Aug. 21, 1962 H. M. ELMORE 3,049,765

SLIDING DOOR FRAMEWORK WITH ADJUSTABLE FEATURE

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Fig. 1

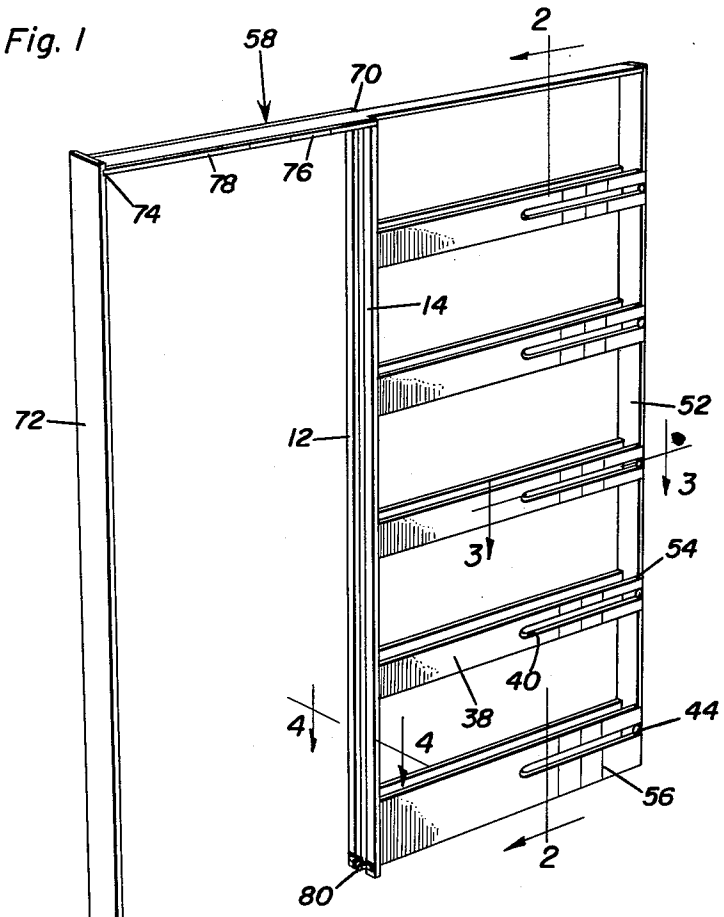


Fig. 3

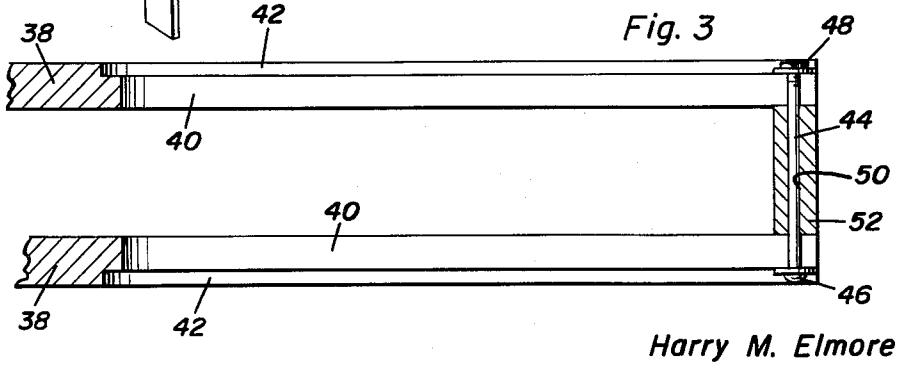
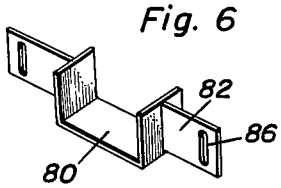


Fig. 6



Harry M. Elmore

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson Attorneys

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Fig. 2

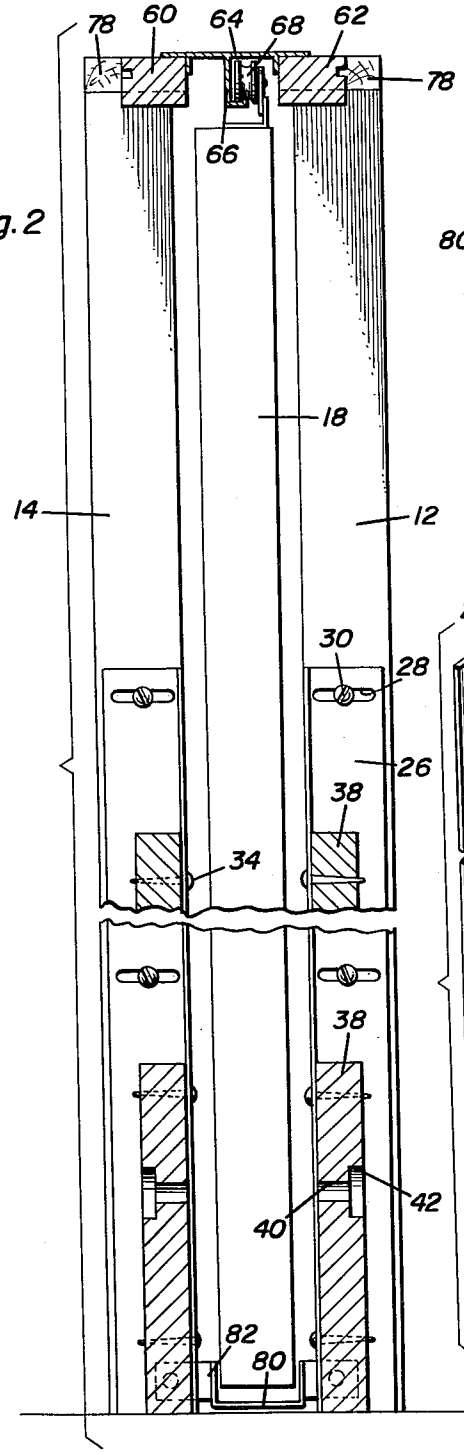


Fig. 4

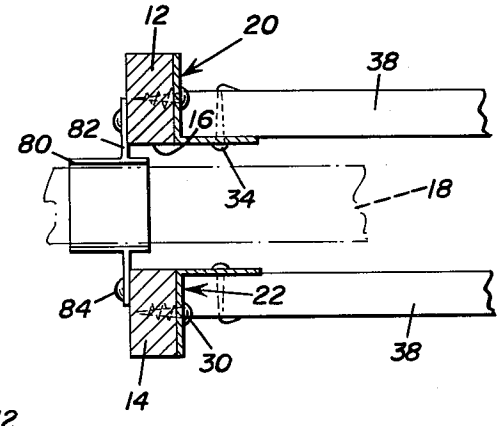


Fig. 5

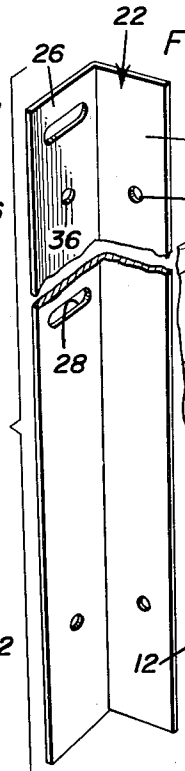
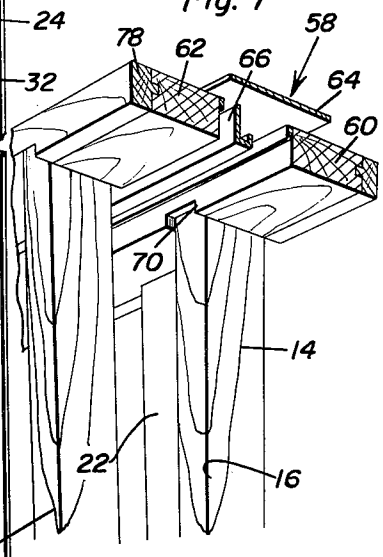


Fig. 7



Harry M. Elmore

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office

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SLIDING DOOR FRAMEWORK WITH ADJUSTABLE FEATURE

Harry M. Elmore, Miami, Fla., assignor of fifty percent to G. L. Tapp, Jackson, Tenn.

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7 Claims. (Cl. 20—19)

The present invention generally relates to improved novel structural features in a sliding door framework having adjustment features for variation of the frame both as to the over-all thickness of the frame and the over-all width of the frame thereby enabling a single assembly to be installed into almost any desired size opening thereby facilitating the reduction of inventory by various suppliers since a single door framework will fit substantially any size sliding door opening. Specifically, the present invention and application represents a continuation in part of co-pending application Serial No. 814,508, filed May 20, 1959, now abandoned for sliding door framework.

In sliding door constructions, it is a conventional procedure that such frames have a solid and fixed split jamb which cannot be adjusted as to thickness and width which requires that a supplier of such door frames carry several standard thicknesses of frames and several standard widths of frames in order to supply frames for all types of wall construction such as plaster walls, dry walls employing gypsum type walboard of different thicknesses or plywood or panel walls in various combinations of these materials which render the walls of different thicknesses.

Frames of this nature that are presently employed normally have a track attached to the undersurface of a header which requires that the header and the frame be made several inches higher than for a corresponding height swinging door thereby requiring that the rough opening for the sliding door be made higher. This places the trim or casing around the sliding door higher and out of line with the other doors in the room or else the door must be cut off in order to get in low enough to line up with the other doors which procedure of course materially weakens the door. Further, due to the attachment of the track to the bottom of the header the track is rather insecure and is noisy due to the rollers moving on the track.

The present invention overcomes the various objections and shortcomings of present sliding door frames by providing a heavy gauge angle iron stiffener or reinforcement fastened to the split jamb in an adjustable manner by providing elongated slot-like holes for receiving fastening screws thereby adjusting the split jamb to a desired thickness for the different types of walls mentioned previously. Another feature incorporated in the present invention is the provision of a structure for adjusting the effective width of the door frame and the length of the header thereby enabling a single frame to be employed with any desired size or width of opening.

Yet another feature of the present invention is the provision of a header having the supporting track mounted from the top surface thereof so that the trim work employed with the frame of the present invention will be disposed at the same elevational height as a swinging door frame so that all of the trime work will be disposed at the same elevation.

Yet another object of the present invention is to provide an adjustable sliding door frame in which the thickness and width of the door frame may be varied and which is simple in construction, easy to install, strong and long lasting in construction and generally inexpensive to manufacture and assemble.

These together with other objects and advantages which

will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompany drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of the sliding door frame of the present invention;

FIGURE 2 is a longitudinal, vertical sectional view taken substantially upon a plane passing along section line 2—2 of FIGURE 1 illustrating the structural features of the door jamb;

FIGURE 3 is a transverse, plan sectional view taken substantially upon a plane passing along section line 3—3 of FIGURE 1 illustrating further structural details of the door frame;

FIGURE 4 is a transverse plan sectional view taken substantially upon a plane passing along section line 4—4 of FIGURE 1 illustrating the details of construction of the split jamb and the guide for the bottom of the door;

FIGURE 5 is a perspecive view of one of the angle iron members for adjustably mounting the split jamb elements in position;

FIGURE 6 is a perspective view illustrating the construction of the bottom guide; and

FIGURE 7 is a partial perspective view of the door jamb assembly.

Referring now specifically to the drawings, the numeral **10** generally designates the sliding door frame of the present invention which includes a pair of split jamb members **12** and **14** which are vertically elongated and which form a slot-like opening **16** for the sliding door **18**. The split jam members **12** and **14** are secured to a pair of angle iron members **20** and **22**, each of which is provided with a relatively short flange **24** and a longer flange **26**. The longer flange **26** extends against the inner surface of the respective split jamb members **12** and **14** and is provided with a plurality of horizontally elongated slots **28** for receiving screw-threaded fasteners **30** that adjustably secure the split jamb members on the flange **26**. The flange **24** is provided with a plurality of openings **32** for receiving driven headed fasteners **34** and the flange **26** is also provided with openings **36** for receiving screw-threaded fasteners which retain the adjusted position of the angle iron members **20** and **22** in relation to the split jamb members **12** and **14** respectively. Of course, the flanges **24** and **26** on the angle iron members **20** and **22** may be of equal length if desired with the critical limitation being the width of the flange **26** to provide sufficient length for the slot **28** for variation in the position of the split jamb members **12** and **14** to compensate for variation in thicknesses of various wall constructions.

Attached to the flange **24** of each of the angle iron members **20** and **22** is a plurality of horizontally disposed and vertically spaced spreaders **38** which are secured in position by virtue of the clinched over fasteners **34**. The ends of the spreaders **38** remote from the split jamb members **12** and **14** are each provided with a longitudinally elongate centrally disposed slot **40** which extends to the free end thereof and the outer edge of each of the slots **40** is provided with a recessed or rabbeted notch **42** for receiving the head or nut of a tie bolt **44**. The orientation of the head **46** and the nut **48** of the bolt **44** in relation to the recess **42** and the slot **40** is clearly illustrated in FIGURE 3. The bolt **44** also extends through a bore **50** in the the back jamb **52** thus facilitating the lateral movement of the back jamb **52**.

The back jamb **52** is provided with cut-outs **54** for receiving the ends of the spreaders **38** thereby providing a smooth exterior surface for the back jamb for reception within the interior of the wall structure. By loosening the bolts **44**, the back jamb **52** may be moved inwardly

to a desired position which will be indicated by a plurality of spaced index lines 56 provided on each of the spreaders 38 thereby enabling the back jamb to be orientated in such a manner that this portion of the frame will receive a sliding door of a desired width. For example, the index lines 56 may be provided with indicia indicating the position of the back jamb 52 for a particular width door so that when it is desired to use the back jamb with a particular width door, it is only necessary to loosen the bolts 44 and move the back jamb into the desired index line and then cut-off the excess material extending beyond the back jamb 52. After the adjustment has been made and the bolt 44 tightened, the spreaders may be additionally secured to the back jamb 52 by nails and the like and if desired, the bolts 44 could then be removed.

Interconnecting the upper ends of the back jamb 52 and the split jamb members 12 and 14 is a header generally designated by numeral 58 that includes two spaced header pieces 60 and 62 disposed in spaced parallel relation inetrconnected by a plate 64 having a depending trackway 66 rigid therewith. The trackway 66 rollingly supports a plurality of roller hangers 68 which support the door 18. With this construction, the vertical height of the headers 60 and 62 takes up for or accommodates a portion of the vertical heigth of the roller brackets 68 and the trackway 66. The plate 64 and trackway 66 is of one-piece metallic construction such as extruded aluminum or the like and the roller bracket may also be aluminum with a roller of plastic material such as nylon or the like. One end of the header pieces 60 and 62 butt join with the back jamb 52 and is secured thereto in any suitable manner. Indicia may be provided on the header 58 so that it may be cut-off in the same manner as the spreaders 38 for a desired door width. Also, the header pieces 60 and 62 are provided with notches or recesses 70 which engage and receive the upper ends of the split jamb members 12 and 14 so that the upper end of the jamb members 12 and 14 are flush with the upper surface of the header 58. The outer end of the header 58 is provided with a depending front jamb 72 that may be provided with a recess 74 engaging the free end of the header 58. The header 58 is also provided with index lines 76 corresponding with the index lines 56 as to the width of the door for which the frame is to be employed. The index line 76 indicates the point of formation of the recesses or shoulders 70 in the header 58 for receiving the upper ends of the split jamb members 12 and 14. Thus, with this construction, the headers may be cut-off to the desired length for engaging the back jamb and may be provided with the recesses or notches for receiving adjustably the split jamb members 12 and 14 which enables the jamb members to be laterally adjusted to the desired degree. Also, the outer edge of the portion of the header members 60 and 62 extending from the recesses to the front jamb 72 is provided with a removable tongue and groove strip 78 which enables the portion of the header between the split jamb and the front jamb to be varied in width for receiving different thicknesses of wall structure.

The bottom of the door 18 is guided through and between the split jamb members by generally U-shaped guide 80 having outwardly extending flanges 82 connected with the split jamb members 12 and 14 by fasteners 84 extending through vertical slots 86 whereby the guide 80 will receive and guide the lower edge of the door 18 as it is moved into and out of the frame.

As previously pointed out, sliding door frames that are being marketed today require five different sized frames in order to fit each of the five various usual width of doors namely two feet, two feet four inches, two feet six inches, two feet eight inches and three feet. With this invention, by placing five bolts through the back jamb with the bolts extending through routed slots in the spreads or cross battens including the base spreader, the back jamb may be moved horizontally to reduce the width of the frame. As the back jamb is moved to its proper location the bolts are tightened and nails are driven through the spreaders and base strip to secure them to the back jamb and the then overhanging parts of the spreaders are cut-off to provide the proper sized unit required. The header with the track applied will be cut off on the back to reduce it to the proper size desired and in this way only one frame can be adjusted to any size down to a two foot frame thereby reducing the amount of stock required to cover the five sizes to only one frame thereby greatly reducing the warehouse space required to carry a stock of frames and also to reduce the inventory involved. The split jamb members may be provided with vertical stops that are attached thereto after adjustments have been made to close the possible large opening in the split jamb and to closely receive the door 18.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A sliding door frame for mounting in an opening in a wall comprising a vertical back jamb and a vertical main jamb, a vertical split jamb disposed intermediate the back and main jamb with the split jamb including spaced parallel jamb members adapted to receive a sliding door therebetween, a plurality of spreaders connected to the back jamb and terminating adjacent the split jam, means adjustably interconnecting the spreaders and the split jamb for adjustably securing the split jamb members to the spreaders for permitting lateral adjustment of the split jamb members for alignment of the outer edge of the split jamb members with the surface of the wall adjacent the opening, and means adjustably interconnecting the spreaders and the back jamb for slidably adjustably securing the back jamb to the spreaders for permitting adjustment of the back jamb along the length of the spreaders for varying the width of the frame for receiving different width doors, said means interconnecting the spreaders and split jamb members including elongated angle iron members having one leg thereof secured to the spreaders, the other leg of the angle iron members having laterally extending slots receiving fastening means extending therethrough and anchored to the split jamb members for lateral adjustment of the split jamb members, and means interconnecting the angle iron members and the split jamb members for retaining the split jamb members in adjusted position after being set.

2. The structure as defined in claim 1 wherein said means interconnecting the back jamb and the spreaders includes a longitudinally elongated slot in each of said spreaders, a bolt extending through oppositely disposed pairs of slots and through the back jamb for adjustably securing the back jamb in adjusted relation to the spreaders, said spreaders being provided with index lines for indicating the position of the back jamb for receiving various doors of standard width.

3. The structure as defined in claim 2 wherein said jamb members are interconnected at the top by a pair of header members, a track supported from said header members and including a horizontal flange resting on and secured to the top surface of the header members, a pair of depending flanges on said horizontal flange engaging the inner edge of the header members thereby rigidifying the header members and supporting the track, said track including a longitudinal trackway depending between the header member, and a door having the upper edge suspended from the trackway on the headers for maintaining the shortest possible height to the frame.

4. The structure as defined in claim 3 wherein said header members are provided with a transverse notch slidably receiving the upper ends of the split jamb members thereby enabling the split jamb members to be adjusted laterally in relation to the header members, said header members including index lines for indicating the point of formation of the transverse notch for receiving various doors of standard width.

5. In a sliding door framework, a pair of split jamb members forming a split jamb, a back jamb, a plurality of spreaders extending between the split jamb and back jamb, means adjustably connecting the split jamb members to the spreaders for permitting variation in the lateral position of the split jamb members, and means adjustably connecting the back jamb member to the spreaders for permitting variation in the lateral position of the split jamb members, and means adjustably connecting the back jamb member to the spreaders for adjusting the distance between the split jamb members and the back jamb member for varying the effective width of the framework, said means interconnecting the back jamb and the spreaders including a longitudinally elongated slot in each of said spreaders, a bolt extending through oppositely disposed pairs of slots and through the back jamb for adjustably securing the back jamb in adjusted position, said spreaders each being provided with index lines for indicating the position of the back jamb for receiving various doors of standard widths.

6. The structure as defined in claim 5 wherein said jamb members are interconnected at the top by a pair of header members, said header members being provided with a transverse notch slidably receiving the upper ends of the split jamb members thereby enabling the split jamb members to be adjusted laterally in relation to the header members, said header members including index lines for indicating the point of formation of the transverse notch for receiving various doors of standard width.

7. The structure as defined in claim 5 wherein said means adjustably connecting the speaders and the split jamb members includes elongated angle iron members having one leg thereof secured to the spreaders, the other leg of the angle iron members having laterally extending slots receiving fastening means extending therethrough and anchored to the split jamb members for lateral adjustment of the split jamb members, and means interconnecting the angle iron members and the split jamb members for retaining the split jamb members in adjusted positions after being set.

References Cited in the file of this patent

UNITED STATES PATENTS

1,267,415	Huckestein	May 28, 1918
2,732,919	Johnson	Jan. 31, 1956
2,832,105	Pearson	Apr. 29, 1958