Dec. 1, 1942. H. HASENBURGER ET AL 2,303,739

WINDOW AND DOOR CASING CONSTRUCTION

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Fig. 1.

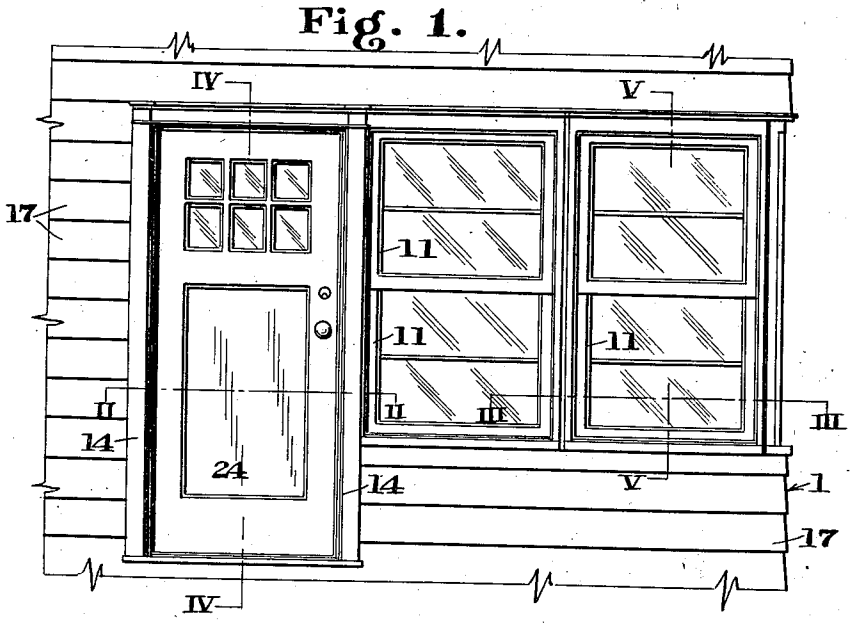
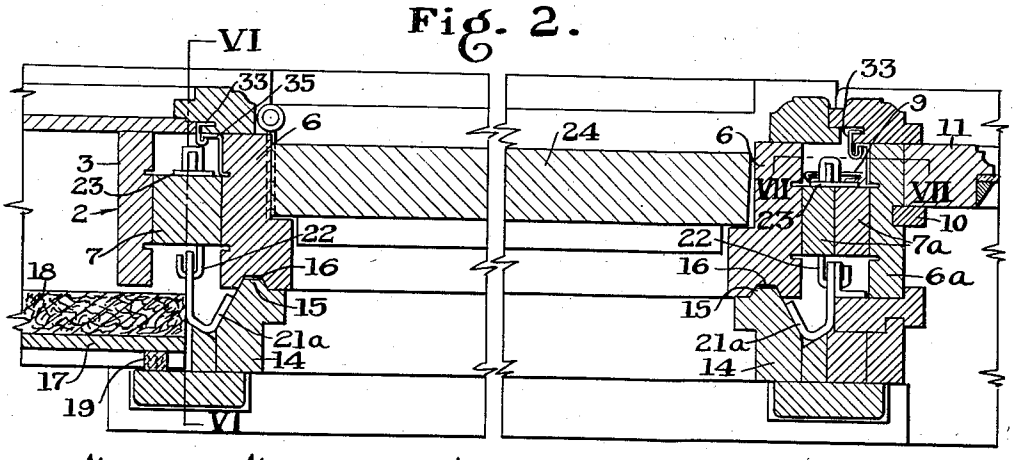


Fig. 2.



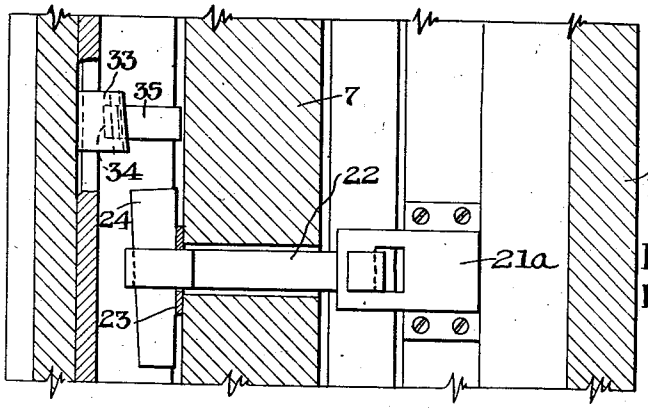


Fig. 6.

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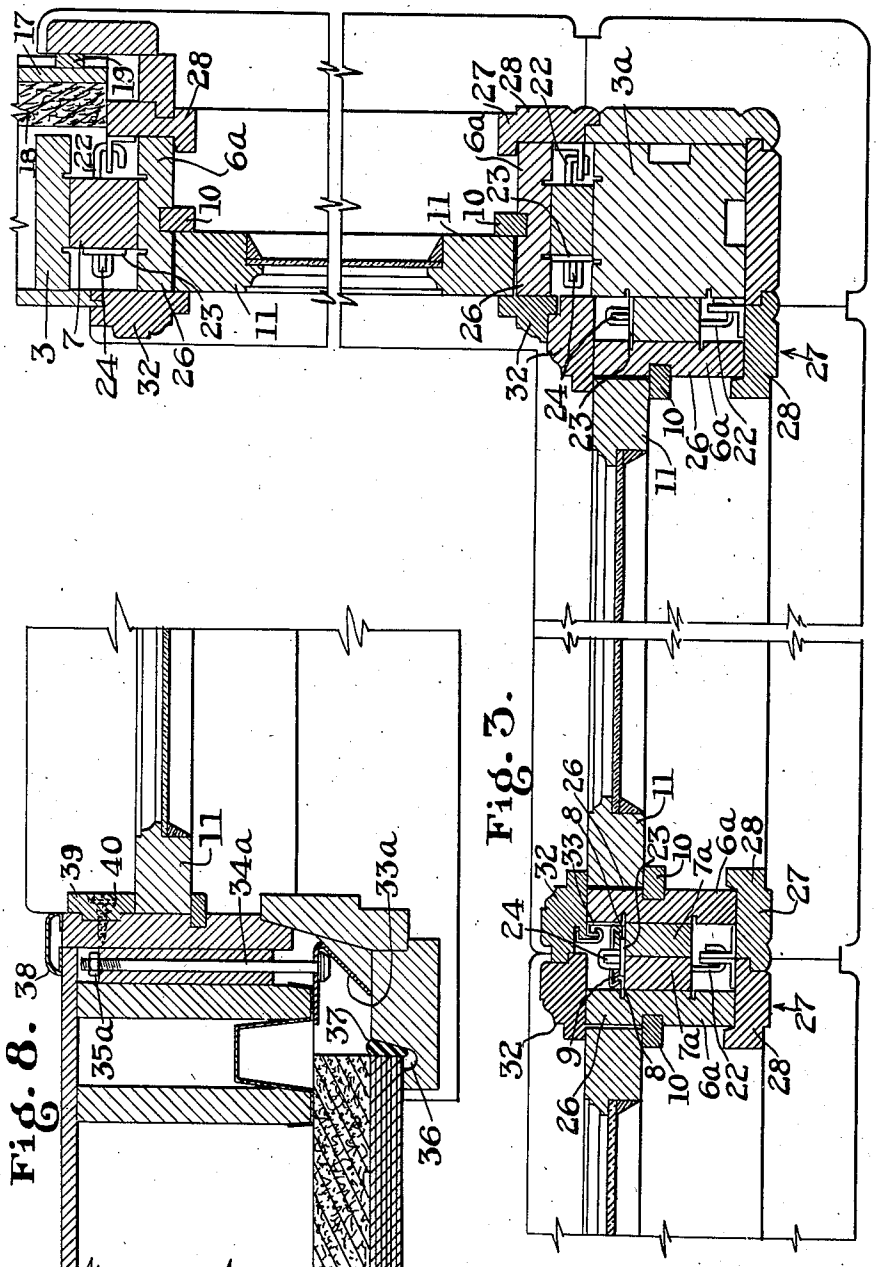


Fig. 3.

Fig. 8.

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WINDOW AND DOOR CASING CONSTRUCTION

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Fig. 4.

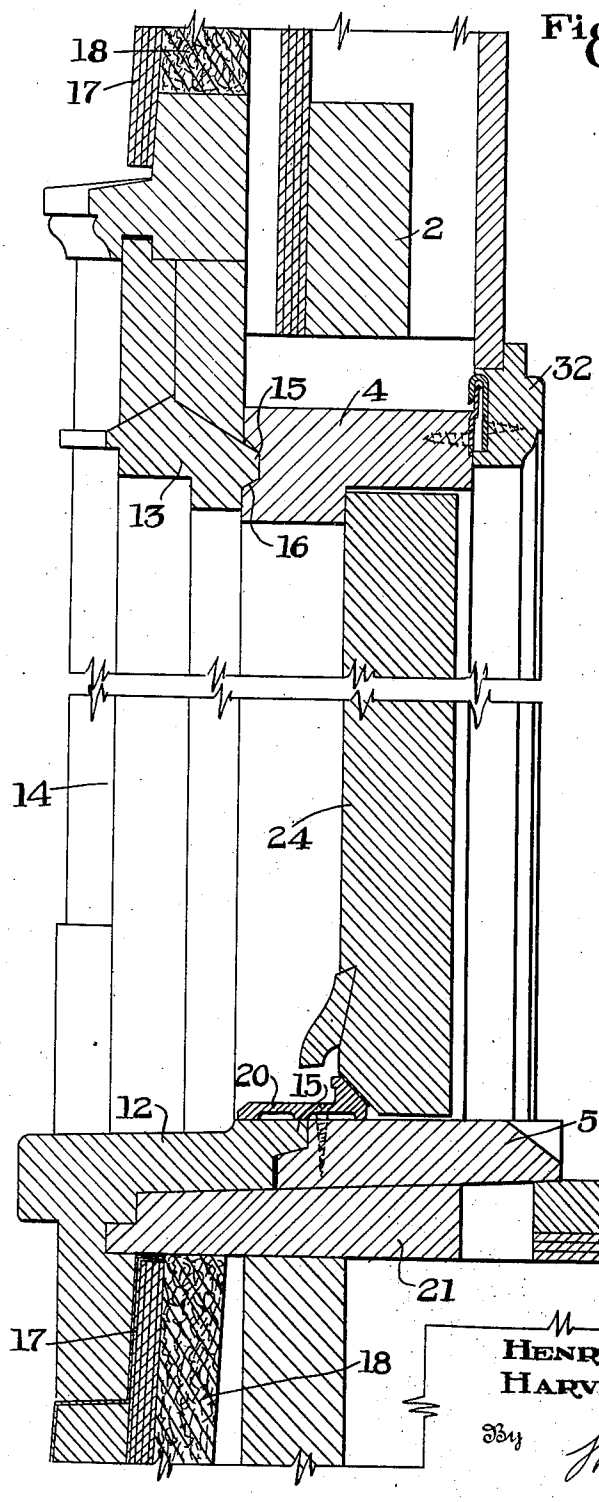
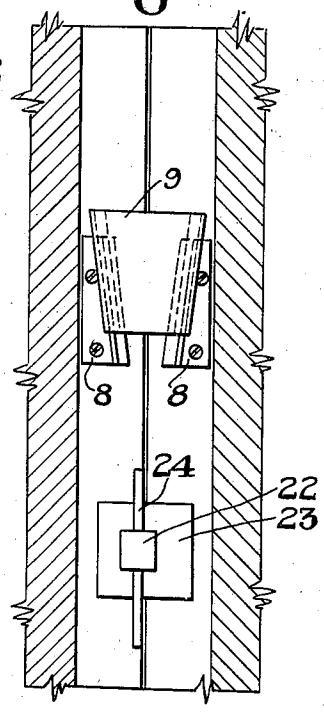


Fig. 7.



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Fig. 5.

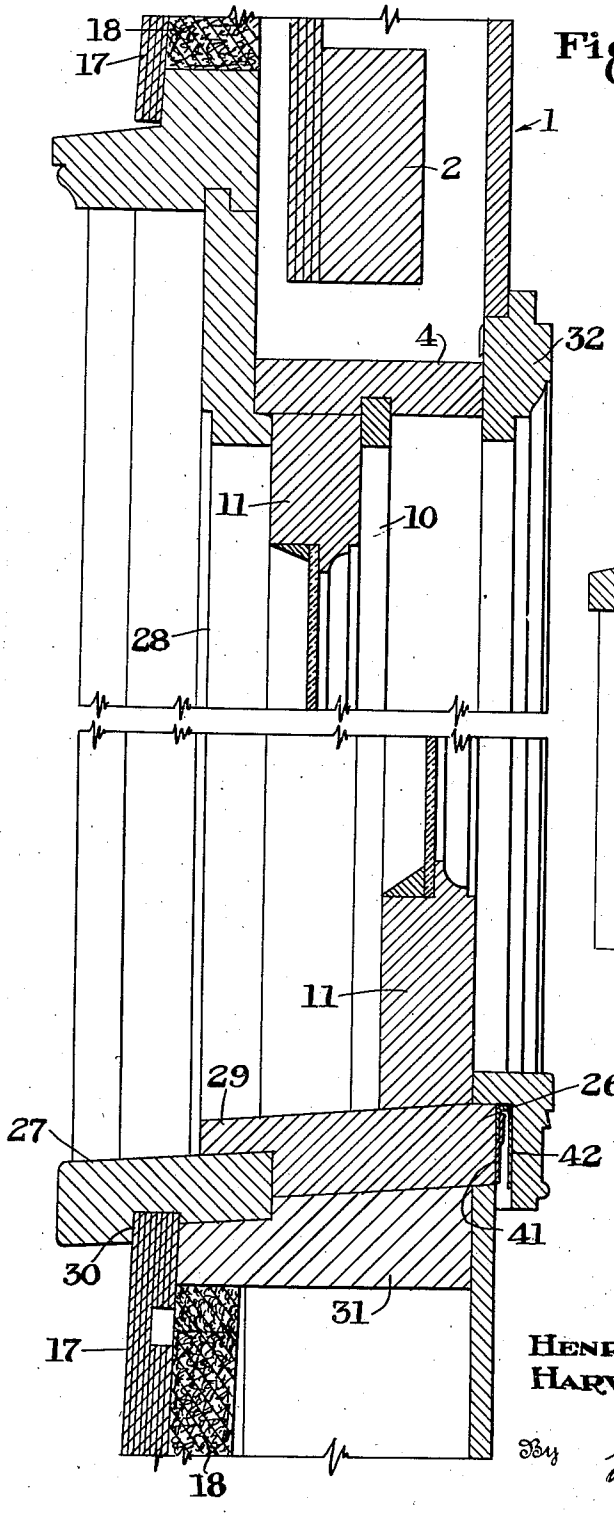
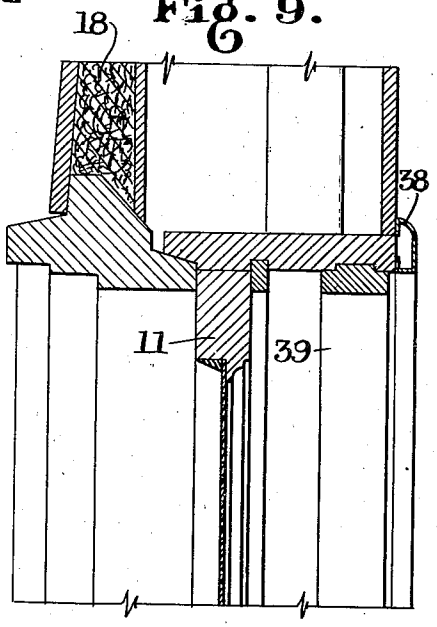


Fig. 9.



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UNITED STATES PATENT OFFICE

2,303,739

WINDOW AND DOOR CASING CONSTRUCTION

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Application September 18, 1940, Serial No. 357,296

6 Claims. (Cl. 20—11)

This invention relates generally to building construction and is particularly directed to novel window and door casings and method of installing the same, the main object being the formation of such devices which will be especially adaptable to prefabricated buildings due to the ease with which they may be produced by mass production methods, the speed with which they may be assembled and the beauty of the structure resulting from their use.

It is an object of the invention also to produce window and door casings having inner and outer frame units, the former being provided with sash or door-receiving and guiding means and the latter with means for engaging the former and the exterior finishing material of the building to cover the joints between these parts and thus ornament the building.

Another object resides in the provision of means through the use of which the various parts of the casings may be assembled in proper position in the building framework with speed and accuracy without requiring the use of special tools or the services of skilled workmen.

A minor object rests in positioning relatively resilient strip-like gaskets between the exterior frame units and the exterior wall finishing materials to resist the entrance of moisture, insects and other foreign matter as well as heat and cold.

A still further object rests in so forming certain of the parts of the window and door casings that trim strips may be secured in ornamental, joint-covering positions through the use of metallic clips which loosely engage the door and window casing parts, thus eliminating the necessity of screwing or nailing these parts in place and the consequent loss of time incident thereto.

Additional objects will be apparent from the following description of the forms of the invention illustrated in detail in the accompanying drawings.

Fig. 1 is an elevational view of one corner of a building in which door and window casings formed in accordance with the present invention have been installed;

Fig. 2 is a horizontal sectional view taken through the door casing on the plane indicated by the line II—II of Fig. 1;

Fig. 3 is a similar view through the window casing on the plane indicated by the line III—III of Fig. 1;

Fig. 4 is a vertical sectional view on a slightly enlarged scale through the door casing, the plane of this figure being indicated by the line IV—IV of Fig. 1;

Fig. 5 is a similar view taken through a window casing on the plane indicated by the line V—V of Fig. 1;

Fig. 6 is a detail vertical sectional view taken through the door casing on the plane indicated by the line VI—VI of Fig. 2;

Fig. 7 is a detail vertical sectional view taken on the plane indicated by the line VII—VII of Fig. 2;

Fig. 8 is a detail horizontal sectional view taken through one side of a window casing embodying a slightly modified form of the invention;

Fig. 9 is a vertical sectional view taken through the upper end of the modified form of window casing.

Referring more particularly to the drawings, the numeral 1 designates a building wall. In the form of the invention illustrated in Figs. 1 to 7 inclusive, the wall 1 is provided with window and door casings grouped in one corner or at one end of the building wall. The wall 1 includes an internal frame structure 2 having a plurality of vertically extending studs 3 between which one or more window and door openings are formed.

In the type of corner window illustrated, a stud 3a is disposed at a corner of the building. This stud, together with the studs 3, support the window structure. While both forms of the invention include double sash windows, it is obvious that other types such as swinging windows may be employed without departing from the principles of the invention.

The construction of the door and window casings is quite similar in that each includes inner and outer frame sections, the former being provided with upper and lower horizontally extending bars 4 and 5 which are connected by vertical side stiles 6, the bars and stiles being connected in any suitable manner to form a rigid unit. These units may be produced in the factory under mass production methods and shipped in their assembled condition to the building site. When the door and window casings are assembled in the building frame, the side stiles are disposed in parallel relationship with the adjoining studs of the building frame, spacing blocks 7 being placed therebetween to maintain the positions of the frames with respect to the building framework.

When doors and windows are grouped together as shown in Fig. 1, the inner frame sections have their side stiles provided with spacing blocks 7a which are approximately one-half the thickness of the blocks 7. The blocks 7a are disposed in registration and each thereof is provided with longitudinally spaced metallic plates 8 on which angular flanges are formed. The plates on the half blocks are disposed in registration in order that a clamping wedge plate 9 may be engaged therewith, this plate having inclined flanges at the sides for engagement with the flanges on the plates 8. As the clamping plate is moved longitudinally of the plates 8, the ad-

joining stiles will be drawn together or at least forces tending to perform this operation will be applied thereto to maintain the position of the inner window frames with respect to the building framework.

The exposed sides of the stiles 6a for the window casings have a strip 10 secured thereto to divide the sides into a pair of guideways for the reception of window sash 11. These latter members may be of any desirable form, the conventional sash being illustrated merely for convenience.

After the inner section of the door casing has been positioned, the outer section may be slipped into place and secured to the building frame. The outer section also includes transversely and vertically extending bars 12, 13 and 14 which may be formed from solid sections of lumber or other suitable materials or may be built up of a plurality of strips as illustrated. Each of the bars of the outer section is provided on its inner surface with a rib 15 formed for disposition in longitudinally extending recesses 16 in the complemental surfaces of the bars and stiles of the inner frame. This interfitting of ribs and grooves serves to locate the outer slip frame in its applied position and to form a weatherproof joint. Prior to applying the outer section, the exterior finish panels 17 are applied to the building frame. These panels may be of the clapboard design and formed of any suitable material, plywood or similar composition material being shown herein. Between the finish panels and the building frame, insulating material 18 is placed to prevent loss or entrance of heat. The outer frame overlaps the finish panels around the door opening and a compressible strip 19 of cork or rubber is disposed between the outer frame and the end portions of the panels to prevent the entrance of moisture or air. The strips 19 may be directly secured to the frame or may be provided with adhesive to permit the installation immediately prior to the application of the frame to the building.

As shown in Fig. 4, the upper bar 13 of the outer section of the door frame is disposed back of the finish panel immediately thereabove. Below this finish panel, the bar is suitably ornamented to enhance the appearance of the finished structure. If desired, the upper portion of this bar and the upper surface of the bulging enlargement may be coated with a metallic flashing to prevent premature deterioration. The lower bar of the exterior door section overlaps the lower bar of the inner door section and forms a complete door sill. The joint between the sections is covered by a metallic sill strap 20. Suitable blocking 21 may be provided below the inner section of the door casing to support this member in the building frame.

To maintain the outer section in its applied position, the side stiles 14 have perforated hook-shaped plates 21a secured thereto in longitudinally spaced relation. The perforations in these plates receive the hook ends of attaching straps 22 which extend through openings formed in the spacing blocks 7 and 7a and have their inner ends bent back to form U-shaped portions which project through wearing plates 23 in engagement with the inner surfaces of the spacer blocks in registration with the openings. Wedge-shaped bars 24 are placed in the U-shaped ends of the straps 22. By moving the bars 24 into the sockets provided by the straps 22, the outer frame sections may be drawn into firm engagement with the inner frames and the entire assembly securely clamped in proper position. A suitable door 24 may be hinged to one of the stiles 6 to close the door opening.

The construction of the window casings is substantially the same as that of the door casing except for the formation of the guides for the window sash previously mentioned. The windows may be of any desirable length but in the present illustration, are considerably shorter than the door and terminate in spaced relation from the floor 25. The window casings include the inner and outer frames 26 and 27 respectively, the latter having vertically extending side bars 28 which overlap the side stiles of the inner window frame sections and close the outer sides of the sash guides. The window frame sections have inner and outer sill bars, the latter being disposed beneath an outwardly directed lip 29 on the former to provide a watershed. The outer sill has a groove 30 formed in its under side to receive the exterior finish panels immediately below the window. Transverse blocking strips 31 extend between the studs below the inner frame sections to support these members in proper position in the building framework. The exterior sections of the window frames are secured in their applied positions in the same manner as the door frame is secured. The attaching mechanism is merely duplicated.

To finish the interior of the wall around the window openings, trim strips 32 are employed, these strips being ornamented in any desirable manner and having overlapping means to further prevent the loss of heat. The trim strips are secured to the window frames by positioning a flange of a clip 33 in a slot extending longitudinally of the trim strip. The clip has its inner end formed with an inclined lip with which a hook 34 provided on a strap 35 may be engaged. The opposite end of the strap 35 is also positioned in a slot formed in the inner surface of the side stile of the inner section of a window frame. When the clip 33 is moved relative to the strap 35, the trim strip will be drawn into firm engagement with the inner edge of the side stile 6a and rigidly secured in position to cover the joint between the window frames or one frame and the adjoining portion of the wall. Suitable interior finish panels may be applied to the inner portions of the building framework prior to installing the trim strips.

As disclosed in Figs. 2 and 3, the trim strips project over the edges of the side stiles to form the inner walls of the sash guides. By reason of the construction shown, the trim strips may be readily removed when it is desired to remove a sash to install a new glass panel or otherwise service the sash.

In Figs. 8 and 9, a slightly modified form of window casing has been shown. Inner and outer sections are employed, the shape being slightly changed to facilitate the attachment to the building frame. The outer frame section has sheet metal clips 33a secured thereto, these clips being formed with slots for the reception of the headed ends of bolts 34a. The threaded ends of these bolts are provided with nuts 35a to engage the spacer blocks in securing the outer frame in registration with the window opening. In this form, the vertically extending side bars of the outer frame section have longitudinally extending grooves 36 formed in their rear surface to permit moisture to drain from between the frame

and the exterior finish panels where it may be trapped by the flexible sealing member **37**.

In the modified form, the trim strips **38** are slightly different from those in the preferred form and these may be secured to the frame section in any desirable manner. In Figs. 8 and 9, separate strips **39** are employed to complete the inner sash guide. These strips are secured to the inner frame section through the use of wood screws **40**. In Figs. 4 and 5, the inner trim strips are secured to the inner frame by means of interengaging male and female clip members **41** and **42**, the former being secured to the transversely extending bars of the inner window frame sections and the latter being carried by the trim strips. The strips are notched at their central portions to receive the clips **42** in order that they may be hidden from view.

From the foregoing, it will be apparent that window and door casing constructions have been developed which readily lend themselves to mass production and use in prefabricated building construction. Each casing is a separate unit which may be employed either individually or may be grouped with similar casings as shown in the drawings. The casings may be installed by relatively unskilled labor without the use of special tools or other equipment. They may be quickly applied and will produce a window construction having superior appearances and one which will not readily get out of operating order.

While the invention has been illustrated in but two forms, it is obvious that many minor changes may be made in the construction and relation of parts without departing from the spirit and scope of the invention as set forth in the appended claims.

What is claimed is:

1. In a building, a frame structure having a pair of stud members spaced to provide a window opening, a rectangular window casing positioned in said opening, said casing having upper and lower transverse bars connected by vertical side stiles, the latter elements being disposed in parallel relation to said stud members, spacer blocks between said side stiles and said stud members, finish siding panels secured to the outer edges of said studs around said window opening, an ornamental slip frame overlapping parts of the window casing and the portions of the siding panels adjacent to said window opening, and readily detachable fastening means carried by said slip frame and engaging said spacer blocks to removably secure said slip frame in applied position.

2. In a building, a frame structure having a pair of stud members spaced to provide a window opening, a rectangular window casing positioned in said opening, said casing having upper and lower transverse bars connected by vertical side stiles, the latter elements being disposed in parallel relation to said stud members, spacer blocks between said side stiles and said stud members, finish siding panels secured to the outer edges of said studs around said window opening, an ornamental slip frame overlapping parts of the window casing and the portions of the siding panels adjacent to said window opening, waterproof packing means between said slip frame and said finish panels, and readily detachable fastening means carried by said slip frame and engaging said spacer blocks to removably secure said slip frame in applied position.

3. In a building of the type having a pair of stud members spaced to provide a window opening, a demountable window comprising a substantially rectangular window frame positioned in said opening, said frame having upper and lower transverse bars connected by vertical side stiles, the latter elements being disposed in parallel relation to said stud members, spacer block means between said side stiles and said stud members, finish siding means secured to the outer edges of said studs around said window opening, an ornamental slip frame disposed on the exterior of the building in registration with the window opening and overlapping the window frame and the portions of the siding means adjacent to the window opening, clip means carried by said slip frame, and securing elements engaging said clip means and said spacer blocks to retain said slip frame in applied position.

4. In a building of the type having a framework formed with an enlarged opening, a plurality of inner window frame units positioned in side by side relationship in said opening, each of said inner frames having top and bottom bars joined by vertical stiles, registering spacer blocks carried by adjacent stiles, means cooperating with said spacer blocks for joining said frame units, slip frames disposed on the exterior of said building framework in registration with said inner frames, means formed on said inner and slip frames for locating each with respect to its complemental member, and means carried by the slip frames and engaging said spacer blocks to secure the slip frames in assembled relationship.

5. In a building of the type having a framework with stud members spaced to provide an opening, finish siding means secured to the side edges of said stud members at the sides of said opening, the distance between the siding at opposite sides of said opening being no less than the distance between said stud members, casing means for said opening, said casing having an inner section provided with upper and lower rails spaced by side stiles disposed in parallel relation with said stud members, spacer block means disposed between said stud and side stiles and secured to one thereof, said means having openings therein, a slip frame positioned in registration with said opening, said slip frame overlapping portions of said finish siding adjacent to said opening and parts of said inner casing section, perforated clip means carried by the inner side of said slip frame, hook straps connected with said clip means and positioned in the openings in said spacer blocks, and wedge bars engaging the end portions of said straps to secure the slip frame in operative position.

6. In a building of the type having a framework with stud members spaced to provide an opening, frame means for said opening having inner and outer sections, said sections being provided with vertically extending parallel side stiles maintained in fixed relation by upper and lower transversely extending bars, spacing means disposed between adjacent stiles of said inner frame sections and said studs, flanged plate means carried by said spacing means in registering relationship, wedge plate means detachably engaged with said flanged plates to connect said stiles and studs, and means extending through said spacing means to secure said outer frame section to said inner frame section.

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