May 7, 1957 J. L. EICHLER 2,791,006

SLIDING DOOR ASSEMBLY

Filed July 12, 1955 2 Sheets-Sheet 1

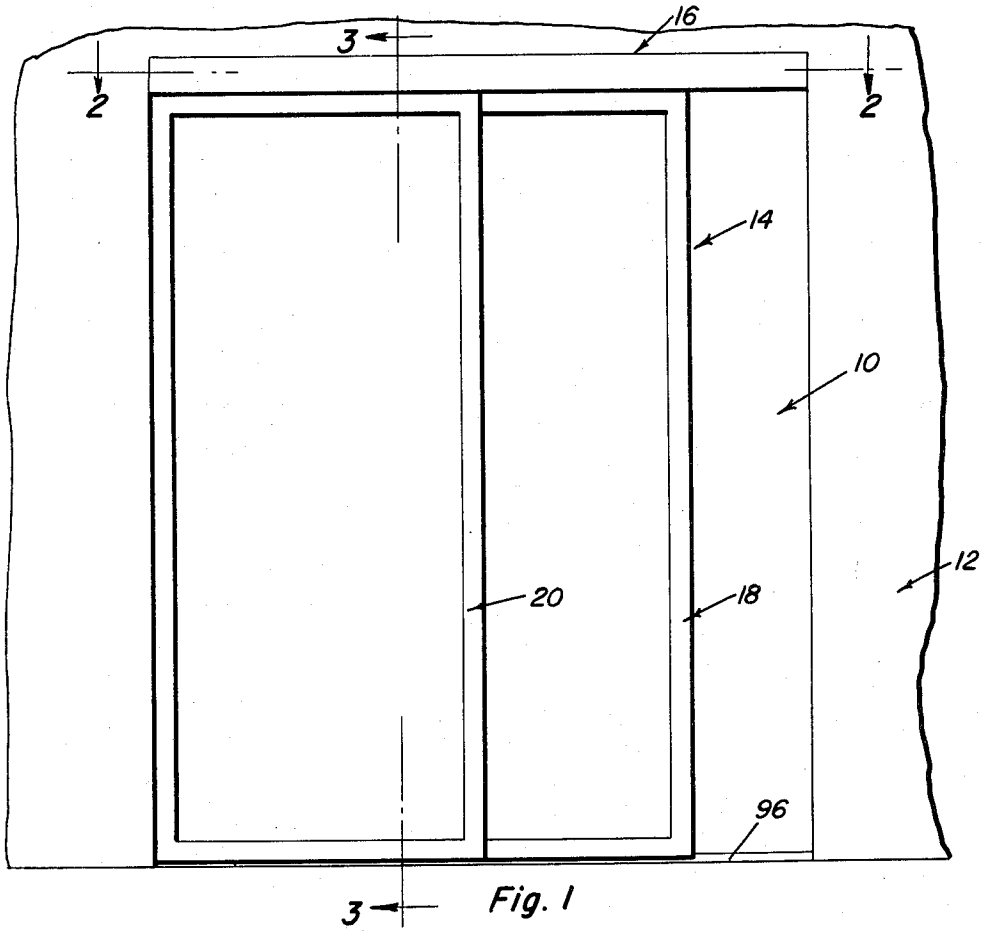


Fig. 1

Fig. 2

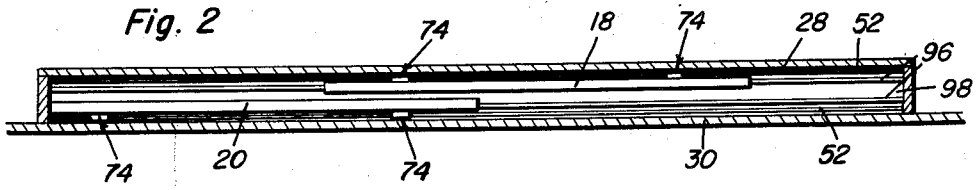
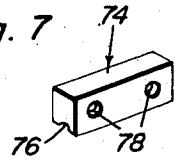


Fig. 7



Joseph L. Eichler
INVENTOR.

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

May 7, 1957 J. L. EICHLER 2,791,006

SLIDING DOOR ASSEMBLY

Filed July 12, 1955 2 Sheets-Sheet 2

Fig. 3

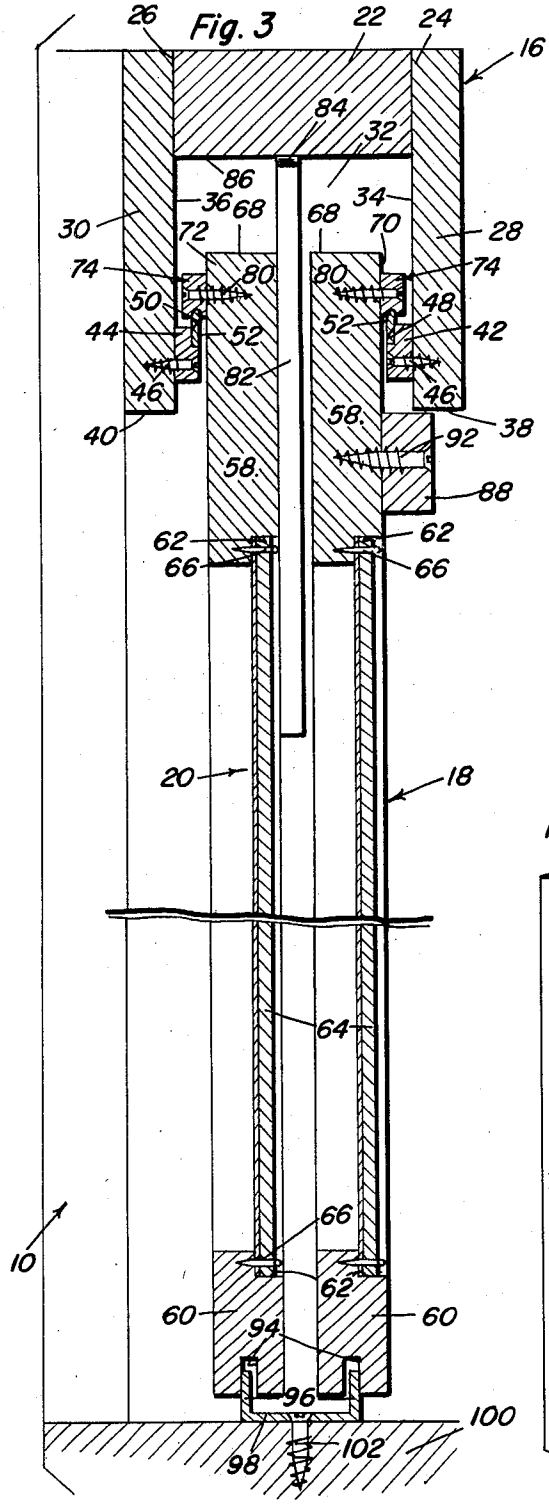


Fig. 4

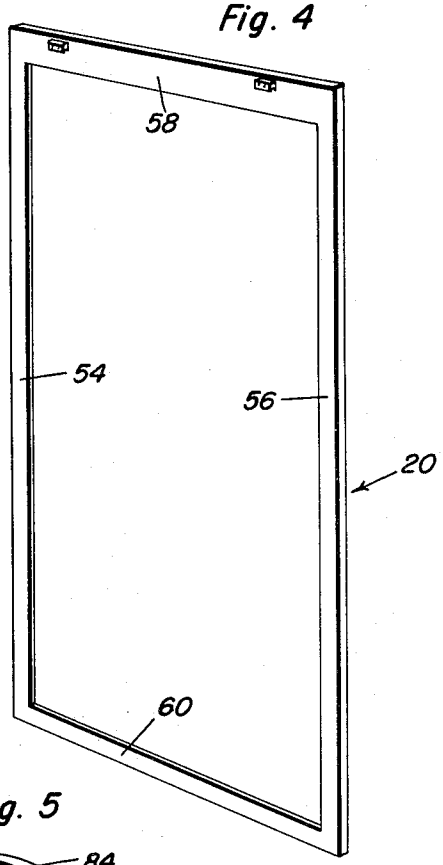


Fig. 5

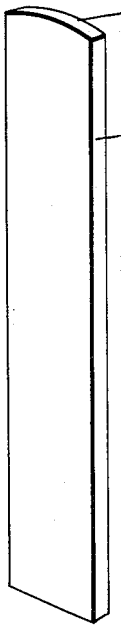
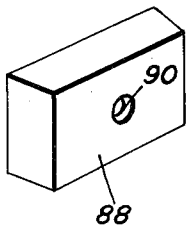


Fig. 6



Joseph L. Eichler
INVENTOR.

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

United States Patent Office 2,791,006 Patented May 7, 1957

2,791,006

SLIDING DOOR ASSEMBLY

Joseph L. Eichler, Atherton, Calif.

Application July 12, 1955, Serial No. 521,490

1 Claim. (Cl. 20—19)

This invention relates generally to sliding door assemblies and is more particularly concerned with a novel sliding door assembly which is economical and readily manufactured, readily installable, light in weight and requiring the minimum of maintenance and being neat and well appearing when installed.

A further object of the invention in conformance with that set forth above is to provide a novel sliding door assembly including a door frame header portion having reciprocably supported therein upper end portions of a pair of overlapping sliding door assemblies wherein the reciprocable support structure for said door assemblies is contained with the door frame header portion.

A further object of invention in conformance with that set forth above is to provide in a sliding door assembly of the character set forth wherein the reciprocable support structure includes cooperating self-lubricated bearing and guide track portions, the door panel assemblies including staple-attached door panel portions, said door assemblies being guidingly supported at a lower edge portion thereof within a door opening.

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 accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a front elevational view of the novel slidable door assembly in position in a door frame;

Figure 2 is a sectional view taken substantially on line 2—2 of Figure 1;

Figure 3 is an enlarged sectional view with portions broken away taken substantially on line 3—3 of Figure 1;

Figure 4 is a perspective view of one of the slidable doors of the assembly;

Figure 5 is an enlarged perspective view of one of the stop elements cooperating with one of the doors of the assembly;

Figure 6 is an enlarged perspective view of another stop element cooperating with the other door of the assembly; and

Figure 7 is a perspective view of the bearing groove elements for the door members.

Indicated generally at 10 is an opening contained in a wall 12 in which the novel slidable door assembly 14 will be mounted. The slidable door assembly 14 includes a door frame header portion 16 and a pair of overlapping slidable doors 18 and 20.

The door frame header portion 16 includes a horizontal top element 22 which is secured in any suitable manner the width of the door opening 10, and has secured adjacent the opposite edge portions 24 and 26 thereof in any suitable manner, a pair of mutually parallel downwardly extending side flange skirt elements 28 and 30, respectively, defining a downwardly opening trough portion 32. The side flange skirt elements 28 and 30 include on oppositely facing inner portions 34 and 36, respectively, in upwardly spaced relation from the lower

edge portions 38 and 40, respectively, a pair of longitudinally extending support strip elements 42 and 44, respectively, which are secured to the side flange skirt elements by means of suitable fasteners, such as the screws indicated at 46. The elements 42 and 44 each include a notched out corner portion 48 and 50, respectively, having suitably secured therein a vertically extending self-lubricating fiber track element 52 which extends the length of the door frame inner portion. The fiber track elements 52 are rounded off at the upper edge portion thereof for the purpose of reducing frictional cooperation with bearing elements to be subsequently described.

The doors 18 and 20 each include mutually parallel side frame elements 54 and 56 suitably connected at their upper and lower ends by transverse head and sill portions 58 and 60, respectively, the elements 54 through 60 each including a grooved edge portion 62, see Figure 3, a frame element forming a recess groove portion in each other for receiving therein a suitable door panel element 64 of fiber, plywood or any suitable material, which is secured in the notched out portion 62 by means of staple elements 66.

The head elements 58 of the doors 18 and 20 each include adjacent upper end portions 68 on oppositely disposed sides 70 and 72, respectively, a pair of spaced bearing groove elements 74 which include a downwardly disposed rounded groove portion 76 for overlying reciprocable engagement with the upper rounded edge portion of the guide rails 52, the bearing groove elements being of a fiber material which is substantially self-lubricating, and including a pair of transverse aperture portions 78 by which the bearing groove elements may be secured to the elements 58 of the doors by means of suitable fasteners such as screws 80. It will be noted that the rail structure and bearing groove elements are all disposed within the trough 34 of the door frame header portion 16.

In order to prevent the accidental removal of the doors 18 and 20 of the tracks 52, the door 20 is provided with a stop element 82 secured in any suitable manner to the head element 58 of the door 20 between the door 20 and door 18, the stop element 82 including an upper rounded end portion 84 which is slightly spaced from a lower surface portion 86 of the horizontal element 22 of the door frame head portion. Thus upward movement of the door 20 is limited by the stop element 82 and accordingly the bearing groove elements 74 thereof will be retained upon the respective cooperating track 52. The door 20 will be that which is normally outwardly facing when the slidable door assembly is used for a closet, for example, and the door 18 includes adjacent the lower edge portion 38 of the side flange skirt element 28 a stop element 88 which includes a transverse aperture portion 90 through which extends a suitable fastening element such as the screw 92 whereby the stop element may be secured to the head element 58 of the door 18 in slightly spaced relation from the lower edge 38 of the skirt portion 28 whereby the bearing groove element 74 of the door 18 are prevented from moving upwardly and off of their respective cooperating guide rails 52.

The doors 18 and 20 each include in the sill portion 60 thereof longitudinally extending downwardly disposed groove portions 94 which guidingly receive upwardly extending flange portions 96, a U-shaped channel element which extends the width of the door frame, the flange elements 96 being secured by means of an integral bight portion 98 which is secured to a floor surface 100 by means of suitable fastening elements such as the screws indicated at 102.

Thus has been disclosed a novel sliding door assembly

which fully conforms the objects of invention heretofore set forth.

Various positional directional terms such as "front," "rear," "top," etc., are utilized herein to have only a relative connotation to aid in describing the device and are not intended to require any particular orientation with respect to any external elements.

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:

In a sliding door, a door frame header comprising a horizontal top element having a pair of depending flanges on opposite sides thereof, a pair of horizontal tracks between said flanges secured thereto in spaced relation to the same, a pair of overlapping doors between said tracks having top and bottom edges, grooved elements on said top edges slidably straddling said tracks, an inverted channel guide extending horizontally beneath said bottom edges and slidably engaged thereby, an upstanding first stop element secured to one door and extending above its top edge, a second stop element secured to the other door below one of said flanges, said first and second stop elements being engageable with the top element of the header and with said one flange respectively, to retain the grooved elements on said tracks.

References Cited in the file of this patent

UNITED STATES PATENTS

580,590	Agard	Apr. 13, 1897
1,950,037	Schaeffer	Mar. 6, 1934
2,353,573	Lindsley	July 11, 1944