July 7, 1970 W. HORNER 3,518,794

DOORFRAME HAVING ADJUSTABLE JAMB

Filed Dec. 30, 1968

Fig. 2.

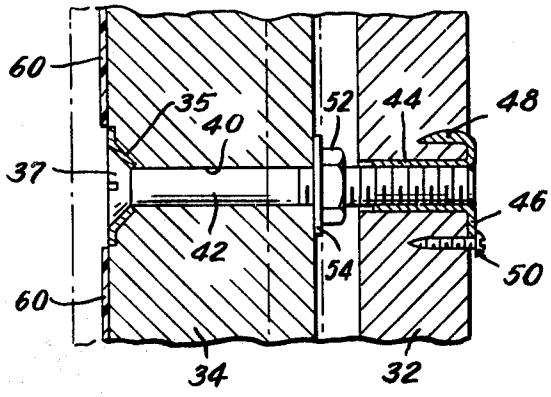


Fig. 1.

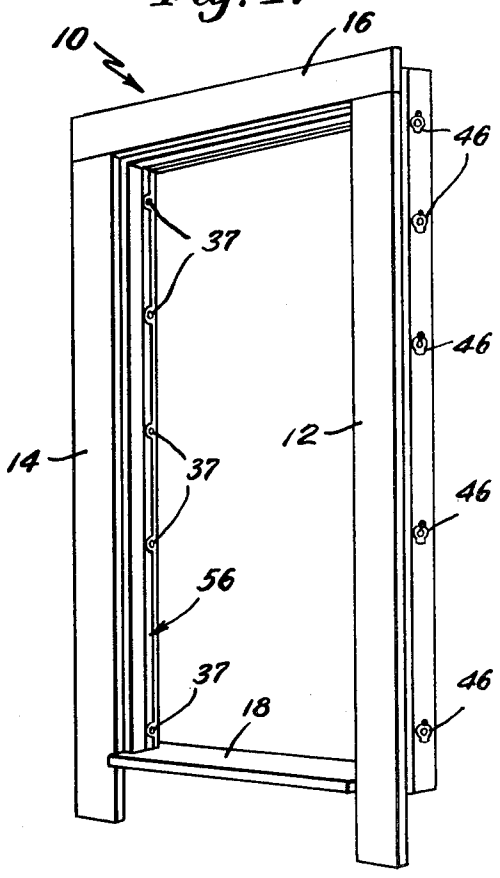
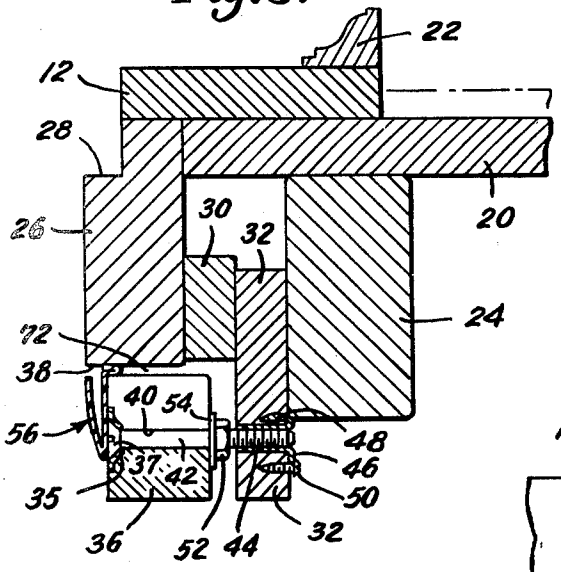


Fig. 3.



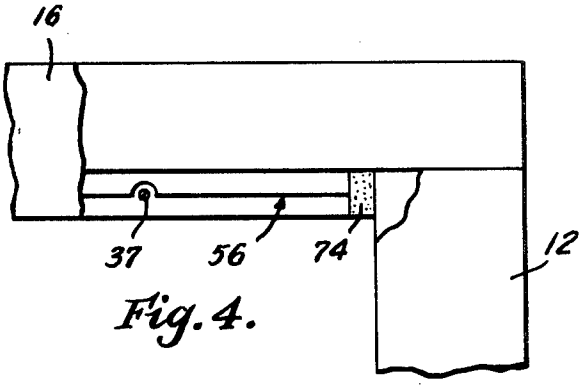
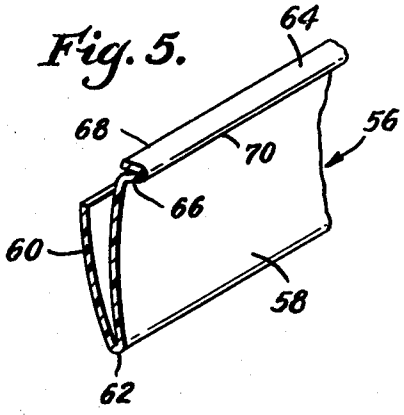


Fig. 4.

Fig. 5.



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DOORFRAME HAVING ADJUSTABLE JAMB

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ABSTRACT OF THE DISCLOSURE

A doorframe having an adjustable jamb that provides for expansion and contraction of a door pivotally mounted thereon, the jamb being adjusted by a plurality of vertically spaced bolts that project through the jamb into a fixed member, and a sealing element mounted on the adjustable jamb for movement therewith and being engageable by the door for effectively sealing the door in the closed position thereof.

BACKGROUND OF THE INVENTION

The present invention has particular application for doorframes having doors pivotally mounted thereon, the jamb as provided for in the instant invention being adjustable to compensate for contraction and expansion of the door.

Prior to the instant invention, some efforts have been made to compensate for the swelling and contracting of a door because of temperature variations. It has been the experience in most areas that as the outside temperature varies, the doorframe either expands or contracts, thereby causing the door to improperly fit in the frame. Oftentimes an expanding door can be corrected by planing or sawing off a portion thereof, but this may only result in an improperly fitted door with respect to the jambs between which the door is mounted, under normal temperature conditions.

In those prior devices that attempted to provide for adjustment of the jamb to compensate for expansion or contraction of the door, an adjustable element comprising a portion of the door jamb was provided and was movable with respect to the door frame in some convenient manner. Although these prior known constructions were serviceable to some degree, they still resulted in functional problems because of the improper sealing of the door edge with respect to the adjustable facing element. As a result if the door was employed as an outside door, air leakage usually occurred which necessitated the use of external sealing members, such as storm doors or the like.

SUMMARY OF THE INVENTION

The adjustable doorframe as embodied in the present invention includes a fixed jamb and a frame member spaced from the fixed jamb. An adjustable jamb is located adjacent to the fixed jamb and cooperates therewith to define a shoulder for receiving an edge of a door when the door is located in the closed position thereof. A plurality of belts extend through the adjustable jamb into the frame member in threaded relation therein and are operable to move the adjustable jamb with respect to the frame member so as to vary the area of the shoulder and thus compensate for expansion or contraction of the door. In order to positively seal the door against the shoulder, a weather sealing element is mounted on the adjustable jamb for engagement by the door, the weather sealing element including a flexible portion that is joined at one end to a body portion and that is engageable by the door so as to effect a sealing action thereagainst.

Accordingly, it is an object of the invention to provide an adjustable door frame that incorporates a jamb having

movement in order to compensate for expansion and contraction of the door that is pivotally mounted on the frame.

Another object of the invention is to provide an adjustable jamb for use with a doorframe that includes a weather sealing element mounted thereon and that is engageable by a door for effectively sealing the door in the closed position thereof.

Still another object is to provide an adjustable jamb for a doorframe that is movable relative to a fixed jamb by a plurality of adjustment bolts that extend through the adjustable jamb for engagement in a frame member, the adjustment bolts being individually adjusted for movement of the adjustable jamb as required.

Other objects, features and advantages of the invention will 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 instant invention:

FIG. 1 is a perspective view of a doorframe assembly showing the adjustable jambs for use therewith as embodied in the present invention;

FIG. 2 is an enlarged fragmentary sectional view of one of the doorframes as illustrated in FIG. 1 showing the adjustable jamb incorporated therein;

FIG. 3 is a horizontal sectional view taken through one of the door frames of the doorframe assembly as mounted in a building construction showing an adjustable jamb and further showing the sealing element that is secured to the adjustable jamb;

FIG. 4 is a fragmentary elevation view, with portions broken away, of a corner of the door frame assembly showing an adjustable jamb and resilient pad as incorporated therein; and

FIG. 5 is a fragmentary perspective view of the sealing element as used with the adjustable jamb illustrated in FIG. 3.

DESCRIPTION OF THE INVENTION

Referring now to the drawing, and particularly to FIG. 1, a doorframe assembly is generally indicated at **10** and includes spaced vertical facing members **12** and **14** to which a header **16** is joined at the uppermost ends thereof. Although not required, a threshold **18** may be incorporated in the frame assembly adjacent to the bottom of the vertical facing members **12** and **14**. As shown in FIG. 3, when the frame assembly **10** is located in a house construction and defines an outside door, a facing member such as indicated at **12** is secured to appropriate sheathing indicated at **20**, a molding **22** being located in overlying relation in a corner of the facing member **12** and thereby providing an ornamental appearance therefor.

As more clearly shown in FIGS. 2 and 3, the doorframe assembly includes a frame member **24** to which the sheathing **20** is secured. Spaced from the frame member **24** is a stationary jamb **26**, the outer edge of which is notched to define a shoulder **28**. The facing member **12** also abuts the outer edge of the stationary jamb **26** and theedge of the facing member **12** cooperates with the shoulder **28** for receiving an outside door in engagement thereagainst, if such a door is required. The stationary jamb **26** is held in position with respect to the frame member **24** by a spacer strip **30** that abuts a support member **32**. As will be hereinafter described, the support member **32** is provided with a plurality of vertically spaced nuts for receiving adjustment bolts therein.

In order to compensate for expansion and contraction of a door (not shown) that is hingedly mounted in the frame assembly **10**, adjustable vertical jambs are mounted in the assembly and are preferably located on both sides of the frame assembly to provide for adjustment of both the butt and free edges of the door; however for purposes of this description, only one of the adjustable jambs is illustrated and described. In this connection an adjustable jamb indicated at **34** is shown in FIG. 3 for use with the construction on which the facing member **12** is mounted. As shown in FIG. 3, the adjustable jamb **34** is defined by an elongated strip, the outer face **36** of which is stepped inwardly with respect to the outer face of the stationary jamb **26** to define a shoulder **38** therewith. It is understood that the inside door for use with the frame assembly **10** engages the shoulder **38** in the closed position thereof. The rear face of the adjustable jamb **34** is spaced from the support member **32** and has a plurality of vertically spaced holes **40** formed therein through which adjustment bolts **42** extend. The outer face **36** of the adjustable jamb **34** is countersunk at each of the openings **40** for receiving frustoconical cups **35** therein, the cups **35** receiving the heads **37** of the adjustment bolts **42** therein, and thereby protecting the wood jamb **36** during rotation of the bolts **42**. The inner end of the shank of each bolt **42** is threaded and extends into a sleeve **44** having an internally threaded bore for receiving the threaded shank of the bolt **42** in threaded relation therein. The outer end of each sleeve **44** includes a face **46** to which inwardly turned prongs **48** are joined that are adapted to be penetrated into the support member **32**. A wood screw **50** extends through an opening in the face **46** for positively mounting the sleeve **44** in place within the support member **32**. Mounted on the shank of each bolt **42** is a nut **52** that is crushed or otherwise secured thereon, a washer **54** also being mounted on the shank of each bolt behind the nut **52** and being positioned for engaging the inner face of the adjustable jamb **36** in protective relation. It is seen that as each bolt **42** is rotated, the threaded portion thereof will advance in the threaded sleeve **44** and will move the adjustable jamb a corresponding distance therewith. The washers **54** act as bearing surface for the rotating bolts **42** and nuts **52** as secured thereto and thereby prevent wear of the inner face of the adjustable jamb **36**.

It is seen that as each of the adjustment bolts **42** is rotated within its sleeve **44** as mounted in the support member **32** the adjustable jamb will be adjusted relative to the support member. The shoulder **38** that is defined by the outer face **36** of the adjustable jamb and the fixed jamb **26** will thereby be varied to compensate for expansion and contraction of the door that is moved into engagement therewith.

It is desirable to seal the door that engages the shoulder **38** against outside drafts or the like, and for this purpose a plastic sealing strip, generally indicated at **56**, is provided. As seen in FIG. 5, the sealing strip **56** includes a relatively flat body portion **58** to which a flexible sealing portion **60** is joined at one end thereof, the flexible sealing portion **60** being movable with respect to the body portion **58** when engaged by a door. The ends of the body portion **58** and sealing portion **60** are heat sealed to define the edge **62**. The edge **62** thus defines the leading edge of the sealing strip **56** and leads the door, as it moves to a closed position, into engagement with the flexible portion **60** for compressing it against the body portion **58**.

In order to mount the sealing strip **56** in place on the adjustable jamb **34**, a flange **64** is joined to the body portion **58** and is defined by a first section **66** and a second section **68** that is reversely bent with respect to the first section along an edge **70**. As illustrated in FIG. 3, the flange **64** projects into a space **72** that is formed between the adjacent surfaces of the adjustable jamb **36** and the fixed jamb **26**. The flange **64** is thus wedged between the adjustable jamb and fixed jamb for effectively mounting the sealing strip **56** in place. In the position as illustrated,

the body portion **58** of the sealing strip overlies a portion of the inner face **36** of the adjustable jamb **34**. When a door is moved toward the closed position thereof it compresses the flexible portion **60** and the sealing strip **56** thereby seals the door edge when the door is moved to a stop position against the shoulder **38**.

When the adjustable jamb is located at the header end of the frame assembly **10** it is desirable to seal the ends thereof and for this purpose a pad **74** is provided as illustrated in FIG. 4. The pad abuts a stationary jamb of a vertical frame portion and thus seals the adjustable jamb of the top header thereagainst. It is understood that the opposite end of the adjustable jamb as located at the top header of the frame assembly is also provided with a resilient pad **74**.

It is seen that applicant's adjustable jamb is simple in construction and requires relatively few parts in the assembly thereof. The adjustment is accomplished in a manner of minutes by use of a screw driver and can be performed by an unskilled person. Since the parts require little or no maintenance, the jamb will last substantially as long as the frame assembly, but may be dismounted without difficulty if it is so required.

What is claimed is:

1. In an adjustable doorframe that provides for expansion and contraction of a door pivotally mounted thereon, spaced vertical fixed jambs to which a horizontal header is secured, a support member spaced from each vertical jamb, an adjustable vertical jamb located adjacent to at least one of said fixed jambs and cooperating therewith to define a shoulder therewith for receiving an edge of said door when said door is located in the closed position thereof, means for adjusting said adjustable jamb with respect to said support member for varying the area of said shoulder with which said door is engageable, a weather sealing element mounted on said adjustable jamb for engagement by said door for effectively sealing the door in the closed position thereof, said adjusting means including a plurality of bolts that project through openings in said adjustable jamb, and a plurality of vertically spaced sleeves fixed in said support member and threadably receiving said bolts for adjustment therein, said weather sealing element including a body portion that is engageable with said adjustable jamb, a flange joined to said body portion and being received between said fixed jamb and said adjustable jamb for locking said element on said adjustable jamb, and a flexible portion joined to said body portion and being engageable by said door when it is moved to the closed position thereof, and a resilient pad joined to at least one end of said adjustable jamb and providing for a continuous seal of said end adjustable jamb during the adjustable movement thereof.

2. In an adjustable doorframe that provides for expansion and contraction of a door pivotally mounted thereon, spaced vertical fixed jambs to which a horizontal header is secured, a support member spaced from each vertical jamb, an adjustable vertical jamb located adjacent to at least one of said fixed jambs and cooperating therewith to define a shoulder therewith for receiving an edge of said door when said door is located in the closed position thereof, means for adjusting said adjustable jamb with respect to said support member for varying the area of said shoulder with which said door is engageable, said adjustable jamb having an inner longitudinal edge that is spaced from an inner longitudinal edge of said fixed jamb to define a longitudinally extending space, and a weather sealing element mounted on said adjustable jamb for engagement by said door for effectively sealing the door in the closed position thereof, said weather sealing element including a body portion that engages said adjustable jamb, a flange joined to said body portion and having a reverse bend that defines a leading edge of said element and that is frictionally received in said space between said fixed jamb and adjustable jamb for locking said element on said adjustable jamb and for sealing the space defined

between said fixed and adjustable jambs, and a flexible portion joined at one end to said body portion angularly located with respect thereto, said flexible portion being engageable by said door when it is moved to the closed position thereof to seal said door against said adjustable jamb.

3. In an adjustable doorframe as set forth in claim 2, said adjustable means including a plurality of bolts that project through openings in said adjustable jamb, and a plurality of vertically spaced sleeves fixed in said support member and threadably receiving said bolts for adjustment therein.

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U.S. Cl. X.R.

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