March 8, 1960 A. J. CHENOWETH 2,927,352

PREFABRICATED DOOR AND DOOR FRAME UNIT

Filed Dec. 26, 1956 3 Sheets-Sheet 1

FIG. 1

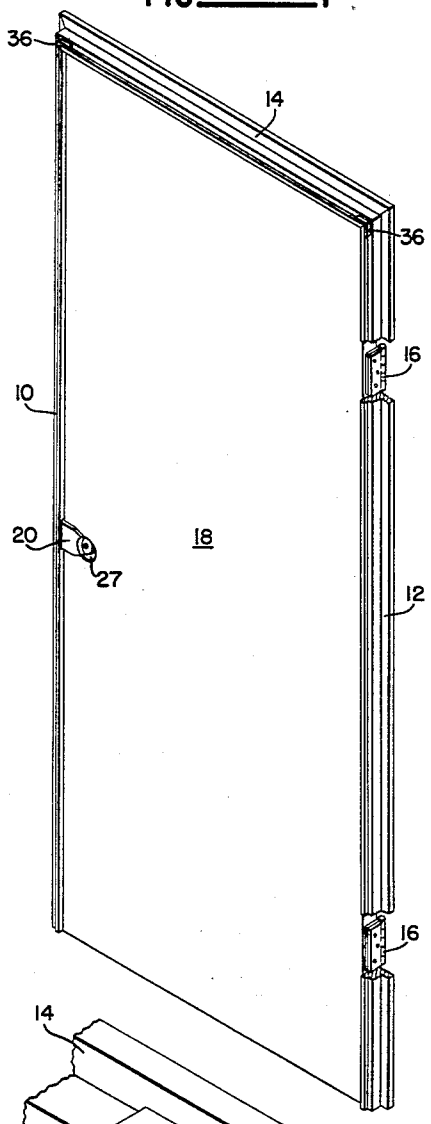


FIG. 4

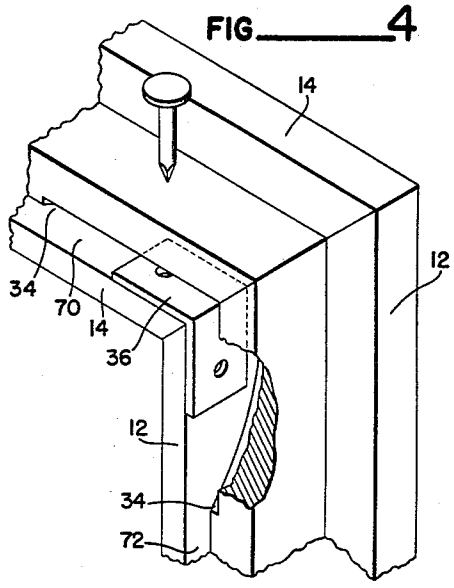


FIG. 2

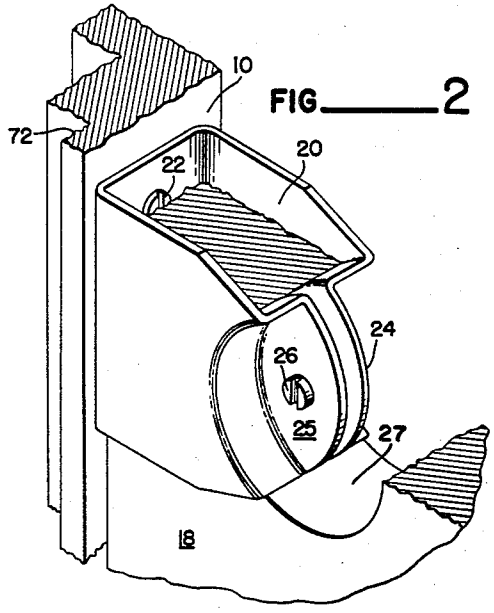
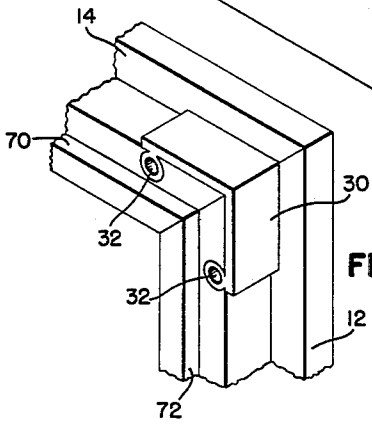


FIG. 3



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PREFABRICATED DOOR AND DOOR FRAME UNIT

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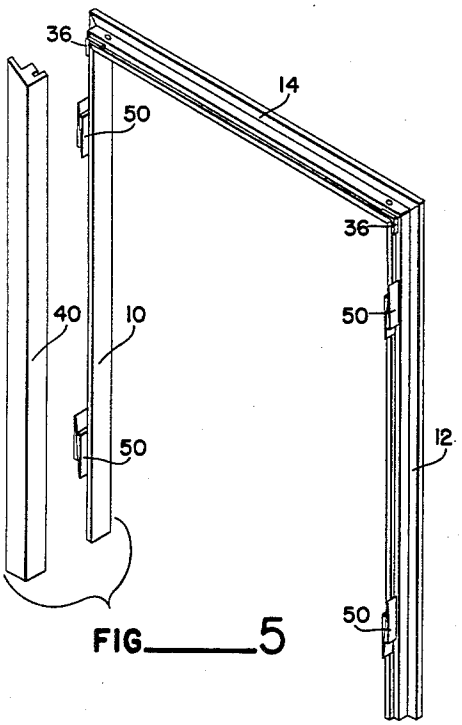


FIG. 5

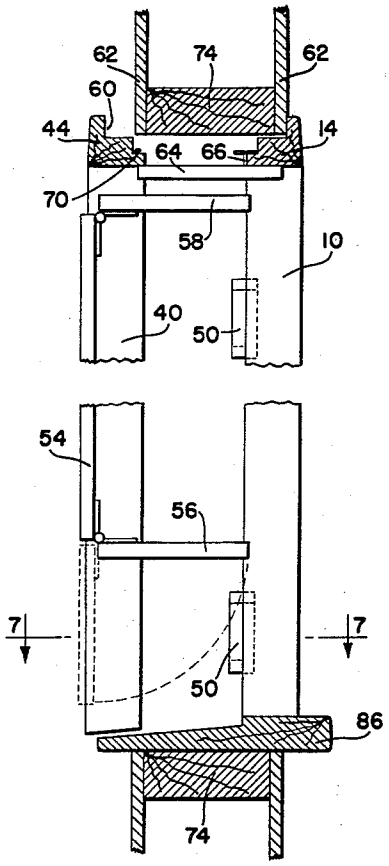


FIG. 6

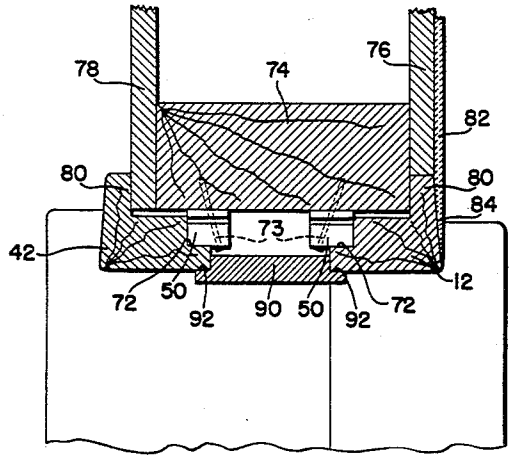


FIG. 7

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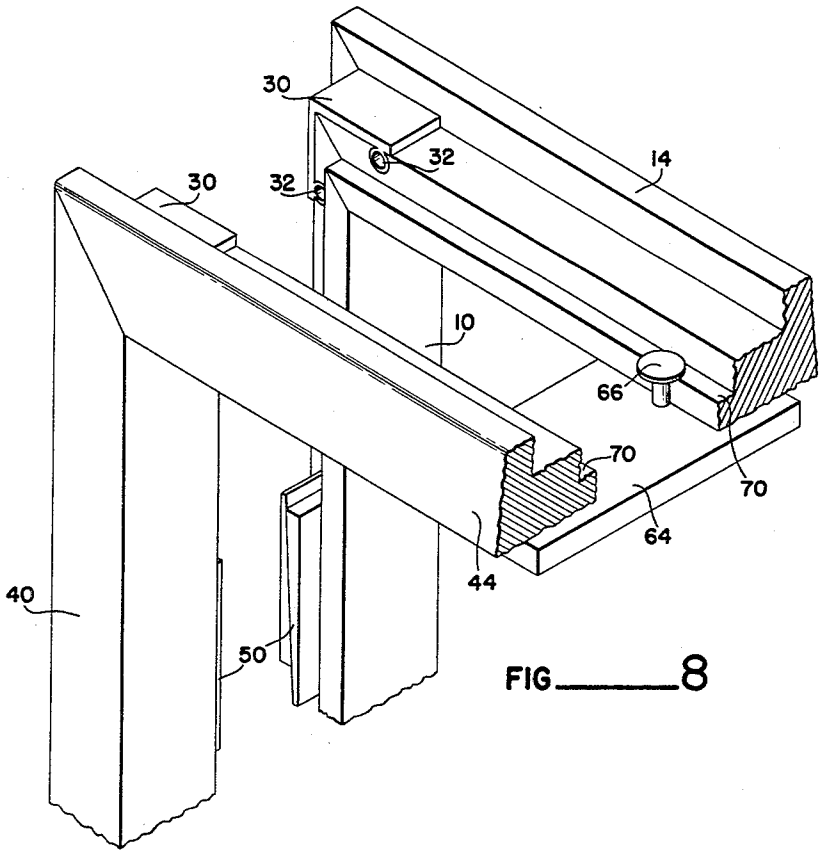


FIG. 8

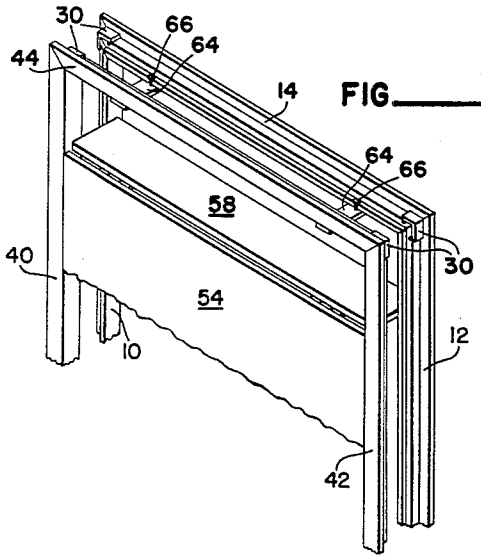


FIG. 9

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PREFABRICATED DOOR AND DOOR FRAME UNIT

Albert J. Chenoweth, Winslow, Wash.

Application December 26, 1956, Serial No. 630,667

5 Claims. (Cl. 20—16)

This present invention relates to the general field of wooden door and window construction, and more particularly to a frame for a door or window which is normally made in two complete frame units—one for use on one side of the door or window elements, and the other for use on the opposite side. These two frame members are joined together by the stop. The door is shipped from the factory in one of the frame members, to the end that the hinges can be mounted in both the door and the door frame so that they will be precision cut and need no further attention from the carpenters who assemble the frames at the house building site. After the one portion of the framing and door is put in place, this member is used as a guide for the completing frame member and these two frame members when positoned, are joined by the stop member to complete the frame.

One of the ever present problems, in present-day home-building especially, is to keep the cost of the labor component of the house to a minimum. Due to the unquestioned demand for homes, there are now being employed as carpenters a great number of men of quite limited experience and skill, and these men receive the high wages normally paid to carpenters. It is therefore very desirable to take fullest advantgae of any current technological developments in machine tools, to the end that every bit of work that can be practically done in a factory should be done, thereby greatly reducing the on-the-job site labor. This present invention is believed to solve this problem in a very practical manner, in that all the time-consuming precision fitting, wherein a door is fitted to its frame and the frame is in turn fitted to the wall framing of a house—and the same applies to window framing—has largely been done in the factory. There remains only to set the unit into the house framing and to get one of the principal vertical members plumb. With this established as a base, the balance of the door framing will have to be plumb and the door hung proper for best installation of the door. This arrangement entirely obviates the old time-consuming job for a skilled man, namely, that of hanging a door in a door opening so that it will swing freely.

The principal object of my present invention, therefore, is to provide as a factory-built sales unit, a door or a window with the various components that will make up the framing and marginal trim.

A further object of this invention is to provide a factory built door or window package that can be set in place by persons of limited skill and in a very minimum of time.

A further object of this invention is to provide as an article of manufacture, a factory built door or window and associated framing and trim that is so arranged that the on-the-job workman needs only to get one side frame member disposed in a vertical position, and then the balance of the framing goes into place, based upon self-contained spacing and aligning units, so that, when the framing is wedged in the opening provided in the studding and finally the various parts are secured in place as by nailing, it can be depended upon that the door or window will work smoothly and properly.

Further objects, advantages and capabilities will be apparent from the description and disclosure in the drawings, or may be comprehended or are inherent in the device.

In the drawings:

Figure 1 is a perspective view illustrating a door and one half of the door framing and trim to which the door is hingedly secured in its final adjusted position.

Figure 2 is a perspective view showing, in fragmentary form, the sheet metal member which is temporarily screw-fastened to the door framing unit opposite the hinges and which is joined together as by a sheet metal screw through the lock opening of the door.

Figure 3 is a perspective view in fragmentary form illustrating a preferred form of corner reinforcement.

Figure 4 is a variant form of the corner supporting member, in which the member is inset into a saw kerf made during manufacture, in the top cap member and the two side members of the framing.

Figure 5 is a bracketed view illustrating one half of the door framing and its associated trim, together with the wedges as employed, and showing one of the frame members employed to close the door opening, there being normally three of these members.

Figure 6 is a vertical sectional view, partly broken away, illustrating the template guide means employed to secure the second frame member in place after the one that has enclosed the door is already in place.

Figure 7 is a cross-sectional view taken along the line 7—7 of Figure 6 and illustrating the two frame members which also are the trim, together with the stop member and wedges, completing the unit.

Figure 8 is a perspective view of one form of the frame during the installation of the unit.

Figure 9 illustrates the upper portion of a door or window framing and illustrating in association with Figure 8 the manner in which the two principal framing members are joined together in accurate alignment.

Referring more particularly to the disclosure in the drawings, numerals 10 and 12 designate the two vertical frame jamb members which, together with the joining cap or header 14, form one half of the door framing. Secured to frame member 12, and also to door 18, are the hinges 16 which are snugly fitted so as to accurately position door 18 with respect to the frame portion formed by members 10, 12 and 14. The routing for these hinge members is normally done as a unit, in which a particular door 18 and a particular frame member 12 are positioned and the cuts made to fit the particular type of hinge to be used and in this manner absolute accuracy is assured and the door can be depended upon to be properly hung with proper clearances and will not need any further skilled attention on the job-site. Normally frame members 10, 12 and 14 together with the associated door 18 form a shipping package, the door being held in proper alignment with frame member 10 by the equipment shown in Figure 2. This consists of a generally U-shaped sheet metal member 20 which is screw-fastened to the door frame member 10 by using two screws 22. Member 20 is formed with two inwardly directed cup-like detents 24 and 25 which fit into the opening 27 provided for the lock and are brought together and secured by a sheet metal screw 26. This arrangement gives maximum protection to the door and the door frame in shipping, in that the various components are held in fixed relation to each other without the need of any auxiliary ties or battens. Any covering employed on this shipping package is only needed to prevent scuffing of the frame portion or door.

An exact positioning of the various members making up my unit is one of the prerequisites of successful use of my invention, I have found it desirable to have metal reinforcing members at the corners to join the wooden pieces that meet. A preferred form of this unit is shown in Figure 3, in which an angle-shaped unit is provided, as **30**, and this has what in effect are two tubular anchor members, as **32**, which extend clear across the width of member **30** and are seated in members, as **14** and **12**, by drilling round holes to receive the tubular members **32**. This provides a most secure anchorage. Under some conditions it is not desirable to have the wood cut away as indicated in Figure 3. This is particularly true when lightweight stock is being used, as is often done when the more expensive hard woods are employed. Under such conditions the form shown in Figure 4 may be more desirable. In this form saw kerfs are formed at **34**. Into these fit the reinforcing members in their modified form, as shown at **36**. These can normally be put in place with short nails driven through a template from the outside of the wood corners due to technological advances in plastics it is found that cerain of the plastics are the full equivalent of metal for the reinforcing members.

As a sales package, in addition to the frame composed of members **10**, **12** and **14**, a second frame is employed. This is formed of the members **40**, **42** and **44** which normally are similar to first frame members **10**, **12** and **14** and must of course be the same inside, although they may vary somewhat on the outside in order to meet the building specifications, where it may be desirable to have the framing present a different appearance on the two sides of a doorway. This second frame, as distinguished from the first frame formed of the units **10**, **12** and **14**, is also factory-assembled and normally is shipped as a sales package with the other frame and door, in that the door gives rigidity to the framing package during handling and shipping.

The first operation on the part of the installer of the unit is to put the first frame and door in place, using for this purpose a plurality of double wedges, as illustrated at **50** which are used between the frames and the faces of the door opening. An important step is that the vertical frame member carrying the door hinges and door should be accurately plumbed and the two coacting wedges used as groups **50** facilitate this operation. During this operation the door is in place, in order to insure that the framing is installed so as to give adequate clearance entirely around the door, as has been predetermined and adjusted at the factory.

With the first frame in place, the second frame is brought to the opening and, as the first frame is definitely fixed, the door can now be released from unit **20** and opened. This makes it possible to employ the positioning unit or template, as shown in Figures 6 and 9. This template has a body portion as **54** and two hinge portions as **56** and **58**. Experience has indicated that a wide range of materials may be used to make this template, the prime requisite being that it have sufficient rigidity so that members **56** and **58** will form accurate guides without any buckling. These members are used after the showing of Figures 6 and 9, in that the template is applied to frame member No. 2 and, with units **56** and **58** as guides in the positions indicated (normally horizontal), these engage the inside of frame No. 1 and then frame No. 2 is moved in toward frame No. 1 until the overlapping ledge **60** forms contact with wall **62**.

Vertical positioning is achieved through the use of a plurality of guide members **64**, which are hung onto the top rail or header of the first frame by some convenient means, as the large-headed nails shown at **66**. It is necessary to employ at least two of these units after the showing of Figure 9.

The specific manner in which wedges are employed with these frames is believed to be quite well illustrated throughout the various views. It is to be noted, however, that definite surfaces are provided, as at **70** in the top rails or headers and at **72** in the vertical members **10**, **12**, **40** and **42**. This normally places approximately half of the wedge in these prepared surfaces and the unsupported portion of the wedges gives the workman easy access to the ends of both wedges, so that he may drive either or both of them in order to get the degree of wedging action he needs to accurately position the frames. When the wedging operation is completed, a nail **73** is driven through both wedges into the wall framing, as the studding **74**.

Reference to Figures 6 and 7 particularly illustrates the manner in which the frame members form a cover or trim for the wall surfacing material as **76** and **78**. In Figure 7, the wall surfacing **78** might be a surface that is going to be left exposed, possibly of the nature of plaster-board which will be given a surface treatment, and in this case the overlapping ledge **80** of frame member **42** will become the final finish as disclosed to view. In the same figure the wall surface **76** is taken as a plaster base and on this is applied a plastered wall surface **82**. It will be noted that the lip **80** of member **12** provides a sloping surface at **84** for the feathering out of the plaster margins.

Figure 6 shows the adaptation of this framing to a window opening, and this is substantially the same as the door, excepting that it does have the sill member **86**, which is not used in the door. The other components, however, are identical in form and serve the same purposes.

In Figure 7 the final closing and joining member is shown as the stop member **90**. This member must of course take on variant forms in order to properly adapt it to the type of door or window that is being employed with the frame. It employs rabbeted-out surfaces **92** which limit the amount that the stop can be pressed into the space between the frame components as **12** and **42**, in this instance; and, further, it gives a tight, neat joint at this point and completes the jamb members.

It is believed that it will be clearly apparent from the above description and the disclosure in the drawings that the invention comprehends a novel construction of prefabricated door or window frame.

Having thus disclosed the invention, I claim:

1. A packaged preassembled door and frame assembly, comprising: a first door frame consisting of two vertical side frame members and a joining member secured to each side frame member; means for reinforcing the corners made by the cap and side frame members; a door adapted for use with said first frame; hanging hinges securing said door in said first frame, said door and said first frame having mortises for the seating of said hanging hinges machined to insure that mortises which will be associated in a single door and frame assembly will exactly position said door in said frame; a lock opening machined in said door; means associated with said lock opening for securing said unit to the door frame member opposite that frame member which carries the door hinges; a second door frame substantially identical to and coacting with the first frame and composed of vertical side frame members and a coacting cap member; reinforcing units in each corner of said second frame; a template for guiding said second frame into position with respect to said first frame; seats providing bearing surfaces for longitudinally positioned wedges, a side guiding surface for the same and a wall overlapping ledge; means for insuring the same vertical position of said frames; a plurality of coacting pairs of wedges having planar bearing surfaces adapted to seat longitudinally in said seats but to have a width greater than the seat so as to extend beyond the same and to serve as positioning and adjusting means for said first and

said second frames and a stop member having machined edges forming overlapping flanges adapted to be inserted between the first frame members and the second frame members to hold them apart, to give finish to the inside of the door frame and to provide a stop for the door.

2. The subject matter of claim 1 in which said means for reinforcing the frame corners, comprises: a rigid metal 90° angle having legs adapted to overlay the machined-in seat of each frame member where they meet to form a joining corner; each leg having secured thereto at its end, removed from the corner of said angle, a tubular anchor member extending transversely across said legs and said anchors seated in substantially cylindrical holes in the meeting frame members adjacent the corner formed by their meeting.

3. The subject matter of claim 1 in which said means associated with said lock opening, comprises: a U-shaped sheet metal door securing means having a flat base portion adapted to be screw fastened to the door frame member, disposed on the lock edge of the door; outwardly extending leg portions, one on each side of the door, and terminating in inwardly directed cup shaped detents adapted to snugly engage a substantial portion of said lock opening and tension means to secure said detents, in clamping relationship, in said lock opening.

4. The subject matter of claim 1 in which said template has a body portion having a width equal to the inside spacing of said door frames; end portions hingedly secured to said body portion and extending exactly to the

longitudinal margins of said body, the combined length of the body and hinged end portions being substantially the height of said door; said hinged portions adapted to be used in the horizontal position in contact with the first frame, while the body portion is vertical and serves as guide for the second frame as it is moved toward its final position adjacent the first frame.

5. The subject matter of claim 1 in which said means for vertical positioning of the second frame with respect to the first frame, comprises: a plurality of horizontally disposed guide members spaced along the inner surface of the frame cap member of said first frame; means secured to said guide members adjacent the cap member and overhanging a portion of said cap member to releasably secure said guide member in snug engagement with the underside of said cap member so they may serve as guides for the second frame as it is moved into its final position.

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