Jan. 5, 1960 J. GOTTLIEB 2,919,798

PREFORMED DOOR ASSEMBLY AND ATTACHMENTS FOR THE SAME

Filed Feb. 7, 1957 2 Sheets-Sheet 1

Fig. 1

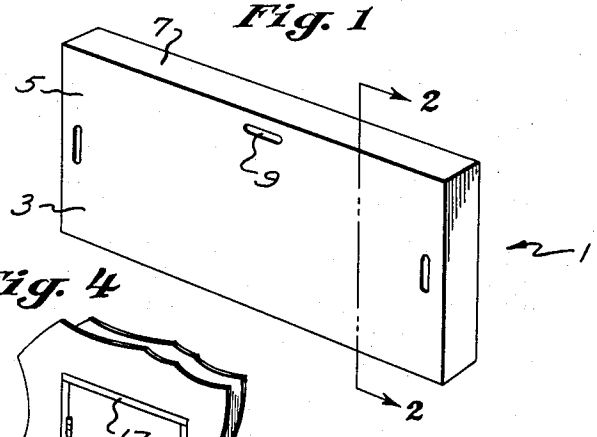
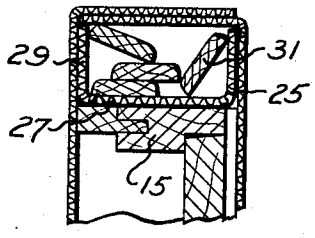


Fig. 2



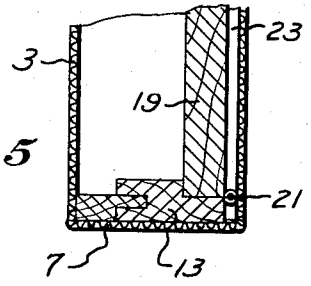


Fig. 4

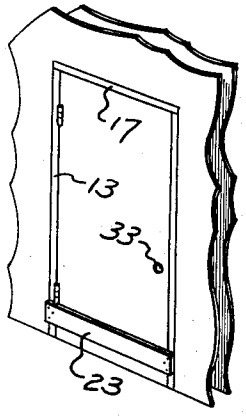


Fig. 5

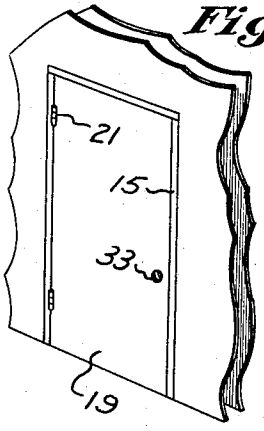
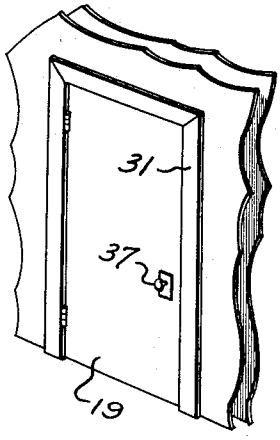


Fig. 6



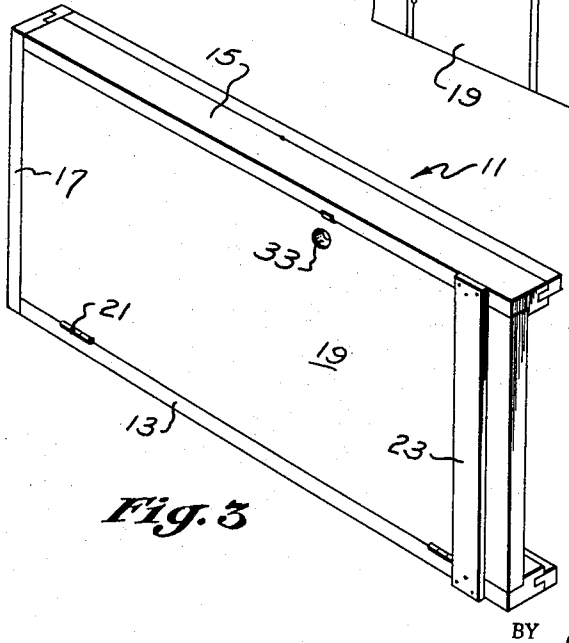


Fig. 3

INVENTOR
JACK GOTTLIEB
BY ROBERT J. PATTY
ATTORNEY

Jan. 5, 1960 J. GOTTLIEB 2,919,798

PREFORMED DOOR ASSEMBLY AND ATTACHMENTS FOR THE SAME

Filed Feb. 7, 1957 2 Sheets-Sheet 2

Fig. 7

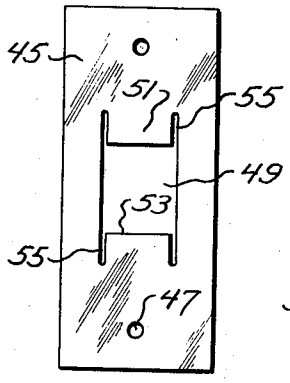


Fig. 8

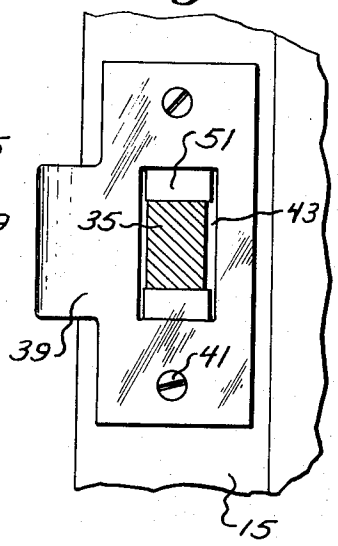


Fig. 10

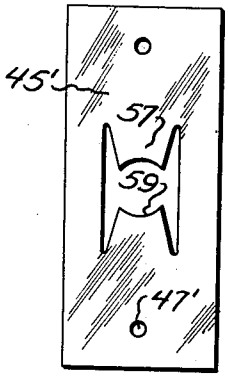


Fig. 12

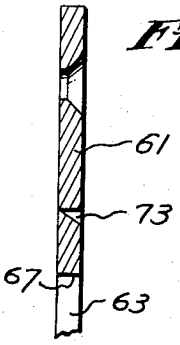


Fig. 9

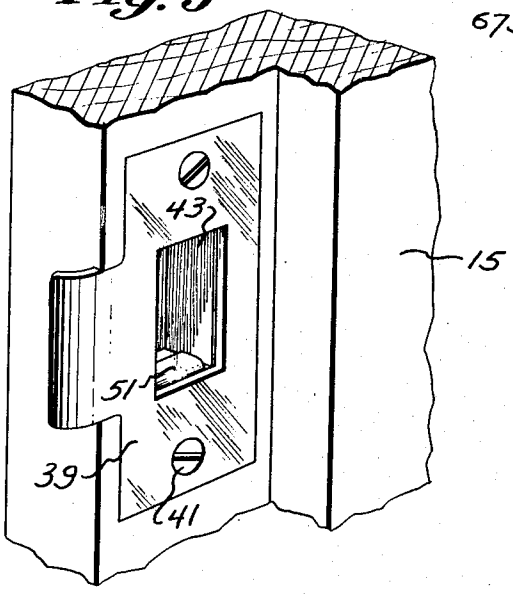
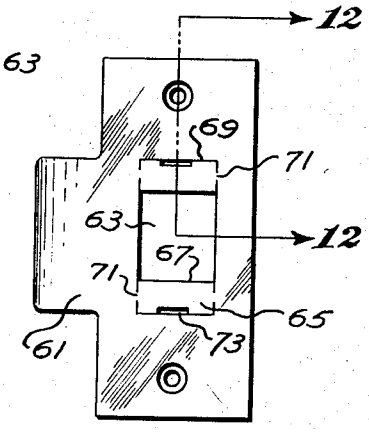


Fig. 11



INVENTOR
JACK GOTTLIEB
BY Robert J Patty
ATTORNEY

United States Patent Office 2,919,798
Patented Jan. 5, 1960

2,919,798

PREFORMED DOOR ASSEMBLY AND ATTACHMENTS FOR THE SAME

Jack Gottlieb, Silver Spring, Md.

Application February 7, 1957, Serial No. 638,845

7 Claims. (Cl. 206—60)

The present invention relates to preformed door assemblies and attachments for the same, and more particularly to transportable prehung door and jamb assemblies having attachments to prevent twisting of the assembly during emplacement and to the attachments themselves.

In the building trades, it has recently become a widespread practice to use prefabricated, prehung door and jamb assemblies such that only the final step of emplacing or "setting" the assembly need be done on the job. The resulting savings in the cost of labor and materials have often been quite substantial.

However, certain difficulties have attended this practice. Heretofore, it has been extremely difficult to transport the assembly and to store it at the job site without damage to the door or its jamb or the trim pieces.

Another great difficulty has arisen from the fact that these door assemblies tend to "rack" or twist during setting, with the result that it has heretofore been necessary to use great care and spend a good deal of time "shimming" the door and jamb, that is, moving the parts relative to each other with thin wedges so that the door when set will hang true and square.

Although many attempts have been made to overcome the above and other difficulties and disadvantages, none, so far as I am aware, was entirely successful when carried out on a commercial scale.

Therefore, it is an object of my invention to provide a packaged, preformed door and jamb assembly which can be easily transported and stored at the job site without damage thereto.

Another object of my invention is the provision of a packaged, preformed door and jamb assembly, in which the various parts are compactly packed together in a manner most convenient for transportation, storage and use.

A further object of the invention is the provision of a preformed door and jamb assembly which may be handled as a compact unit but which has a minimum of attachments other than those normally found in a finally emplaced door assembly.

Still another object of the invention is the provision of a preformed door and jamb assembly so rigid as a unit as to avoid racking during setting.

The invention also contemplates a preformed door and jamb assembly in which the door and latch bolt together form a brace which prevents racking of the assembly.

The invention further contemplates a preformed door and jamb assembly having strike plate means effective to prevent racking of the assembly.

It is also an object of the invention to provide novel latch bolt and strike plate assemblies, and novel strike plate means, for avoiding racking in preformed, prehung door and jamb assemblies.

Finally, it is an object of the present invention to provide preformed, prehung door and jamb assemblies and attachments for the same, which will be relatively simple

and inexpensive to manufacture and package, and which will be easy to transport, store and install.

Other objects and advantages of the present invention will become apparent from a consideration of the following description, taken in conjunction with the accompanying drawings, in which:

Figure 1 is a perspective view of my novel assembly in a container, according to the invention;

Figure 2 is an elevational cross-sectional view on the line 2—2 of Figure 1, showing the parts as arranged in the container;

Figure 3 is a perspective view of the door and jamb assembly of my invention, just as it comes out of the container;

Figures 4, 5 and 6 are perspective views showing sequential steps in the setting of the assembly, according to my invention;

Figure 7 is a view of one embodiment of my invention, showing a stay plate for use with a conventional door jamb strike plate;

Figure 8 is an elevational view showing the relationship of my novel stay plate, and a conventional strike plate and latch bolt;

Figure 9 is a perspective view similar to Figure 8, but showing the tabs of the stay plate deformed as when the door is finally in use;

Figure 10 is a view of another embodiment of stay plate;

Figure 11 is a view of a modified form of my invention comprising a novel strike plate; and

Figure 12 is an enlarged cross-sectional view on the line 12—12 of Figure 11.

Referring now to the drawings in greater detail, I have shown a packaged preformed door assembly indicated generally at 1 and comprising a relatively flat, rectangular, closed paperboard container 3 having side walls 5 and edge walls 7 and provided with hand holes 9 for ease of manipulation.

Within container 3 is disposed a preformed door and jamb assembly indicated generally at 11, and comprising a pair of spaced, parallel side frame members 13 and 15 joined at one end by a header 17. Members 13, 15 and 17 together form the door jamb, and are made up of conventional telescoping jamb stock so as to fit various widths of "rough opening" or unfinished door frame in the wall in which the assembly is to be set.

A door 19 is swingably mounted on frame member 13 by means of hinges 21. Door 19 opens clockwise as seen in Figure 2, and when closed is prevented from swinging farther inward by frame member 15. In its closed position, door 19 is substantially flush with the adjacent faces of members 13, 15 and 17.

A rigid tie strip 23 of plywood or the like joins side frame members 13 and 15 together adjacent the ends thereof remote from header 17 and is disposed on the opening side of door 19. The primary function of strip 23 is to maintain members 13 and 15 parallel to each other at exactly the spacing they will have when the assembly is finally and properly set. Strip 23 also insures that the door 19 will remain closed during transportation and handling, and, depending on the width of strip 23, imparts a degree of rigidity to the parallelogram consisting of members 13, 15, 17 and 23.

The above assembly extends substantially full thickness of container 3 from one side wall 5 to the other, but it extends substantially less than full width of container 3. The remainder of the width of container 3 is occupied by a U-shaped divider 25 formed by bending from paperboard or the like and having a flat bottom wall 25 resting on frame member 15 and a pair of straight legs 29 extending up along side walls 5 away

from frame member 15 and terminating adjacent the top edge wall 7 of container 3 as seen in Figure 2.

Nested within divider 29 is a plurality of trim strips, ordinarily six in number and comprising two casing heads and four uprights, to be divided evenly of both sides of the set door. Divider 29 encloses trim strips 31 on three sides and provides a convenient means for packing and removing strips 31 and assures that when strips 31 are removed as a group from container 3 they will not be confused with other pieces of lumber at the job site. To these ends, divider 31 extends a major portion of the length of container 3. The shims, knobs, nails and glue are also conveniently packed in the trough provided by divider 29.

As shipped, the door displays a rough hole 33 from which retractable latch bolt 35 extends outwardly to its fully extended position. Bolt 35 will ultimately be operated by knobs 37 installed through hole 33.

A conventional strike plate 39 is disposed flush in frame member 15 and is secured in place by the usual screws 41. Strike plate 39 has the usual central rectangular aperture 43 therethrough. It will be noted that aperture 43 is substantially longer in a vertical direction than bolt 35. This difference in length is necessary to assure clearance between the upper and lower marginal edges of aperture 43, and the upper and lower edges of bolt 35. A door that has been in use for some time inevitably becomes misaligned relative to its jamb, so that this substantial initial clearance is needed, to provide for that subsequent condition.

A very important feature of my invention is the provision of strike plate means designed to confine bolt 35 in such a way as to prevent movement between the door and its jamb and particularly to prevent racking of the door assembly during setting, but adapted to be altered so as to provide strike plate means having the characteristics of a conventional strike plate after setting. To this end, the embodiment of Figures 7, 8 and 9 comprises strike plate means including a stay plate 45 which is flat and is stamped from metal sheet stock of substantially thinner gauge than strike plate 39, so that while stay plate 45 is rigid in its own plane, it is readily deformable by bending lateral to that plane. Plate 45 has holes 47 therethrough for the reception of the same screws 41 that fasten plate 39 on member 15. Plate 45 is provided with a central rectangular aperture 49 therethrough, and a pair of rectangular tabs 51 integral with and disposed in the plane of plate 45 extend into aperture 49 from opposite sides thereof in the plane of the door when the door is closed, that is, from above and below. Tabs 51 terminate inwardly in opposed edges 53 which define two opposite sides of aperture 49 and which are adapted to confine bolt 35 closely between them, as seen in Figure 8. The side edges of tabs 51 are defined by slots 55 which are substantially in line with one or the other of the other two sides of aperture 49, as seen in Figure 7.

A modified form of stay plate is shown in Figure 10, for the accommodation of oval or rounded bolts. As there shown, stay plate 45' has holes 47' and is otherwise the same as plate 45, except that tabs 57 are provided with arcuate opposed edges 59 for confinement of arcuate bolt side faces.

A major embodiment of my invention is shown in Figures 11 and 12 to comprise a strike plate 61 so formed as to require no stay plate. Plate 61 has a central rectangular aperture 63 and is flat in the region of that aperture, the same as plate 39. In vertical alignment with apertures 63 is a pair of rectangular knockout tabs 65 having opposed edges which function the same as edges 53. But tabs 65 are bounded on their other three sides by lines of weakness 69 which may be formed at the same time that plate 61 is punched out, by a shearing operation which momentarily displaces tabs 65 a few thousandths of an inch in a direction perpendicular to the plane of the plate in this region, sufficient to sever tabs 65 completely from plate 61 along most of the length of lines 69, but insufficient to permanently displace tabs 65 from that plane. The shearing portion of the punch is interrupted at various places along lines 69 to leave bridges 71 which retain tabs 65 in position until they are deliberately knocked out. This partial shearing operation was known to the art in connection with entirely different structures before my invention, and need not be described in greater detail. Finally, a sharp bevel 73 is provided along the outermost edge of each tab 65, for the reception of a knock-out tool.

It should be noted that the strike plate means of all embodiments are flat in the regions of their central apertures, and that the plane of those flat regions is perpendicular to the direction of movement of the latch bolt when the door is closed. It should also be noted, in connection with the embodiments of Figures 7 through 10, that the stay plate is adapted to be secured flat against either side of the strike plate proper, but that it is preferred to secure the stay plate between the strike plate and its associated side frame member of the jamb, that is, on the side of the strike plate opposite the bolt in its retracted position when the door is closed.

In use, packaged assembly 1 arrives or is stored at the job site. Container 3 is opened and divider 25 with its contents is removed as a unit. Door and jamb assembly 11 is then removed as a unit as shown in Figure 3. Assembly 11 is then emplaced in a rough opening, as seen in Figure 4, and shimmed from either side or both sides. As distinguished from the prior art, shimming is quite easy, as the parts are held together as a rigid, accurately squared, unitary assembly, thanks to the combined actions of tie strip 23 and the strike plate means.

The assembly is then set by nailing through the side frame members and adjusting the male portions of the telescoping jamb, in the conventional manner. After the assembly is set, tie strip 23 is removed and the door is opened to expose the strike plate means. In the embodiments of Figures 8 through 10, it is necessary only to bend the tabs back flush with the socket, from the position shown in Figure 8 to the position shown in Figure 9, that is, to bend them to right angles with the plane of the stay plate, into parallelism with the direction of movement of the bolt when the door is closed. This can be done with any convenient implement. Less preferably, screws 41 can be removed and the stay plate discarded, in which case the stay plate can be on either side of the strike plate.

In the embodiment of Figures 11 and 12, when the set door is opened, an implement such as a screw driver or a chisel is inserted in bevels 73 and given a sharp blow, whereupon shearing is completed across bridges 71 and tabs 65 are knocked out. The remaining portion of strike plate 61 is indistinguishable from a conventional strike plate.

It should be noted that in all embodiments, the tabs of the strike plate means, and particularly the opposed edges thereof, are finally displaced from their original uniplanar relationship.

From the foregoing, it will be clear that I have achieved all of the initially-recited objects of my invention.

Although the present invention has been described in conjunction with preferred embodiments, it is to be understood that modifications and variations may be resorted to without departing from the spirit and scope of the invention, as those skilled in the art will readily understand. Such modifications and variations are considered to be within the purview and scope of the invention and appended claims.

I claim:

1. A packaged preformed door and jamb assembly, comprising in combination a relatively flat, rectangular, closed container; a preformed door and jamb assembly

disposed in said container, said assembly comprising a pair of spaced, parallel side frame members joined at one end thereof by a header, a door swingably mounted on a said side frame member, and a rigid member detachably secured to and extending between and joining said side frame members together adjacent the ends thereof remote from said header, thereby to maintain said side frame members parallel to each other, said rigid member being disposed on the opening side of said door thereby to maintain said door closed, said assembly extending substantially full thickness of said container but less than full width of said container; a removable, elongated, U-shaped divider disposed in said container, the bottom wall of said U-shaped divider resting on one of said side frame members and the legs of said U-shaped divider extending away from said one side frame member, and a plurality of door trim members disposed in said container and surrounded on three sides by said U-shaped divider.

2. A door and jamb assembly comprising a door, a side frame member extending lengthwise of a side edge of the door, the door having a retractable latch bolt protruding from said side edge thereof, the side frame member having a flat face confronting said side edge of the door, said flat face having an elongated recess therein extending lengthwise of the side frame member, the latch bolt extending into the recess and being spaced a substantial distance from both ends of the recess lengthwise of the side frame member, and a flat stay plate secured to the flat face of the side frame member and surrounding the recess, the stay plate having an aperture therethrough, the latch bolt protruding through and beyond the aperture of the stay plate, the stay plate lying in a plane perpendicular to the direction of retracting movement of the latch bolt, the stay plate having a pair of uniplanar flat portions one overlying each said end of

the recess, said flat portions terminating in edges spaced apart a distance substantially less than the length of the recess, said edges closely confining the latch bolt between them but permitting movement of the latch bolt in said direction, each said edge being spaced a substantial distance from both ends of the recess, and said flat portions of the stay plate being readily displaceable from said plane.

3. A door and jamb assembly as claimed in claim 2, said flat portions of the stay plate comprising detachable tabs.

4. A door and jamb assembly as claimed in claim 3, said tabs being integral with the remainder of the stay plate but being partially detached from the stay plate along lines of weakness so that said tabs may be detached from the stay plate by a blow from a tool.

5. A door and jamb assembly as claimed in claim 4, said lines of weakness coinciding with marginal edges of the recess in the side frame member.

6. A door and jamb assembly as claimed in claim 2, said flat portions of the stay plate comprising tabs bendable into the recess.

7. A door and jamb assembly as claimed in claim 6, said tabs being defined at their sides by slots coinciding with marginal edges of the recess in the side frame member.

References Cited in the file of this patent

UNITED STATES PATENTS

945,417	Price	Jan. 4, 1910
1,451,781	Lyon	Apr. 17, 1923
1,863,730	Ross	June 21, 1932
2,342,312	Tinnerman	Feb. 22, 1944
2,720,308	Howell	Oct. 11, 1955
2,742,146	Lester	Apr. 17, 1956