Oct. 18, 1966 E. E. DONOVAN 3,278,980

FOLDING DOOR MOUNTING ASSEMBLY AND BRACKET THEREFOR

Filed July 13, 1964

FIG. 1.

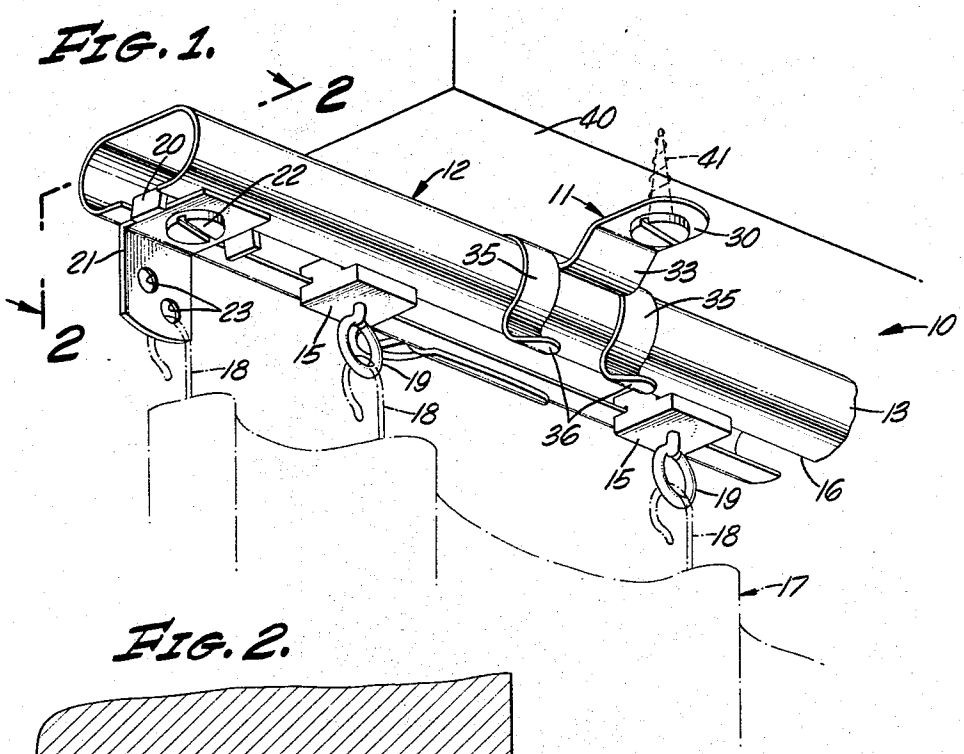
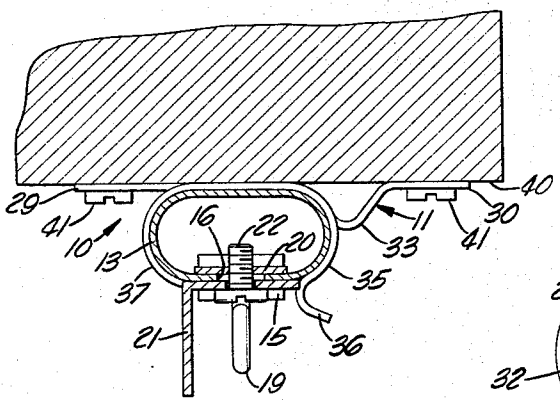


FIG. 2.



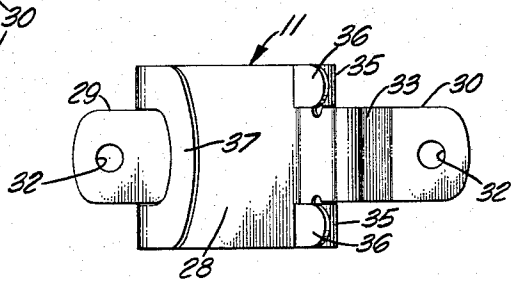


FIG. 3.

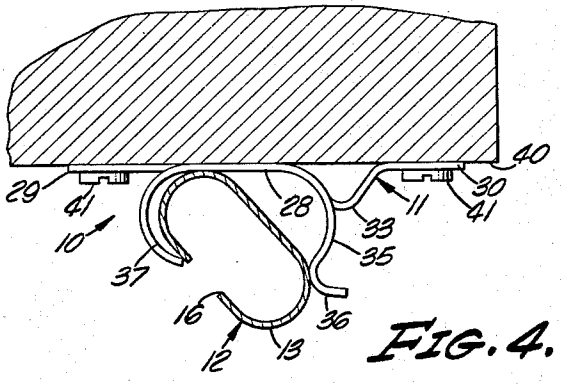


FIG. 4.

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FOLDING DOOR MOUNTING ASSEMBLY AND BRACKET THEREFOR

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This invention relates to door mounting hardware and more particularly to an improved and simplified mounting assembly for folding doors and to an improved bracket for securing the latter to the lintel of a doorway in a manner permitting the track assembly to be quickly assembled into or demounted from the supporting brackets.

Lightweight folding doors of the type commonly operating on the accordion principle have need for a simple, easily-operated yet rugged and durable supporting structure easily attachable to a ceiling or the lintel of a doorway. Various constructions and designs have been proposed heretofore but all are subject to certain disadvantages and shortcomings sought to be avoided by the present invention. One type enjoying considerable favor makes use of a trackway for the sliders of inverted C shape in cross section, and is customarily supported by fasteners extending through holes in the backside or web portion of the track. This arrangement has the advantage that the fasteners are concealed from view but is subject to numerous disadvantages including the fact that access to these fasteners is not easily obtained and it is difficult to determine how the track is held to the doorway. In consequence it is normally necessary to secure the services of a skilled workman to install it as well as to remove it. Particularly objectionable is the fact that the door supporting sliders often catch on the heads of the fasteners and cause costly damage to the door if not to the supporting hardware.

By the present invention there is provided a simplified mounting assembly utilizing an imperforate main track member which is quickly insertable into and demountable from specially designed supporting brackets individually securable to a supporting structure. The brackets are of one-piece resilient metal construction having inconspicuous mounting tangs projecting to either side of the doorway track unit where they are readily accessible for the insertion and removal of the mounting fasteners. The main body of the bracket includes cooperating spring fingers into and out of which the track unit is readily rotatable by finger pressure applied to the track unit. In consequence, the door itself and its mounting track can be quickly detached or later reinstalled as a unit without tools and by the occupants of the premises in which the equipment is installed.

Accordingly it is a primary object of the present invention to provide a simpler, more rugged, and versatile folding door mounting assembly including a plurality of rugged spring mounting brackets and a readily separable track unit for the sliders.

Another object of the invention is the provision of a folding door mounting assembly having a slide mounting track member designed to be rotated or rocked into and out of spring clip brackets readily secured inconspicuously to the underside of a door lintel or to the ceiling.

Another object of the invention is the provision of a simple, one-piece spring clip mounting bracket for the reception and quick release of a track unit for a folding door.

These and other more specific objects will appear upon reading the following specification and claims and upon considering in connection therewith the attached drawing to which they relate.

Referring now to the drawing in which a preferred embodiment of the invention is illustarted:

FIGURE 1 is a fragmentary perspective view of the invention door mounting assembly and its relationship to an accordion type folding door;

FIGURE 2 is a cross sectional view taken along **2—2** on FIGURE 1 showing the trackway unit assembled to one of the brackets;

FIGURE 3 is a plan view from the open side of one of the mounting brackets; and

FIGURE 4 is a view similar to FIGURE 2 but showing the track unit in the process of being rotated into assembled position within a bracket member.

Referring more particularly to FIGURE 1, there is shown a preferred embodiment of a folding door mounting assembly designated generally **10** incorporating the features of the present invention. This assembly includes a plurality of identical mounting brackets designated generally **11** mounted in spaced alignment with one another and releasably supporting therewithin a track unit subassembly designated generally **12**. This unit includes an elongated track member **13** of inverted C-shape as viewed from one end having a plurality of nylon slide members **15** loosely and slidably supported within its slot **16**. Any suitable accordion type folding door or the like indicated at **17** and provided with supporting loops **18** along its upper edge can be suspended from eye bolts **19** depending centrally from sliders **15**.

Slide rails **13** are conveniently formed from rolled sheet metal stock and customarily are of the same cross section and shape from end to end. Sliders **15** are normally held captively assembled within slot **16** by a U-shaped clip **20** bridging slot **16** at the opposite ends of the track and held clamped across this slot by a depending L-shaped member **21** held to member **20** by a screw **22**. The depending leg of member **21** is provided with one or more apertures **23** engageable with a suspension hook **18** of the folding door. Both ends of the track are not shown but it will be understood that the same slider anchor assembly is preferably provided at both ends of slot **16**.

Referring now more particularly to FIGURES 2, 3 and 4 it is pointed out that the one-piece mounting brackets or clips **11** are desirably stamped from sheet spring metal stock and have the general configuration shown in the drawing. Each bracket has a wide flat central portion **28** having integral finger-like mounting tangs **29, 30** projecting in opposite directions therefrom and provided with fastener receiving apertures **30, 32** in their outer ends. One of the tangs, as **30**, is desirably longer than the other and is corrugated or humped crosswise of its junction with central portion **28**. This hump designated **33** augments the resiliency and supporting strength of the brackets and facilitates the installation and removal of track members **13** therefrom.

A pair of identical inwardly curled fingers lie parallel to one another and are spaced immediately to either lateral side of tang **30**. Their outer free ends are bent outwardly at **36** and serve as rounded pilots useful in guiding the slider track **13** into assembled position in the brackets.

A cooperating inwardly curled and generally C-shaped clamping finger **37** straddles mounting tang **29** and has its opposite ends integral with the central body portion **28** of bracket **11** immediately to either side of tang **29**. As will be evident from the drawing, and particularly from FIGURES 2 and 3, each of the free resilient clamping fingers **35, 35** and **37** are complemental in shape to the similarly inwardly curled opposite sides of track **13**. End portions of these fingers terminate in spaced relation to either lateral side of slot **16** of the track member so

as not to interfere with the movement of the sliders along slot **16**.

Although only one of the mounting brackets is shown secured to the underside of a door lintel **40** by mounting screws **41**, it will be understood that, in practice, an adequate number of brackets **11** are located at spaced intervals throughout the length of track **13**. Any suitable spacing such as 10 to 15 inches suffices, it being desirable to employ a greater number of brackets for a heavier folding door than for a lighter one.

In the assembly of the described fittings to the lintel of a doorway or to a ceiling, the user first installs mounting bracket **11** at any suitable spacing. These are mounted in accurate alignment with one another by driving mounting screws into the overhead structure. This having been accomplished, the second subassembly comprising track unit **12** is installed simply by inserting one longitudinal edge into seating engagement with the interior surface of C-shaped spring fingers **37** and thereafter rotating or rocking the other curled edge past the rounded outer ends **36** of fingers **35** until rail member **13** is fully and snugly seated between the resilient fingers of the several brackets in the manner shown in FIGURES 1 and 2.

Demounting of the assembly is accomplished equally as simply and without need for tools by grasping track unit **12** between the thumbs and fingers and rotating the near edge, as viewed in FIGURE 1, downwardly past the outer ends of spring fingers **35** until it is in the position shown in FIGURE 4 whereupon the entire unit may be lifted out of the bracket.

While the particular folding door mounting assembly and bracket therefor herein shown and disclosed in detail is fully capable of attaining the objects and providing the advantages hereinbefore stated, it is to be understood that it is merely illustrative of the presently preferred embodiment of the invention and that no limitations are intended to the details of construction or design herein shown other than as defined in the appended claims.

I claim:

1. A spring clip mounting bracket for use in releasably supporting an overhead track assembly for a folding door, said mounting bracket being formed in one piece from strip spring metal stock, said bracket having a wide flat central body portion provided with mounting tangs integral therewith and projecting in opposed directions from the opposite sides thereof and formed at their outer remote ends with an opening to receive the shank of a mounting fastener, a pair of finger-like tangs curled outwardly and inwardly from said main body and positioned parallel to and one to either side of one of said mounting tangs, a C-shaped tang embracing the other of said mounting tangs with its opposite ends located to either side of said last mentioned mounting tang and integral with the main body, said C-shaped tang being curled outwardly and inwardly from said main body and toward the outer ends of said finger-like tangs and being cooperable therewith resiliently to grip the oppositely and inwardly curled flanges of a long C-shaped track strip of an overhead track assembly for a folding door unit and adapted to be rolled into said spring clip mounting bracket as one edge of said track is pressed against the interior surface of said C-shaped tang.

2. A mounting bracket as defined in claim **1** characterized in that one of said mounting tangs has a hump extending transversely thereof adjacent the junction of said one mounting tang with said main body and serving to augment the resiliency of said bracket and facilitating the removal of the track assembly from said bracket while the latter is secured to the underside of a door lintel.

3. In an overhead track and support assembly for folding doors and the like of the type having a C-shaped track having a slot for a plurality of door support sliders, that improvement which comprises a spring mounting clip anchorable to the underside of a door lintel and detachably receiving said track, said mounting clip being formed in one piece from heavy gauge sheet metal, said clip having a pair of apertured mounting tangs disposed in a common plane for anchoring said clip to the door lintel, and said clip having a pair of resilient jaws spaced and shaped to seat and detachably grip the opposite sides of said C-shaped track therein and to retain the same assembled to said clip and to support the weight of a collapsible door, said tangs being stamped from the midportion of said resilient jaws whereby said jaws comprise U-shaped strips of metal having the ends of their respective legs extending toward one another from the midportion of said clip.

4. The combination defined in claim **3** characterized in that one of said tangs is corrugated transversely thereof to augment the resiliency thereof.

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