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2,293,841

HANGER FOR SLIDING DOORS

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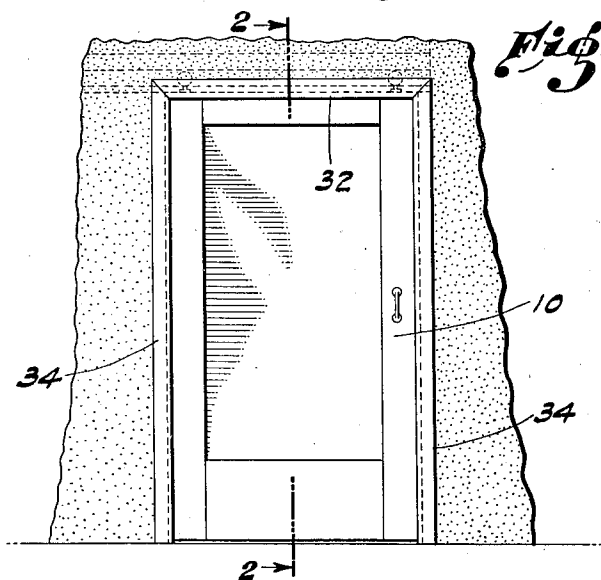


Fig. 1.

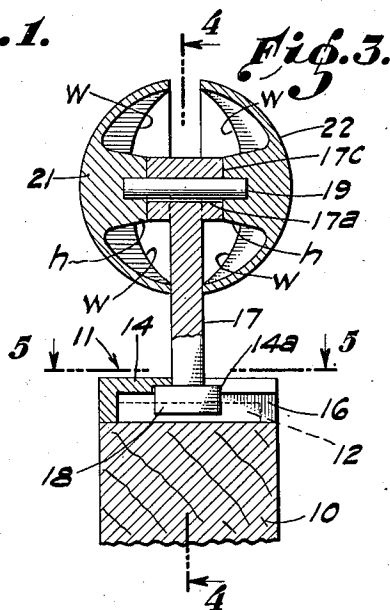


Fig. 3.

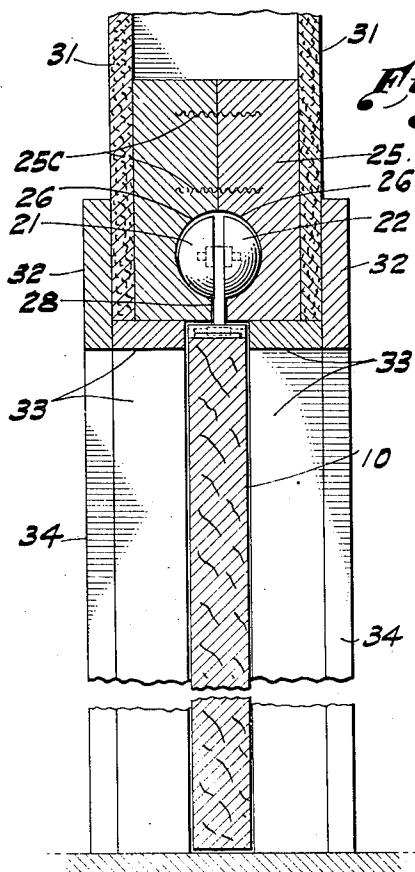


Fig. 2.

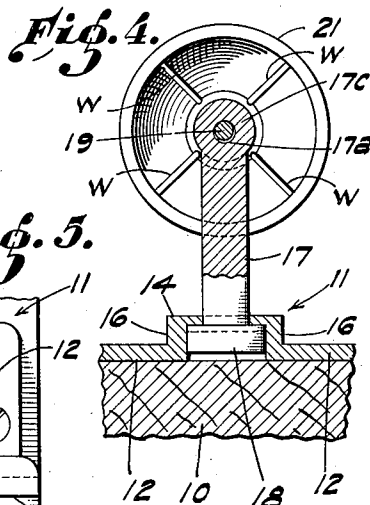


Fig. 4.

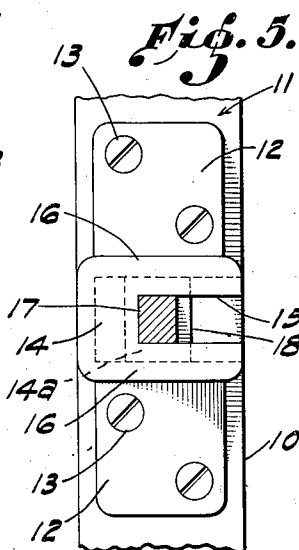


Fig. 5.

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HANGER FOR SLIDING DOORS

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Original application February 25, 1939, Serial
No. 258,446. Divided and this application
June 11, 1940, Serial No. 339,993

1 Claim. (Cl. 16—97)

This invention relates to a hanger means for slidable doors.

Among the objects of the invention are: to simplify and lower the cost of hanger means for a sliding door by making the track element for the hanger a part of the header or lintel construction of the doorway thus avoiding the extra expense and labor involved in constructing and installing a separate track element for the hanger means; to provide a more perfectly concealed track means for the door hanging means; to provide a door opening header construction that may readily have its side portions coated with plastering; to provide for building in not only the track for the door hanger but also a part of the hanger element that cooperates therewith, thus making the installation of the door proper a very quickly and easily performed operation; and to in other respects simplify and lower the cost of structures of the kind to which the invention pertains.

It is also an object of the invention to provide a door hanger means whereby broader, more satisfactory bearing surfaces are afforded the bearing means.

Another object of the invention relates to a hanger construction for a slidable door which will be provided with improved means to keep the door in place upon the hanger member.

Still another object is to provide a more compact hanger means for slidable doors so that a plurality of doors slidable into an overlapping relation to each other may more conveniently be installed in a single door opening.

The present invention is a division of my co-pending application entitled Hanger for sliding doors, filed Feb. 25, 1939; Ser. No. 258,446, which matured into Patent No. 2,207,322 issued July 9, 1940.

Other objects, advantages, and features of invention will hereinafter appear.

Referring to the accompanying drawing, which illustrates what is at present deemed to be a preferred embodiment of the invention as now reduced to practice:

Fig. 1 is a side elevation of the assembled structure, the mounted door being shown closing a door opening in a fragment of one of the partition walls of a dwelling.

Fig. 2 is a vertical section on line 2—2 of Fig. 1, a part of the wall and of the door being broken away to contract the view, the parts being shown on a larger scale than in Fig. 1.

Fig. 3 is a reproduction on a still larger scale of a portion of the hanger structure shown in

Fig. 2, except that additional parts are sectioned.

Fig. 4 is a section on line 4—4 of Fig. 3.

Fig. 5 is a transverse section on line 5—5 of Fig. 3.

Referring in detail to the drawing, the door 10 is of the slidable type and is of a kind suitable for use in a dwelling in situations where it is desired to avoid using a swinging door.

To the top portion of said door is secured near each vertical edge thereof a bracket 11 which comprises basal flanges 12 firmly secured to the top of the door by means of screws 13, and a raised portion 14 furnished with a slot 15 opening out at one end of the bracket. Said raised portion 14 is dimensioned to extend across the entire width of the door to which the bracket is secured, and therefore provides a gauge for positioning the bracket properly even though its basal flanges be narrower than the door.

Describing now the hanger means which cooperates with the bracket 11 to slidably suspend the door in its installed position, a headed, bolt like member 17 of slightly less diameter than the width of the slot 15 is provided, said member 17 having at its lower end a head 18 nearly spanning the space between the side walls 16 of the raised portion of the bracket.

A rectangular seat or recess 14a in the lower side of the plate portion 14 receives the upper portion of the head 18 and aids in keeping the hanger in its operative position. Said recess affords, at each side of the slot 15, a shoulder extending lengthwise of the plate against which one side of the head of the suspending member 17 abuts when the parts of the device are assembled.

The upper portion of the hanger bolt 17 is of a cruciate shape and has an open ended bore 17a extending axially through its transverse part 17c. Said bore rotatably receives a cross pin which projects beyond each outer end of the transverse part 17c. Upon the end portions of said pin are mounted the semi-spherical shells 21 and 22.

Each of said semispherical shells has, projecting interiorly of its concave side, a hub h which has extending centrally into its outer end a bore. Into one of these bores one end portion of said cross pin 19 is fixed, and the other end of said pin is forced with a driving fit into the bore of the opposite hub. By this arrangement a bearing structure is provided wherein, owing to there being free working fits between the ends of the transverse part 17c and the hub ends, friction is limited to the bearing surface between the pin 19

and the surface of the bore through which it extends.

It will, of course, be understood that the pin 19 will be put in place within the transverse part 17c of the hanger bolt before the semispheres 5 are mounted thereon in the manner stated.

Four equally spaced reinforcing ribs or webs w are shown positioned on the concave side of each of the semispherical shells.

A track means is provided for the hanger 10 structure. This track is formed within the lower portion of a built-in header 25 forming the upper portion of the door frame and shown in Fig. 2 as being of a two-part wooden character. Each half of this wooden structure has a semi-circular groove 26 formed in the inner face of its 15 lower portion, said grooves registering with each other and thus providing a circular track or runway for the spherical portion of the hanger structure that has been described. The lower 20 portion of the inner face of each of the grooved pieces comprising the built-in header 25 is cut away at 28, thus providing a channel somewhat wider than the body portion of the hanger bolt or rod 17. The part of the hanger bolt which 25 passes through the channel or isthmus thus formed is desirably rectangular as shown in section in Fig. 5. The head 18 of the bolt is also shown as being rectangular. It fits with a working fit between the side walls 16 of the bracket.

The twin timbers which form the header 25 are secured to each other by any suitable fastening means, for example, the internal clips 25c.

The header 25 is shown faced along each side with a layer of plaster 31, the lower portion of which is covered by a trim strip 32. The underlying header strips 33 complete this part of the structure. Door jamb strips 34 are also provided. 40

It will be seen that by this invention a header which forms the upper part of a regular door

opening is utilized to form a track for the hanger means whereby the door closure member is slidably supported. This feature lessens the cost of the structure by avoiding the necessity of supplying any factory made track member by which to support the hanger means of the door. When the carpenter puts the header in place, he can include therewith the assembled hanger members, leaving their heads 18 projecting slightly below the lower side of the header, as shown in Fig. 2. Then, before the trim pieces are supplied, the door with its attached brackets 11 can be hung in a quick and easy manner and without the use of tools. This is done by aligning the hanger member heads 18 with said brackets 15 while the door is positioned close to and facing the door opening. Thereupon the slotted portions of the top walls 14 of the brackets are moved transversely astride the hanger rods 17 and in an overlying relation to the heads 18 of said rods. Lastly the trim members are put in place at the sides of the door opening.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the subject matter claimed.

What is claimed is:

A hanger assembly for a sliding door, comprising a movably mounted supporting bracket having a depending shank with an integrally formed enlarged head at the lower end thereof, a plate secured directly to the top edge surface of the door and having a raised portion with a slot leading into one edge thereof to receive the enlarged head on the lower end of the depending shank, said raised portion having a flat sided socket recess, the walls of which recess cooperate with a head of similar configuration on the depending shank to prevent relative rotation and forming a retaining seat therefor.

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