United States Patent

[11] **3,584,418**

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[21] Appl. No. **865,552**
[22] Filed **Oct. 13, 1969**
[45] Patented **June 15, 1971**
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[54] **ADJUSTABLE DOOR FRAME**
5 Claims, 5 Drawing Figs.

[52] **U.S. Cl.** **49/505,** 52/217
[51] **Int. Cl.** **E06b 1/08**
[50] **Field of Search** 49/505; 52/217

[56] **References Cited**

UNITED STATES PATENTS

851,300	4/1907	Moen	49/505 X
933,985	9/1909	Hollman	49/505 X
2,859,491	11/1958	Morris, Jr.	49/505 X

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ABSTRACT: An adjustable doorframe having a fixed or stationary jamb and a movable jamb located for engagement with the striking edge of a door and being adjustable with respect to the fixed jamb to vary the size of the door opening, wherein a proper fit of the door is provided within the frame regardless of the condition of the door in connection with expansion and/or contraction thereof.

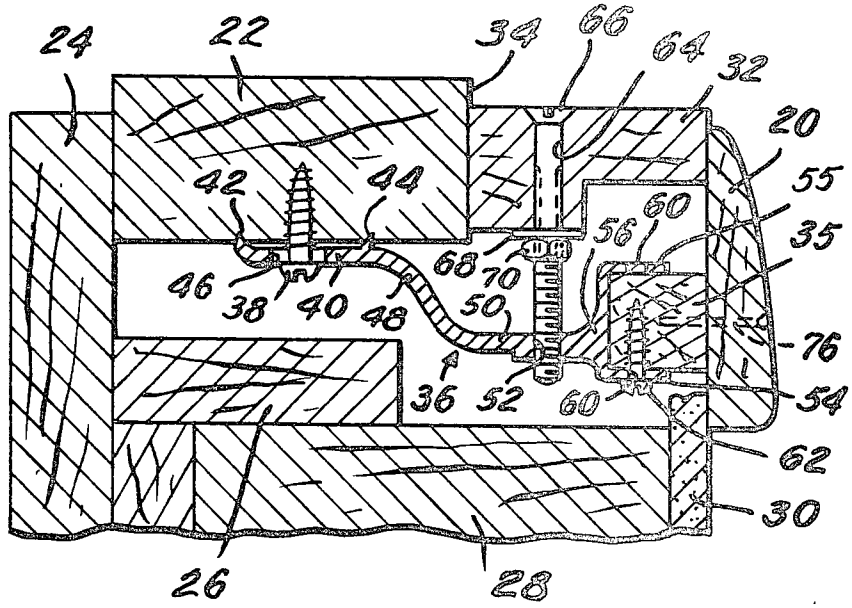


Fig. 1.

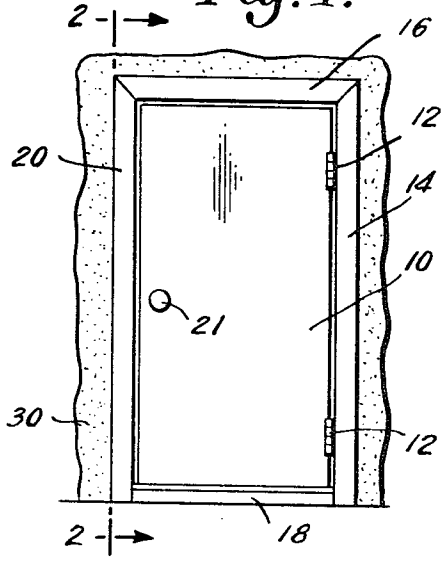


Fig. 4.

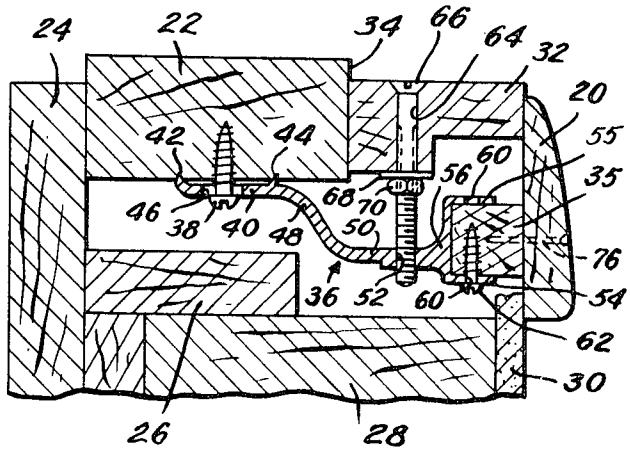


Fig. 2.

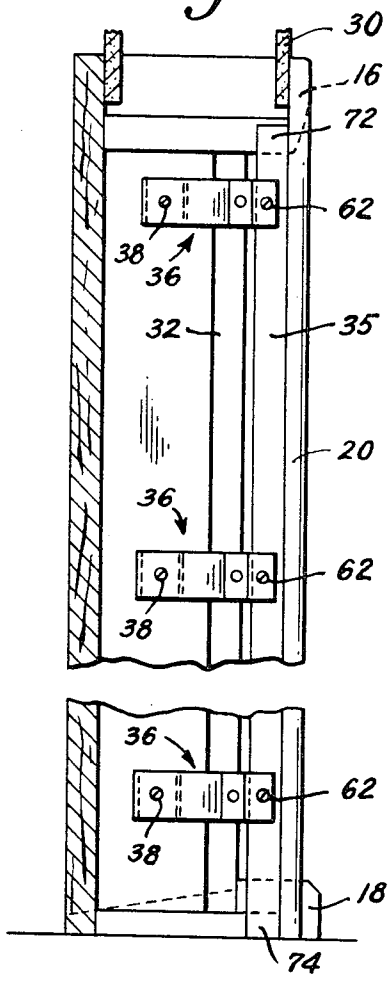


Fig. 3.

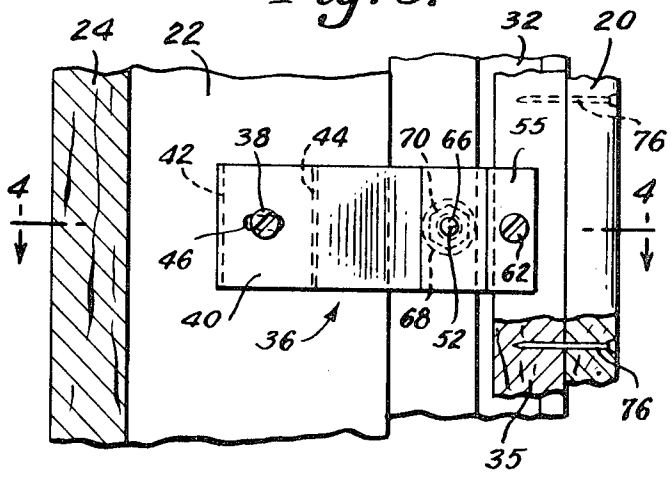
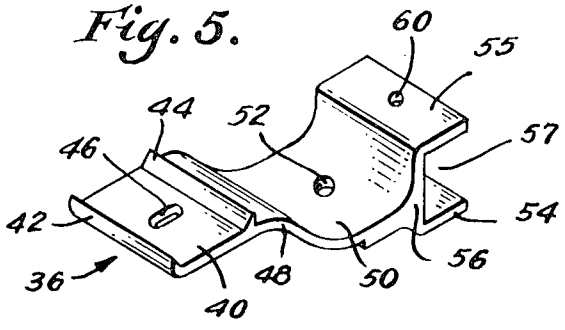


Fig. 5.



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ADJUSTABLE DOOR FRAME

Background of the Invention

The adjustable doorframe embodied in the present invention is provided for use in a door opening and is operable to effect a proper closing of a door subsequent to the handing thereof and regardless of the expansion or contraction conditions of the door.

Wood doors have a tendency to expand or contract after the hanging thereof according to the environmental conditions of the surrounding area. In some instances, expansion of the door prevents the closing of the door because the striking edge of the door engages the doorframe. It is possible, under such conditions, to remove a portion of the edge of the door so as to reduce the size thereof, but this is an impractical solution since the door usually has a tendency to contract and return to its normal condition. Contraction of the door after hanging also results in an ill fitting door within its frame and, under such conditions, the door will not properly latch.

Prior to the instant invention, some efforts have been made to provide for adjustable doorjambs so as to compensate for the expansion and contraction of the door, and one example of such an adjustable jamb is illustrated in U.S. Pat. No. 2,859,491. Although the construction in U.S. Pat. No. 2,859,491 did perform the purpose of providing an adjustable jamb for a doorframe, the structural elements that defined this invention created some maintenance difficulties, and the manner of construction was also somewhat difficult to effect. In this connection, the brackets with which the fastener studs of the jamb were received extended into a groove of the movable jamb which produced an alignment problem and further required an additional machining operation. Twisting of the brackets sometimes occurred which resulted in misalignment of the adjustable jamb. A plurality of horizontal strips were also required in U.S. Pat. No. 2,859,491 for the mounting of a trim strip adjacent to the adjustable jamb. Since trim nails had to be knocked into the ends of these strips in the mounting of the trim strip, splitting of the strips often occurred. Further, since the strips were horizontally spaced, it was difficult to locate the ends of the strips when nailing the trim strip thereto.

Summary of the Invention

The adjustable door frame as embodied in the present invention includes a stationary or fixed jamb having an exterior edge for receiving the outer or striking edge of a door in engaging relation in the closed position of the door, an inner elongated strip being located in parallel and adjacent relation to the stationary jamb. A plurality of brackets are fixed to the stationary jamb and to the inner elongated strip, and a movable jamb is adjustably mounted adjacent and to the inner elongated strip, and a movable jamb is adjustably mounted adjacent to the exterior edge of the stationary jamb and extends substantially parallel thereto. Fastening studs extend through the movable jamb and engage the brackets and are externally adjustable to vary the position of the movable jamb relative to the fixed jamb, thereby varying the size of the door opening. The movable jamb thus accommodates the door in the closed position so that the striking edge of the door properly engages the exterior edge of the stationary jamb, the movable jamb thereby compensating for expansion and contraction of the door to insure a proper fitting thereof. A trim strip is secured to the elongated strip and overlies at least a portion of the exterior edge of the movable jamb to conceal the internal brackets and elongated strip.

Accordingly, it is an object of the invention to provide an improved adjustable doorframe that enables a door mounted therein to be properly fitted within the frame, regardless of whether the door has contracted or expanded with respect to its original condition.

Another object of the invention is to provide an adjustable or movable jamb which is readily adjusted by an ordinary screwdriver and without the requirement of disassembling any of the door frame structure.

Another object of the invention is to provide a plurality of extruded brackets for use with an adjustable jamb, the brackets having a threaded opening for receiving adjustment bolts that extend through a movable jamb and further having sockets formed therein that receive an elongated strip in aligned vertical relation, the strip presenting a face for the mounting of a trim strip for the doorframe.

Other objects, features and advantages of the invention shall become apparent as the description thereof proceeds when considered in connection with the accompanying illustrative drawings.

DESCRIPTION OF THE DRAWINGS

In the drawings which illustrate the best mode presently contemplated for carrying out the present invention:

FIG. 1 is a front elevational view of a door as mounted in a door frame that embodies the adjustable jamb of the present invention;

FIG. 2 is a vertical sectional view taken along line 2–2 in FIG. 1;

FIG. 3 is an enlarged fragmentary elevational view of the rear of the adjustable door frame showing the brackets as attached to the fixed and movable jambs of the doorframe;

FIG. 4 is a sectional view taken along line 4–4 in FIG. 3; and

FIG. 5 is a perspective view of one of the brackets that are secured to the stationary jamb.

DESCRIPTION OF THE INVENTION

Referring now to the drawings, and particularly to FIG. 1, a door 10 is shown mounted on hinges 12 in a doorframe that includes a trim strip 14 located at the butt edge of the door, a trim strip 16 located at the header, a threshold 18 and a trim strip 20 that is located at the latch edge of the door. A knob 21 is located on the door adjacent to the latch edge thereof and cooperates with a conventional keeper plate (not shown) to latch the door in the closed position thereof. Since the door 10 has a tendency to expand or contract in accordance with the surrounding environmental conditions, it is desirable to adjust the jamb of the door on which the trim strip 20 is mounted, and it is this jamb construction to which the present adjustable door frame is directed

Referring now to FIGS. 2, 3 and 4, a fixed or stationary jamb 22 is shown mounted in vertical position relative to an outer wall 24 that is formed as part of a wall construction. The wall construction further comprises an inner vertical member 26 to which a member 28 is joined. An inner wall 30 abuts the member 28 and defines the inside of the room in which the door frame is located. Positioned adjacent to the stationary jamb 22 is an adjustable jamb 32 that is offset with respect thereto, thereby defining a stop 34 that limits inward movement of the striking edge of the door 10. As illustrated in FIG. 4, the trim strip 20 is mounted in engagement with the movable jamb 32 and the wall 30, and is fixed to an elongated strip 35 as will be described.

In operation of the adjustable frame, the outer surface of the movable jamb 32 is locatable with respect to the stop 34 so as to decrease or increase the lateral dimension of the stop, depending upon the condition of the door 10. In order to effect the adjustment of the movable jamb 32, a plurality of brackets, generally indicated at 36, are provided, and are secured to the fixed jamb 22 in spaced vertical relation by internally applied screws 38. As illustrated in FIG. 5, the bracket 36 includes a foot portion 40 having spaced ridges 42 and 44 that are relatively sharp for penetrating into the rear surface of the fixed jamb 22. Also formed in the foot portion 40 is an opening 46 through which the screw 38 extends for mounting of the bracket 36 on the fixed jamb 22. Joined to the foot portion 40 by a curved wall 48 is an offset portion 50 having a threaded opening 52 formed therein. Spaced parallel portions 55 and 54 and a wall 56 are joined to the offset portion 50 and define a socket 57 that receives the elongated strip 35 therein, as will be described. An opening 60 is formed in the portion 55 and receives a screw 62 therein for securing the elongated

strip 35 in the socket 57 of the bracket 36, as will also be described hereinafter.

In the mounting of the brackets 36 in spaced relation on the fixed jamb 22, the threaded opening 52 of each bracket is located so as to be in alignment with an opening 64 formed in the movable jamb 32. An adjustment bolt or stud 66 to which a washer 68 is threadably received in the opening 52 of the bracket 36. The washer 68 and nut 70 are fixed in position on the bolt 66 on the interior side of the movable jamb 32, the washer 68 providing a bearing surface against the interior side of the movable jamb 32 upon rotation of the bolt 66.

In completing the assembly of the adjustable frame 10, the elongated strip 35, which has a generally square cross-sectional configuration, is received with the sockets 57 of each of the spaced brackets 36, and extends in parallel relation with respect to the fixed jamb 22 and movable jamb 32. As shown in FIG. 2, the ends of the elongated strip 58 indicated at 72 and 74 extend beyond the upper and lower ends of the fixed and movable jambs and behind the header trim strip 16 and threshold 1 Since the strip 58 is locked in the socket of each of the brackets 36 by the screw 62, the brackets 36 are firmly retained in position for receiving the threaded portion of the bolts 66. As further seen in FIG. 4, the trim strip 20 is fixed in position by securing it directly to the outer face of the elongated strip 35 with nails 76, the strip 35 presenting a continuous face for receiving the nails 76.

In use of the adjustable door frame, the movable jamb 32 is adjusted relative to the fixed jamb 22 by rotating the adjustment bolts 66. This movement of the movable jamb 32 decreases or increases the lateral dimension of the stop 34 in accordance with the condition of the door 10 when it is originally hung on the doorframe. After the door has been installed, should it be desirable to increase or decrease the size of the door opening due to expansion or contraction of the door, the bolts 66, which are exteriorly accessible, are rotated by a screwdriver and the movable jamb 32 is then relocated in the adjusted position that enables the door to be properly received within the door opening.

It is seen that the present invention defines a simple yet effective manner of adjustment of the movable jamb 32 in order to compensate for the condition of the door as mounted in the doorframe. Further, the use of the brackets 36, which are preferably formed of an extruded aluminum material, enables the adjustment bolts 66 to be easily aligned with the openings in the brackets 36 for effecting the adjustment of the movable jamb. Since the brackets 36 are also formed with the sockets 57 for receiving the elongated strip 35, the elongated strip 35 may also be easily and securely mounted in position. It is further seen that the continuous outer face of the elongated strip 35 enables the trim strip 20 to be secured in place without the requirement of aligning a restricted surface behind the trim strip for receiving the fastening nails 76. Although not illustrated, the portions 55, and 54 of the bracket 36 may be crimped inwardly to secure the bracket to the elongated strip 35. In this event, use of the screws 62 would be avoided.

Should the heads of the bolts 66 protrude beyond the outer surface of the jamb 32, sufficient clearance for the door is provided to avoid marring the door finish in the closing thereof On the occasion when the jamb 32 is painted, the paint bind is easily broken upon further adjustment of the bolts 66, and when the adjustment bolts are adjusted to the fully open position, it is seen that no rolling or tipping of the jamb 32 can occur.

The location of strip 35 also provides for nailing of edge of the trim strip 20 closely adjacent to the edge thereof, thereby preventing curling or twisting of the trim strip. The trim strip 35 also functions as a ground for anchoring the plaster wall 30 at an end thereof. It is seen that the unit can be installed either before or after plastering and, finally, it is contemplated that the adjustable frame can be incorporated on both sides of a doorframe if it is so desired.

What I claim is:

1. In an adjustable door frame for accommodating a door in the closed position therein, a stationary jamb having an exterior edge for receiving the striking edge of said door in engaging relation in the closed position of said door, an elongated strip extending in parallel and adjacent relation to said stationary jamb and being located adjacent to the interior surface thereof, a plurality of brackets fixed to said stationary jamb and said elongated strip, each of said brackets having a socket formed therein for receiving said elongated strip, said sockets being vertically aligned for retaining said elongated strip in a substantially vertical position, a movable jamb located adjacent to the exterior edge of said stationary jamb and extending parallel thereto, means for adjusting said movable jamb relative to said fixed jamb to vary the size of the door opening so as to accommodate the striking edge of said door in the closed position against the exterior edge of said stationary jamb, thereby compensating for expansion and contraction of said door, and a trim strip secured to said elongated strip and overlying at least a portion of an exterior edge of said movable jamb..

2. In an adjustable door frame as set forth in claim 1, said adjusting means including a plurality of studs that extend through said movable jamb, each of said brackets including a foot portion that is fixed to said stationary jamb and an offset portion joined to the foot portion and being further joined to the portions of the bracket that define the socket, a threaded opening extending through said offset portion for receiving a stud in threaded relation therein.

3. In an adjustable door frame as set forth in claim 1, said elongated strip presenting a continuous face inwardly of said movable jamb for receiving fasteners that secure the trim strip to said elongated strip.

4. In an adjustable door frame as set forth in claim 3, said elongated strip extending beyond the ends of said stationary jamb, for securement to a header and threshold of said door frame.

5. In an adjustable doorframe as set forth in claim 1, a threaded opening formed in each of said brackets, said adjusting means including threaded studs that extend through said openings in said movable jamb and being received in said threaded openings, wherein rotation of said studs produces a corresponding adjusting movement of said movable jamb with respect to said stationary jamb.