June 11, 1957 W. S. CLAY 2,795,327

PACKAGED DOOR AND FRAME UNIT

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Fig. 1

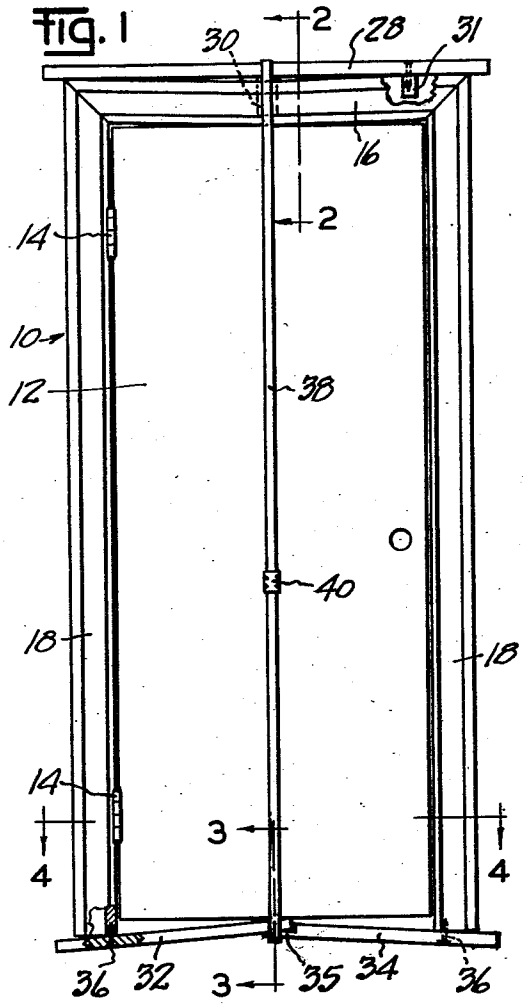


Fig. 2

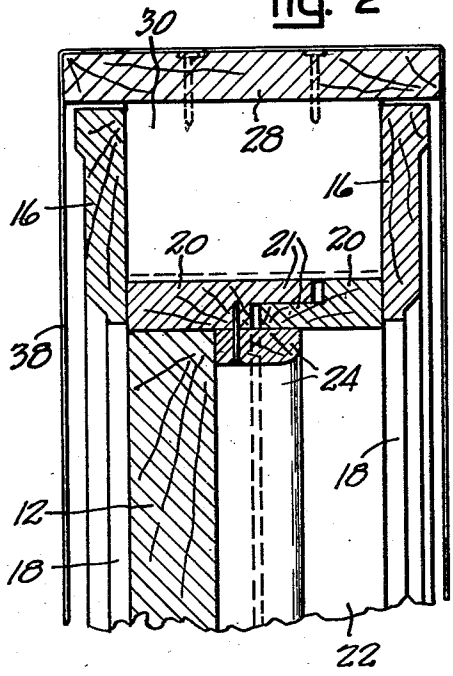


Fig. 3

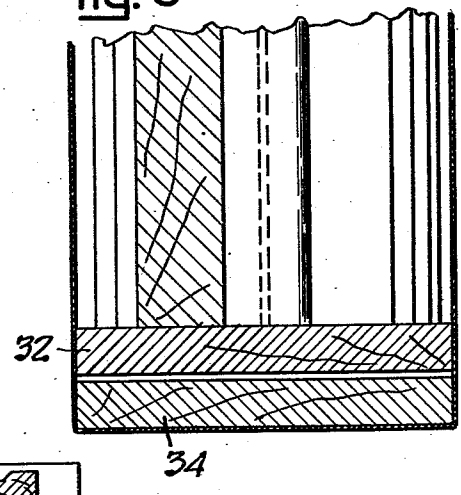
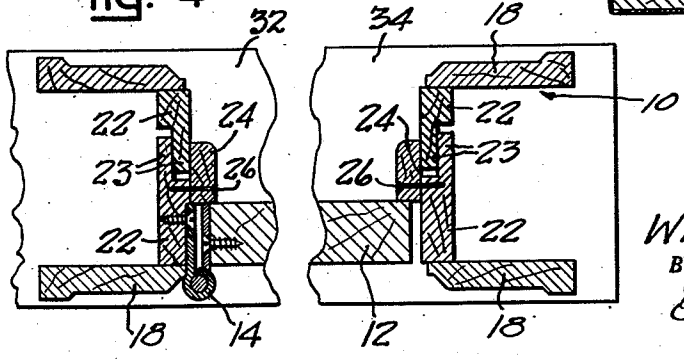


Fig. 4



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PACKAGED DOOR AND FRAME UNIT

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5 Claims. (Cl. 206—60)

This invention relates to a packaged door and frame unit of the character which accommodates fabrication thereof at a factory and ready installation thereof in a building without requiring that the door be specially hung or handled for installation.

The primary object of this invention is to provide a novel, simple, inexpensive and trouble-free construction which permits the parts to be assembled and to maintain proper assembled relationship and to be shipped in assembled form with minimum danger of damage to the construction.

A further object is to provide a device of this character wherein a door is mounted in a frame and strengthening and stiffening parts of simple and inexpensive construction are used to reinforce the frame and provide means for engagement with a tensioned endless securing strip of inexpensive construction, which is effective to hold the parts together and to restrain the door from swinging movement upon its hinges, and which assists in effectively protecting the door and frame from damage during handling, shipping and storage of the assembled unit.

Other objects will be apparent from the following specification.

In the drawing:

Fig. 1 is a face view of the door and frame unit;

Fig. 2 is an enlarged fragmentary detail sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is an enlarged fragmentary vertical sectional view taken on line 3—3 of Fig. 1; and

Fig. 4 is a fragmentary enlarged transverse sectional view taken on line 4—4 of Fig. 1.

Referring to the drawing which illustrates one embodiment of the invention, the numeral 10 designates a door frame to which a door 12 is connected by hinges 14. The door frame is preferably made in two parts, as best seen in Figs. 2 and 4, each consisting of substantially one-half of the door frame separated in a plane substantially parallel to the door. Thus each half of the door comprises a top horizontal face or trim member 16 and two vertical face or trim members 18, together with the top horizontal member 20 extending at right angles to the member 16, and a pair of upright members 22 each secured to one of the vertical members 18 and extending at right angles thereto. Each of the members 20 and 22 is of a width less than the thickness of the wall in which the door opening to receive the frame is formed and have reduced thickness lapping portions 21 and 23, respectively. Each member 20 is secured to the adjacent member 16, and each member 22 is secured to the adjacent member 18, and the members 16 and 18 and the members 20 and 22 are secured together, as at the upper mitered corner portions of the door frame.

The hinges 14 are secured to one of the members 22 of one of the halves of the frame, and door stops 24 are secured to the frame members 20 and 22 of that same frame half by nails or other securing means 26. The door stops 24 secured to one-half of the door frame project therefrom and cooperate with the lapped portions 21 and 23 to provide means for orienting or positioning the other half of the door frame upon assembly of the halves of the frame prior to shipment, without requiring fastening of the two frame halves to each other.

In preparing the combination door and frame for shipment, a cleat 28, preferably of a length greater than the length of the top trim member 16 of the frame and of a width greater than the width of the assembled frame halves, is applied to rest upon the upper edges of the upper trim members 16 and to overhang the same slightly, as illustrated in Fig. 2. A block 20 is preferably nailed to cleat 28 substantially centrally thereof and is of a width substantially equal to the spacing between trim members 16 and of a depth preferably slightly greater than the spacing between the top faces of members 20 and the top edge of the facing members 16. A second block 31 is preferably secured to cleat 28 spaced from block 30 and is preferably of the same width but slightly shallower depth than the block 30. It will be understood that the blocks 30 and 31 may be omitted, if desired, in which case the cleat 28 will preferably be nailed to the upper edges of members 16.

A pair of cleats 32 and 34, each of a width substantially equal to the width of the cleat 28 and of a length shorter than the length of the cleat 28, and preferably of a length only slightly greater than one-half the length of the cleat 28, are secured at their outer ends to the opposite or lower ends of the frame halves, as by nails or other detachable securing means 36 which preferably are driven endwise into the free ends of the upright frame members 22. The members 32 and 34 are so positioned that the outer ends thereof project beyond the outer edges of the face trim members 18 of the frame, and the inner ends thereof overlap. The overlapping end part of one of the last named cleats, such as cleat 34, may be of reduced thickness at 35.

A tensioned endless strap 38, such as a metal strip having its ends drawn together and locked together by lock 40, passes vertically around the unit in the manner illustrated in Fig. 1, preferably at or adjacent to the location of block 30. Strip 38 is located in a plane transverse of the door 12 with its vertical runs spaced from the upper trim member 16 and the door panel 12 by reason of the lateral projection of the cleats 28, 32 and 34 relative to said parts. It will be observed that as the strip 38 is tensioned, the free overlapping inner ends of the cleats 32 and 34 are drawn inwardly until the overlapping cleat, here shown as the cleat 32, bears frictionally against the free lower edge of the door panel 12. Sufficient tension can be applied to the strap 38 and maintained by the locking means 40 thereof to cause block 30, when used, to flex the top frame members 16, 20 to urge the latter into contact with the top edge of door 12 as shown. The frictional engagement of the top and bottom edges of the door with the frame and the bottom cleat, respectively, insures against free swinging of the door panel 12. The tensioned binding also insures fixed positioning and anchorage of the cleats 28, 32 and 34 relative to the door frame.

The door unit as illustrated in Fig. 1 is therefore characterized by a fixed relationship between the door frame, the door and the cleats, which insures against swinging of the door or against displacement of the parts during handling and transportation. This fixed relationship is achieved through the use of the blocks 30, the removable securing nails or means 36 and the binding strap 38. The blocks 30 and 31 align the cleat 28 with the frame. The provision of tensioned straps 38, coupled with the width of the cleats 28, 32 and 34, cooperate to protect the faces of the door panel and the frame when the units

are stacked or when standing on edge adjacent each other for shipment or storage. Likewise, the length and arrangement of the cleats so as to project at the ends thereof beyond the adjacent parts of the door frame, serves to protect the exposed edges of the vertical trim members 18 by preventing abutment thereof with other members or with walls or other parts of a storage space. It is also important to observe that the nails or brads 36 are applied at parts of the door which are not exposed to view after the door frame has been installed in place in a building. Also, it is important to observe that no spacers or shims are required to be interposed between the door and the frame parts, and that the package does not require the use of brads or nails driven into any part of the door or frame which would be exposed to view when the unit is installed.

When the combination frame and door package arrives at its destination and the door and frame are to be mounted in a building, the metal strap 38 is severed and the nails or brads 36 are removed. Thereupon, the two halves of the frame may be mounted in the door opening from opposite sides thereof, and each suitably secured to the building. The two frame halves may be interconnected as a unit by the use of nails (not shown) driven through the portions of the stops 24 which overlap the frame parts 20 and 22 of the frame half opposite that which carries the door, that is, at the righthand part of the stop 24 as viewed in Fig. 2.

It will be apparent from the foregoing description that the cleats 28, 32 and 34 may be simple plain boards of selected dimensions and need not be fabricated in any manner prior to use thereof except for nailing of blocks 30 and 31 to cleat 28. The nails or brads 36 may be of conventional and inexpensive character. The metal strap 38 is of minimum length for its service by reason of its location in a plane transverse of the plane of the door panel. At the same time the metal strap does tie together, by firm frictional engagement, the various parts of the unit in such a manner as to minimize the number of nails which are required and to secure the door against freedom of movement without requiring shims or other inserts between the same and the frame parts. This construction thus possesses the advantages of simplicity, low cost of component parts, ease and rapidity of assembly, ease of handling, minimum number of parts, ease and rapidity of disassembly, and avoidance of formation of nail holes or grooves or damage marks at any surface of the unit which is visible in use after installation in a building.

While the preferred embodiment of the invention has been illustrated and described, it will be understood that changes in the construction may be made within the scope of the appended claims without departing from the spirit of the invention.

I claim:

1. In combination, a door frame comprising a pair of vertical parts and a horizontal connecting part, a door, hinge means mounting said door in said frame, a cleat bearing on the top of said horizontal frame part, a pair of cleats bearing against the free ends of said vertical frame parts and overlapping at their inner ends, and a tensioned band encircling said door and frame in a plane perpendicular to said door and contacting said cleats to draw the inner lapped end of one cleat of said pair into engagement with the edge of said door.

2. In combination, a door frame comprising a pair of vertical parts and a horizontal connecting part, a door, hinge means mounting said door in said frame, a cleat bearing on the top of said horizontal frame part, a pair of cleats bearing against the free ends of said vertical frame parts and overlapping at their inner ends, and a tensioned band encircling said door and frame in a plane perpendicular to said door and contacting said cleats to draw the inner lapped end of one cleat of said pair into engagement with the edge of said door, said cleats being wider than said frame to position the portions of said band between said cleats in outwardly spaced relation to said door and frame.

3. In combination, a door frame comprising a pair of vertical parts and a horizontal connecting part, a door, hinge means mounting said door in said frame, a cleat bearing on the top of said horizontal frame part, a pair of cleats bearing against the free ends of said vertical frame parts and overlapping at their inner ends, a tensioned band encircling said door and frame in a plane perpendicular to said door and contacting said cleats to draw the inner lapped end of one cleat of said pair into engagement with the edge of said door, said frame being divided into two substantially similar sections having a parting plane parallel to said door, said door being hinged to one of said sections, and means detachably securing each cleat of said pair to each section.

4. In combination, a door frame having a pair of upright parts and a transverse connecting upper part, a door, hinge means connecting said door for free swinging movement in said frame, a pair of cleats, each cleat bearing against the lower end of an upright frame part, said cleats overlapping at their inner ends, and a tensioned endless metal strap encircling said door and frame in a vertical plane perpendicular to said door and drawing the lapped ends of said cleats into frictional engagement with the innermost cleat pressing against the free edge of said door.

5. In combination, a door frame divided into two substantially similar sections each consisting of a pair of spaced upright parts and an upper cross part, each part being L-shaped in cross-section, a door, hinge means connecting said door in one frame section for free swinging movement, a door stop carried by said door mounting section and projecting to define a guide for the other section, a cleat bearing upon the upper marginal portions of the cross parts of both sections, a pair of cleats each bearing upon and detachably secured to the free lower ends of the upright parts of both sections, said last named cleats overlapping at their inner ends, and a metal strap encircling said door and frame perpendicular thereto and abutting said first cleat and the lapped portion of said last named cleats.

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