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ADJUSTABLE DOORJAMB

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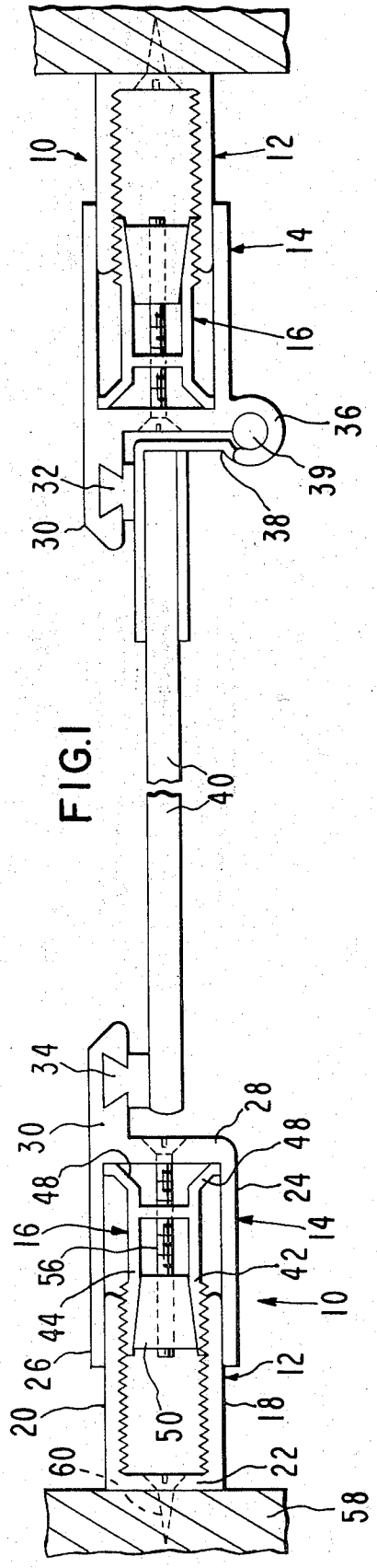

FIG. 1

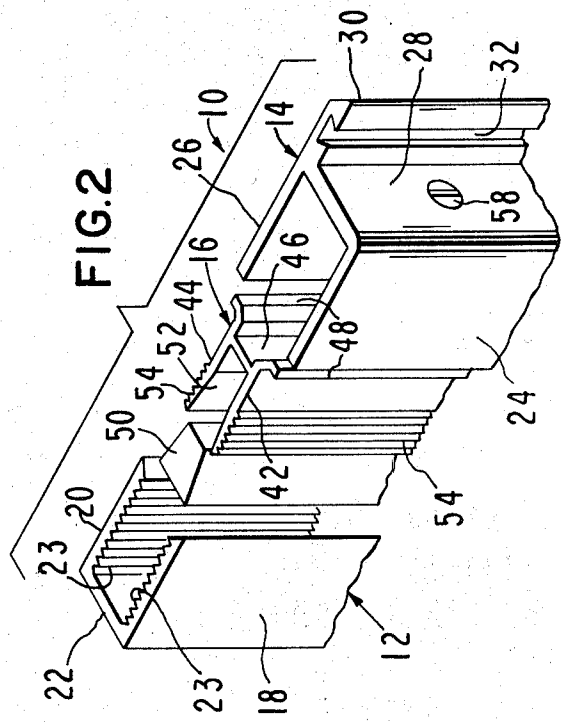

FIG. 2

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ADJUSTABLE DOORJAMB

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ABSTRACT OF THE DISCLOSURE

An adjustable doorjamb having a pair of elongated, relatively shiftable members Each member has a pair of spaced sides and the sides of one of the members are yieldable so that they are movable into and out of frictional engagement with the sides of the other member. Wedge means between the sides of the one member causes its sides to be forced into frictional engagement with the sides of the other member. The wedge means includes an actuator accessible exteriorly of the members.

This invention relates to improvements in door assemblies and, more particularly, to an adjustable doorjamb of improved construction.

The present invention is directed to an adjustable jamb for a door opening wherein the jamb can be used on either side of the door opening and may be provided with hinge means for mounting a swinging door thereon. The jamb has a pair of elongated members adapted to be disposed in upright positions and to be adjustably coupled together at desired location so that door associated therewith will be properly mounted in position. Each of the jamb members has a pair of spaced, generally parallel sides and the sides of one of the members are frictionally engageable with respective sides of the other member. Wedge means between the sides of the one member forces the latter into such frictional engagement with the sides of the second member whereby the members are releasably held in fixed positions with respect to each other. The wedge means has an actuator accessible exteriorly of the members so that the adjustment step can be made quickly and easily and even after a door has been mounted.

The construction of the jamb components allows them to be made from extrusions. The simplifies storage and installation problems inasmuch as the extrusions can be put up in stock quantities at a storage area and can be readily cut to size at the installation site. Thus, completion of the door assembly at a manufacturing site, as distinguished from the installation site, is avoided. Also, the installation of the jamb itself does not require special skills or tools and adjustments can be made over a wide range so that the jamb is suitable for a wide variety of uses.

A particular application of the jamb which is extremely advantageous is its use in forming a part of a shower door assembly. Shower doors are generally fabricated in stock sizes so as to minimize their costs and permit a large number of the same to be stored, ready for installation. Oftentimes, the door assembly is not properly fitted in the opening provided for the door. This is due to the fact that the sides of the opening formed by opposed walls may not be truly vertical or they may be out of parallelism with each other. To offset these departures in wall construction, adjustable jambs have been used in the past, but such jambs have presented additional problems in the way in which the relatively shiftable sections of the jamb are releasably held in place and are adjusted for the particular size of door opening.

The present invention provides an improved jamb of the adjustable type which is extremely simple in construction and which provides positive holding action for the relatively shiftable members which comprise the outer portion of the jamb itself. While providing a friction fit between the members at spaced points thereon, the members can have various degrees of separation along their lengths to compensate for tapers in the sides of a door opening. Another advantageous feature of the invention is the fact that the wage structure for interconnecting the shiftable members of the jamb is readily accessible and requires only a simple tool to manipulate it into a position to effect the holding action of the jamb members.

It is the primary object, therefore, to provide an improved adjustable jamb which is simple and rugged in construction and can be quickly and readily installed at a job site so as to avoid having to make a complete door assembly at a manufacturing site.

Another object of this invention is to provide an adjustable jamb of the type described which has improved wedge means mounted between the opposed sides of each of a pair of jamb members, whereby the wedge means is used to force the sides of one of the jamb members into frictional engagement with the sides of the other jamb member to thereby effectively and releasably interconnect the jamb members.

A further object of this invention is to provide an adjustable jamb of the type described wherein the wedge means is movable by structure accessible exteriorly of the jamb members so that, after the jamb members have been properly positioned relative to each other, the wedge means can be actuated to effect the holding action between the jamb members.

Still a further object of this invention is to provide an adjustable jamb which can be formed from parts capable of being extruded to thereby permit the parts to be made and stored in stock sizes and, when ready for use, the members can be cut and fitted at the site of installation rather than at a manufacturing site to thereby minimize installation costs as well as to facilitate the installation itself.

Other objects of this invention will become apparent as the following specification progresses, reference being had to the accompanying drawing for an illustration of a preferred embodiment of the invention.

In the drawings:

FIG. 1 is a horizontal section through a door assembly utilizing a pair of adjustable jambs of the present invention on opposite sides of a door opening, and

FIG. 2 is an exploded, fragmentary, perspective view of the jamb.

The doorjamb of this invention is broadly denoted by the numeral **10** and includes a pair of elongated jamb members **12** and **14** and coupling structure **16**. Member **12** includes a pair of spaced sides **18** and **20** interconnected by a crosspiece **22**. The inner surfaces of sides **18** and **20** are provided with serrations **23** as shown in FIG. 2. Member **14** is also provided with a pair of sides **24** and **26** which are interconnected by a crosspiece **28**. The distance between sides **24** and **26** is such that sides **18** and **20** can be disposed between sides **24** and **26** in the manner shown in FIG. 1.

Members **12** and **14** are formed from a generally rigid material but the material is such that sides **18** and **20** are yieldable, i.e., they can shift toward and away from each other. Thus, when sides **18** and **20** are adjacent to and in proximity with the inner surfaces of sides **24** and **26**, sides **18** and **20** may move into frictional engagement with the sides of member **14**. Such frictional engagement releasably interconnects the jamb members whereby they are held in fixed positions with respect to each other to complete the assembly of the jamb. Structure **16** effects such frictional engagement.

Members **12** and **14** may be formed from any suitable material. Aluminum has been found especially suitable

for these members inasmuch as the aluminum allows the sides of member **12** to be yieldable, and the members can then be extruded and cut to desired lengths. This latter feature is important since storage problems are minimized inasmuch as a single extrusion can be relatively long length and can be stored until ready for use. Thus, the extrusion can be carried to the job site and cut into the proper lengths there to assure a proper fit for a particular door opening.

Members **12** and **14** extend the length of the door opening and are secured together at spaced locations along their lengths by a number of units of the type having the construction of coupling structure **16**. Member **14** on one side of the door has a lateral flange **30** which acts as a door stop and is provided with a dovetail groove **32** therein for receiving a gasket **34**. Member **14** on the opposite side of the door has, in addition to the flange **30** and the gasket **34**, a hinge portion **36** which is to mate with a hinge portion **38** secured to a door **40**. The presence of flanges **30** and the hinge portion **36** does not prevent members **14** from being made by extrusion processes.

Coupling structure **16** includes a pair of side walls **42** and **44** interconnected by a crosspiece **46** having feet **48** thereon which extend outwardly in opposed directions in the manner shown in FIG. 2. A wedge **50** is receivable within the space between side walls **42** and **44** and the wedge has outer side surfaces which are substantially complemental to respective inner surfaces **52** on side walls **42** and **44**.

Side walls **42** and **44** and wedge **50** form a coupling unit having a predetermined length, such as one inch, whereby they are adapted for releasably interconnecting members **12** and **14** at one location thereon. Other coupling units will be provided at other locations.

The outer surfaces of side walls **42** and **44** are provided with serrations **54** which are adapted to mate with the serrations **23** on sides **18** and **20**. The material forming side walls **42** and **44** and crosspiece **46** is such that side walls **42** and **44** are yieldable, i.e., they may move toward and away from each other depending upon the position of wedge **50** therebetween. The movement of wedge **50** toward crosspiece **46** causes side walls **42** and **44** to move apart. Since side walls **42** and **44** are in proximity to the inner surfaces of sides **18** and **20**, the side walls will cause sides **18** and **20** to move apart as the wedge moves toward crosspiece **46**. The result is that the outer surfaces of sides **18** and **20** move into frictional engagement with the inner surfaces of sides **24** and **26** to thereby releasably interconnect members **12** and **14**.

A screw **56** having a flat head **58** extends through crosspiece **28** and crosspiece **46** and is threadably coupled to wedge **50**. By rotating the screw, wedge **50** can be made to move toward crosspiece **46** to cause the spreading apart of side walls **42** and **44**. Reversing the rotation of the screw will cause wedge **50** to move in the opposite direction. This relaxes the forces on side walls **42** and **44** so that they allow sides **18** and **20** to move out of frictional engagement with sides **24** and **26**.

Feet **48** are disposed to engage the inner surface of crosspiece **28** in the manner shown in FIG. 1 when members **12** and **14** are interconnected. This prevents any relative movement between side walls **42** and **44** and member **14**.

In use, the jamb on each side of the door opening is installed before the door is put into place. To this end, each member **12** is secured to the adjacent wall **58** by a number of screws **60** or other suitable fastening means. When this has been accomplished, a number of coupling units, each having the construction of structure **16**, are connected to member **14** by interconnecting the corresponding screws **58** with the corresponding wedges **50**. In practice, it may be found that only three such units are necessary along the entire length of each jamb. The wedge of each coupling unit will be retracted so that side walls **42** and **44** may be received between sides **18** and **20** to, in turn, permit the last mentioned sides to be received between sides **24** and **26** of member **14**. The initial positioning of member **14** on member **12** can be done before the door is mounted, thus, a final adjustment of the members of each jamb can be accomplished after the door has been mounted on the corresponding jamb.

After both jambs have been mounted in place with members **12** and **14** interconnected with a rough adjustment, door **40** is coupled to the jamb having hinge part **36**. Hinge portions **36** and **38** are interconnected in any suitable manner to allow the door to swing about a generally vertical axis.

By closing the door and viewing the jamb members of the two jambs, it can be observed whether or not the door is properly mounted. If additional adjustment needs to be made, the door can be opened and the various screws manipulated so that the jamb members can be ajusted relative to each other to assure the proper hanging of the door. Following the final adjustment, the door can be closed and the door assembly itself is complete.

If, after an extended period of time, it is desired to re-adjust the settings of the jamb members, this can be done in a minimum of time and with a minimum amount of effort and skill. Such adjustment will require only a simple screw driver to manipulate the various screws **56** to effect the adjustment of the jamb members.

While one embodiment of this invention has been shown and described, it will be apparent that other adaptations and modifications can be made without departing from the true spirit and scope of the invention.

What is claimed is:

1. A doorjamb comprising: a pair of relatively shiftable longitudinally extending members, a first of said members having means for receiving and retaining an elongated fastener to permit the first member to be secured to a wall, each member having a pair of sides, the sides of one member being yieldable for movement into and out of frictional engagement with respective sides of the other member; a central member having a pair of relatively shiftable side walls between the side of said one member; a wedge between the side walls; and a screw threadably coupled to the wedge and extending through the other member, the screw being accessible externally of the members for causing the wedge to move said sides of said one member into frictional engagement with respective sides of the other member, whereby the members are releasably fixed relative to each other.

2. A doorjamb as set forth in claim **1**, wherein the outer faces of said side walls and the inner faces of said sides of said one member are serrated.

3. In a door assembly, a doorjamb comprising: a pair of relatively shiftable members of generally rigid material, each member having a pair of spaced sides, each side of one member being in proximity to and extending at least partially along a respective side of the other member, said sides of said one meember being yieldable for movement into and out of frictional engagement with respective sides of said other member; means shiftable along a path between the sides of said one member for forcing the last-mentioned sides into frictional engagement with respective sides of the other member; and means accessible externally of the members for shifting said forcing means along said path, a first of said members having means thereon for receiving and retaining a fastener for mounting the first member on a wall, the second of said members having a flange for engaging a door.

4. In a door assembly as set forth in claim **3**, wherein said forcing means includes a central element having a pair of spaced, yieldable side walls and a wedge between said side walls, said wedge being disposed to shift said side walls against the sides of a first of said members in a direction to force the last-mentioned sides into frictional engagement with the sides of the second of said members.

5. In a door assembly as set forth in claim **3**, wherein said forcing means includes a central element having a

pair of spaced side walls, and a wedge between and movable relative to side walls for moving the latter apart when said wedge is moved in one direction, said one member and said central element being formed from a yieldable material, whereby said side walls may be urged against the sides of said one member when said wedge moves in said one direction to thereby force the last-mentioned sides into frictional engagement with respective sides of said other member, said shifting means including a screw extending through said other member and threadably coupled to said wedge.

6. An adjustable doorjamb comprising: an inner member having a pair of relatively shiftable side walls defining a space; means within the space and movable relative to said side walls for forcing the latter away from each other; a pair of elongated outer members adapted to be disposed in upright positions, each outer member having a pair of spaced sides, said inner member being between and engageable with the sides of one of said outer members, the sides of said one outer member being yieldable for movement outwardly in response to the movement of said side walls away from each other and being in proximity to and frictionally engageable with the inner surfaces of respective sides of said other outer member; and means coupled with said forcing means and accessible exteriorly of said outer members for moving said forcing means in said space in a direction to cause said side walls to be forced away from each other, whereby the sides of said one outer member will be forced into frictional engagement with respective sides of the other outer member to thereby releasably interconnect said outer members, a first of said outer members having a crosspiece at the end thereof remote from the second of said outer members, the crosspiece having a hole for receiving a screw fastener, the second outer member having a flange extending outwardly therefrom in a direction away from said first outer member, the flange adapted to be engaged by a door when the first member is mounted on a wall by a screw fastener.

7. An adjustable doorjamb as set forth in claim **6**, wherein said inner member has a base interconnecting said side walls, there being a crosspiece interconnecting the sides of said other outer member, said base being in engagement with said crosspiece when said sides of said one outer member functionally engage the sides of said other outer member.

8. An adjustable doorjamb as set forth in claim **7**, wherein said moving means extends through and is shiftable relative to said crosspiece and said base.

9. An adjustable doorjamb as set forth in claim **8**, wherein said base has a width substantially equal to the distance between the sides of said other outer member.

10. An adjustable doorjamb as set forth in claim **6**, wherein said forcing means includes a wedge, the inner faces of said side walls being substantially complemental to the outer faces of said wedge.

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U.S. Cl. X.R.

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