

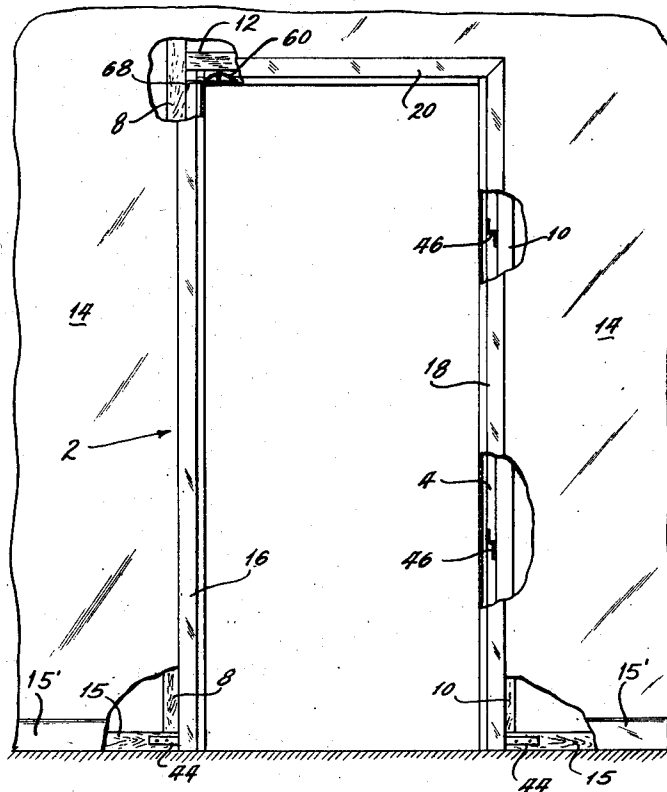
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 [21] Appl. No. **814,073**
 [22] Filed **Apr. 7, 1969**
 [45] Patented **Mar. 23, 1971**
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[56] **References Cited**
UNITED STATES PATENTS
 3,239,978 3/1966 Parker..... 52/211
 3,287,857 11/1966 Dukas 52/211X
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[54] **DOORFRAME**
10 Claims, 5 Drawing Figs.

[52] **U.S. Cl.**..... **52/217,**
49/505, 52/127
 [51] **Int. Cl.**..... **E06b 1/12,**
E06b 1/60
 [50] **Field of Search**..... **52/211,**
217, 127; 49/505

ABSTRACT: A doorframe for installation in a rough door opening and including channellike jambs and a header, the former being connected to the latter at their upper ends. A positioning assembly is mounted in the channellike portion of the header and includes a slide element which can be extended outwardly over one of the jambs and into engagement with the stud covered by that jamb. The laterally directed force applied by the slide element is transferred through the header to the opposite jamb and the stud covered by it, thereby securing the doorframe firmly in place.



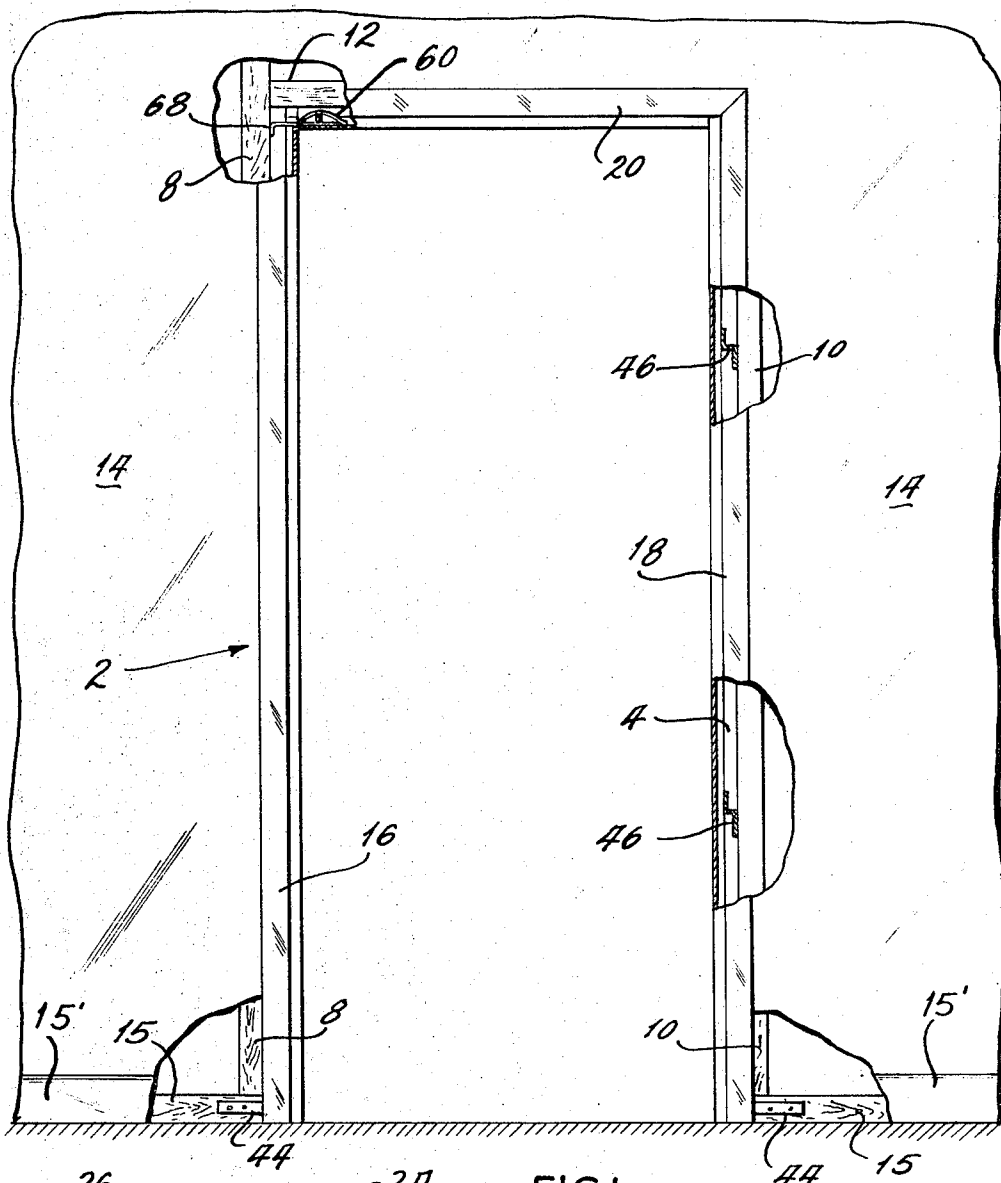


FIG. 1

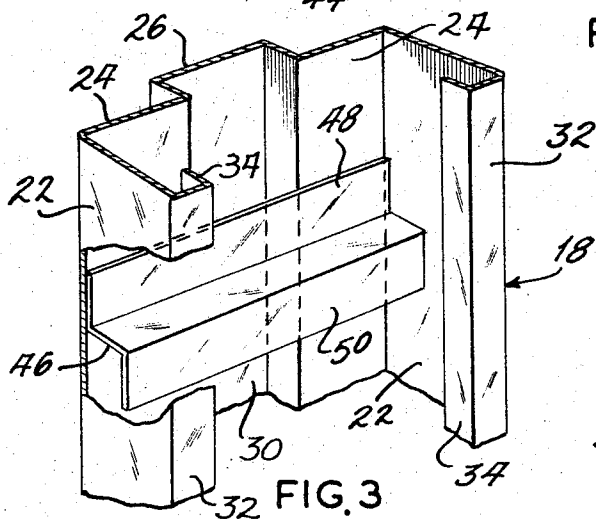


FIG. 3

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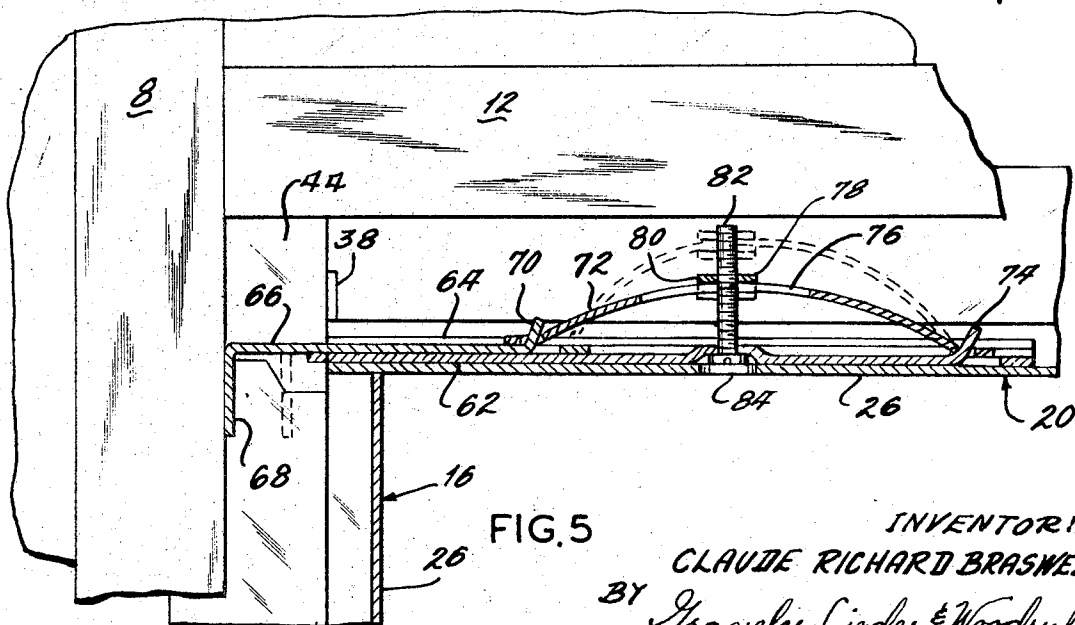
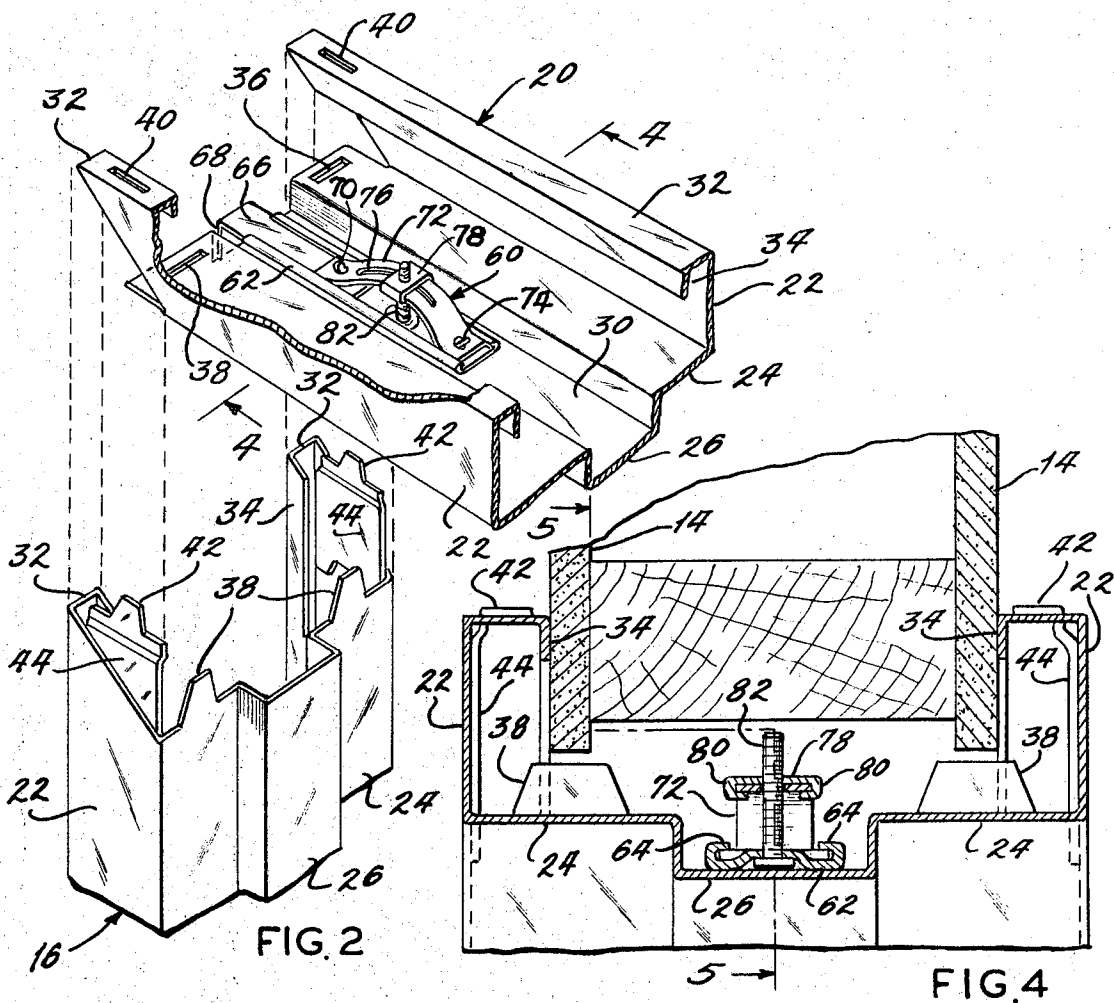


FIG. 5

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DOORFRAME

This invention relates in general to doorframes and more particularly to a doorframe provided with means for firmly positioning the frame within a rough door opening.

Metal doorframes are particularly suited for dry wall construction, but most frames of current manufacture are difficult to secure firmly in place during installation, much less to maintain them firmly in place during subsequent use. As a result conventional metal doorframes rattle after short periods of use and furthermore shift slightly causing the doors which are hinged to them to bind and not fit properly.

One of the principal objects of the present invention is to provide a doorframe which is easily installed in rough door openings. Another object is to provide a doorframe which remains securely in place once it is installed and does not rattle or shift after repeated use. A further object is to provide a doorframe which is attractive in appearance and economical to manufacture.

These and other objects and advantages will become apparent hereinafter.

The present invention is embodied in a doorframe for installation in a rough door opening and including a pair of jambs traversed at their upper ends by a header. The header carries a positioning assembly which is engageable with the upstanding construction member covered by one of the jambs and is adapted to exert a force on the header for urging the other jamb against the upstanding member covered by it.

The invention also consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed. In the accompanying drawings which form part of the specification and wherein like numerals and letters refer to like parts wherever they occur:

FIG. 1 is an elevational view of a wall fitted with a doorframe constructed in accordance with and embodying the present invention;

FIG. 2 is a fragmentary perspective view showing the positioning assembly of the doorframe and the means for connecting the jambs with the header;

FIG. 3 is a fragmentary perspective view of a strike jamb forming part of the present invention;

FIG. 4 is a sectional view taken along line 4-4 of FIG. 2; and FIG. 5 is a sectional view taken along line 5-5 of FIG. 4.

Referring now to FIG. 1 of the drawings, 2 designates a door frame which is fitted into and finishes a rough door opening 4 in a wall 6, the door opening 4 being defined by spaced studs 8 and 10 and a lintel piece 12 interconnecting the studs 8 and 10. Wallboard 14 is nailed to the studs 8 and 10 and the lintel piece 12 as well as to a plate 15 and other studding forming the interior of the wall 6 to form smooth outer surfaces thereon. The lower margin of the wallboard 14 is covered by a molding 15' which is nailed to the plate 15.

The frame 2 includes a hinge jamb 16, a strike jamb 18, and a header 20 formed from suitable material, such as rolled steel, which is stamped into the channellike configuration best illustrated in FIG. 2. In particular, the jambs 16 and 18 and the header 20 are of identical cross-sectional shape and each includes (See FIG. 3) parallel sidewalls 22 located in outwardly spaced relation from and adapted to conceal the rough margins of the opening 4. At their inner margins, the sidewalls 22 merge into a transversely extending connecting web 24 having an inwardly projecting soffit 26 formed therein so as to create a channel 30 in the jamb 16 or 18 or the header 20, whatever the case may be. At their outer margins the sidewalls 22 merge into transversely extending flanges 32 which in turn merge into inwardly struck wall abutments 34 adapted for facewise engagement with the wallboard 14 surrounding the opening 4. At the upper ends of the jambs 16 and 18 and at both ends of the header 20 their respective sidewalls 22 are mitered (FIGS. 1 and 2) and fitted into endwise abutment so as to form a uniform and continuous outer surface on the door frame 2. The web 24 of the header 20 is furthermore extended beyond the ends of mitered sidewalls 22 on the header 20 where it is provided (FIGS. 2 and 4) with a pair of slots 36 for accepting tabs 38 formed integral with and projecting upwardly beyond

the adjacent ends of the web 24 on the jambs 16 and 18. Similarly at the ends of the header 20 (FIG. 2) its flanges 32 are provided with slots 40 which accept tabs 42 on plates 44 welded to the inner faces of the sidewalls 22 on the jambs 16 and 18. The tabs 38 and 42, of course, hold the header 20 against the upper ends of the jamb 16 and 18 in proper endwise abutment.

In FIG. 1, it is seen that the lower ends of the 16 and 18 are provided with apertured anchor straps 44 secured to the abutments 34 thereon so as to project outwardly beyond the adjacent flanges 32 and along the sides of the plates 15 at the bottom of the wall 6. The strike jamb 18 is further provided with a pair of spacer members 46, each including a mounting flange 48 which is spot welded to the web 24 and an abutment flange 50 which is located outwardly from the web 24 but nevertheless is set inwardly from the flanges 32 and the wall abutments 34, the latter being adapted to abut against the studs 10 defining the rough door opening 4 and position the strike jamb 18 with respect thereto.

Adjacent to the upper end of the hinge jamb 16 (FIG. 2, 4 and 5) the soffit 26 of the header 20 is fitted with and contains a frame positioning assembly 60 including a track 62 secured to the soffit 26 and presented within the channel 30 formed thereby. The track 62 has a pair of inwardly turned flanges 64 for retention of a slide 66 thereon. The slide 66 shifts longitudinally on the track 62, and at its outer end it is provided with a pressure foot 68 which extends downwardly in outwardly spaced relation to the soffit 26 of the hinge jamb 16. At its opposite end the slide 62 has an upwardly struck tang 70 which projects through an aperture in a curved leaf spring 72, the opposite end of the spring 72 having another aperture into which a tang 74 at the inner end of the track 62 projects. Intermediate its ends the spring 72 curves upwardly away from the track 62 and is provided with a longitudinally extending slot 76. The curved portion of the spring supports a cleat or nut 78 which slides on the spring 72 and at its ends is provided with guide tabs 80 which depends across the side margins of the spring 72. Consequently the nut 78 cannot rotate with respect to the spring 72, but is free to shift longitudinally thereon within the limits of the slot 76. The nut 78 receives the threaded shank of a bolt 82 which extends upwardly through the bight portion of the track 62. The head of the bolt 82 is countersunk within the bight portion of the track 62 and is exposed through an aperture 84 in the adjacent soffit 26 so that it is hardly discernible.

To install the door frame 2 in the rough opening 4, the header 20 is first pushed upwardly over the lintel piece 12 and the wallboard 14 nailed against it. Normally, the sidewalls 22 of the header 20 will be sprung slightly inwardly so that the wall abutments 34 frictionally engage the wallboard 14, thereby holding the header 20 in place while the jambs 16 and 18 are subsequently installed. After the header 20 is replaced, the strike jamb 18 is manipulated such that its upper end is fitted over the stud 10 and the wallboard 14 nailed against that stud, while at the same time its tabs 38 and 42 are inserted through the slots 36 and 40, respectively, in the adjacent end of the header 20. Next the lower end of the strike jamb 18 is pushed over the stud 10 and covering wallboard 14, and the entire strike jamb 18 is then pushed toward the stud 10 until the abutment flanges 50 on its spacer members 46 engage the stud 10. The tabs 42 are then driven downwardly against the flanges 32 on the header 20 so that the header 20 is firmly secured to the strike jamb 18. Thereafter the strike jamb 18 is plumbed, making sure at least one of the spacer members 46 remains in abutment with the stud 10, and then the anchor straps 44 on the strike jamb 18 are nailed to the stud 10 or the plate 15, whatever lies in alignment with those anchor straps 44 in the wall 6.

The hinge jamb 16 is installed over the stud 8 and its covering wallboard 14 in a similar manner, only the anchor straps 44 thereon are not immediately attached to the wall 6. Once the hinge jamb 16 is in place and its tabs 42 are bent over the flanges 32 on the header 20, a screwdriver is fitted into the ex-

posed head of the bolt 82, whereupon the bolt 82 is turned such that the nut 78 is drawn downwardly from its broken line position in FIG. 5. As the nut 78 advances along the shank of the bolt 82, the curved intermediate portion of the spring 72 is also drawn downwardly from the broken line position in FIG. 5 and assumes a configuration having less curvature. Since one end of the spring 72 is fixed with respect to the header 20 at the tang 74 on the track 62, the opposite end shifts longitudinally along the track 62 and drives the slide 66 outwardly by reason of its engagement therewith at the other tang 70. In time the foot 68 on the slide 66 will engage the stud 8 and through the header 20 will exert a laterally directed force on the strike jamb 18, forcing its abutment flanges 50 into even tighter abutment with the stud 10. Thereafter the hinge jamb 16 is plumbed and its strap anchors 44 are nailed through the wallboard 14 and into the stud 8 or plate 15 within the wall 6. The molding 15' which is subsequently installed, covers the strap anchors 44.

The positioning assembly 60 maintains the door frame 2 securely in place within the opening 4, and should it ever work loose, through wood shrinkage or shifts in the building, it can be again tightened merely by inserting a screwdriver in the head of the bolt 82 and drawing the spring 72 downwardly still further.

This invention is intended to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure which do not constitute departures from the spirit and scope of the invention.

I claim:

1. A doorframe for installation in a rough door opening defined in part by first and second upstanding members; said doorframe comprising a first jamb adjacent to the first upstanding member, a second jamb adjacent to the second upstanding member, a header extending between the upper ends of the jambs, connecting means for holding the header and first jamb together, a track on the header, a slide on the track and extendable beyond the end of the track for engagement with the first upstanding member, actuating means for forcibly extending the slide into engagement with the first upstanding member so that the force exerted by the slide urges the header toward the second upstanding member, and means for transferring the force applied to the header by the positioning means to the second jamb, whereby the second jamb is forced tightly against the second upstanding member.

2. A doorframe according to claim 1 wherein the actuating means comprises a curved spring element connected at its one end to the slide and having its opposite and substantially fixed with respect to the header, and means changing the curvature of the spring element, whereby the end of the spring element attached to the slide will move and shift the slide on the track.

3. A doorframe according to claim 2 wherein the means for changing the curvature of the spring element includes a bolt extending through the header and exposed for rotation exter-

nally of the doorframe and a nut on the spring and engaging the threads of the bolt.

4. A doorframe according to claim 3 wherein the fixed end of the spring is attached to the track, and wherein the spring is provided with a longitudinally extending slot through which the bolt extends.

5. A doorframe according to claim 1 wherein the jambs and header each have a pair of sidewalls interconnected by webs, the sidewalls of the jambs and header extending across and obscuring the margins of the rough opening, and wherein the second jamb is provided with spacer elements having abutments located outwardly from the web, the abutments being urged into engagement with the second upstanding member by the slide.

6. A doorframe according to claim 1 wherein the connecting means comprises tabs on the first jamb and slots in the header for receiving the tabs, and wherein the means for transferring the force between the header and second jamb comprise tabs on the second jamb and slots in the header for receiving the tabs.

7. A doorframe according to claim 1 wherein the jambs and the header each have a pair of sidewalls interconnected by a web provided with an inwardly projecting soffit which forms a channel in the web, the sidewalls extending across and obscuring the margins of the rough opening, and wherein the track is mounted in the soffit of the header.

8. A doorframe for installation in a rough door opening having first and second members disposed at the sides of the opening; said doorframe comprising a first jamb positioned adjacent the first member, a second jamb positioned adjacent to the second member, a header connecting and engaged with the upper ends of the jambs so that the jambs and header will shift laterally as a unit, a shiftable pressure element mounted for movement generally transversely of the first jamb and generally toward and away from the first member, a curved spring element connected at its one end with the pressure element and having its opposite end substantially fixed with respect to the header, the spring element being adapted to shift the pressure element relative to the first member when its curvature is altered, and means for altering the curvature of the spring element so as to bring the pressure element into snug engagement with the first member whereby the doorframe will be lodged between the first and second members.

9. A doorframe according to claim 8 wherein the spring element advances the pressure element toward the first member when its curvature is lessened.

10. A doorframe according to claim 9 wherein the means for altering the curvature of the spring element comprises a nut and bolt connected between the spring element and header and having a portion exposed externally of the header for rotation, the bolt and nut changing the curvature of the spring element when rotated relative to each other.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,571,996 Dated March 23, 1971

Inventor(s) Claude Richard Braswell

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

On the cover sheet [56] after line 2, insert
-- 2,835,933 5/1958 Evans-----52/211 --. Column 2
line 43 "tack" should read -- track --. Claim 2, line 3,
"and", second occurrence, should read -- end --. Claim 10, 1
3, "an" should read -- and --.

Signed and sealed this 7th day of March 1972.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents