window opening throughout the full height there-

of, means for securing said frame members at opposite sides of said opening in abutting relation with the respective portions of the wall defining said sides of said opening, at least one vertical mullion member of the same height as said frame members and including a main web portion adapted to extend from front to back of said opening, means for securing said mullion member in said opening in laterally spaced relation with both of said frame members to provide a plurality of window sections in said opening of predetermined width for receiving closures of predetermined structure and corresponding predetermined width, means cooperating with each of said frame members for supporting one side edge of the associated said closure adjacent the front edge of said web portion of said frame member, a pair of adapters associated with said mullion member and of substantially the same height as said frame members for supporting the other side edge of each said closure, said adapters being of generally channeled structure in horizontal section including two parallel side flanges, rib means extending vertically on both surfaces of said mullion member adjacent the front of said web portion thereof for frictionally interfitting telescoping engagement with said flanges of the associated said adapter to hold said adapter against movement normal to the plane of said opening, retaining means on said adapters for receiving and holding said closure in laterally fixed relation with said adapters following said engagement of said main flanges with said rib means, said retaining means including portions for laterally overlapping said closure to hold said closure in bracing relation with said adapter against movement toward each other tending to cause disengagement of said flanges from said rib means, and a framing flange extending substantially normally from the inner edge of said web portion of each said frame member toward the other said frame member and from the inner edge of said mullion member toward both said frame members to provide support for an additional closure located inwardly of each said predetermined closure and to provide support for operator means when said predetermined closure is of the jalousie type.

References Cited in the file of this patent

UNITED STATES PATENTS

1,018,896	Frey	Feb. 27, 1912
1,554,135	Seelar	Sept. 15, 1925
1,608,672	Rappaport	Nov. 30, 1926
1,961,006	Marty	May 29, 1934
2,114,617	Verhagen	Apr. 19, 1938
2,605,869	Backman	Aug. 5, 1952
2,654,921	Blanchard	Oct. 13, 1953
2,736,403	Gwynne	Feb. 28, 1956
2,762,474	Sylvan	Sept. 11, 1956
2,775,798	Bent	Jan. 1, 1957
2,780,328	Yoder	Feb. 5, 1957

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 2,904,854

September 22, 1959

Robert M. Adamson

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 6, line 10, for "extensions" read -- extrusions --.

Signed and sealed this 22nd day of March 1960.

(SEAL)

Attest:

KARL H. AXLINE
Attesting Officer

ROBERT C. WATSON
Commissioner of Patents