Nov. 17, 1931. N. A. GUSSACK 1,832,203

DOOR HANGER

Filed June 25, 1927

Fig. 1.

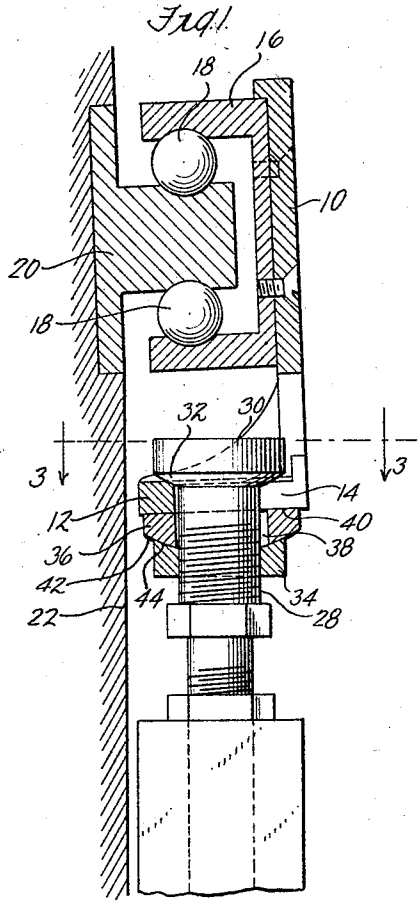


Fig. 2.

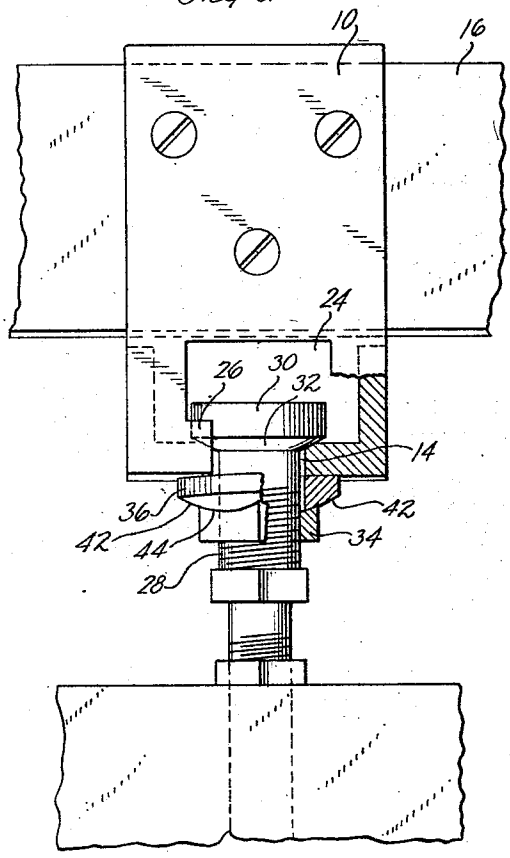
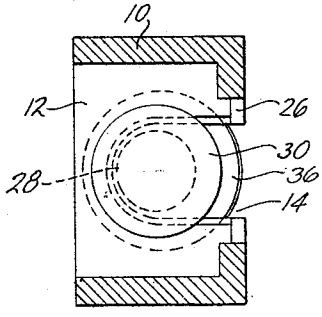


Fig. 3.



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DOOR HANGER

Application filed June 25, 1927. Serial No. 201,291.

The present invention relates to improvements in door hangers, and it pertains more particularly to hangers for doors of the sliding type.

Sliding doors generally travel along a track which may be supported in any desired manner. Free sliding of the door is often interfered with due to the irregularities in the support to which the track is secured, this being particularly true when the door is of the type suspended from a track carried by one of the walls of a building. It frequently happens that the face of the wall or other support upon which the track is mounted does not occupy a true vertical plane, thus throwing the track out of vertical line with the door and causing the same to either rub the wall or support or to occupy position considerably spaced with respect thereto.

It is one of the primary objects of the invention to improve the construction and mode of operation of sliding door hangers to obviate the disadvantages above pointed out, and to provide a sliding door hanger which may be adjusted relative to the door to cause the same to occupy a position in the true vertical plane even though the track along which the hanger travels may be out of alignment with the true vertical plane, and which will at the same time permit of a rigid connection between the hanger and the door.

With the foregoing in view, the invention contemplates a hanger frame having an opening for the reception of a connecting means, the body of which is smaller than the opening, to permit of limited relative movement between the connecting means and the hanger frame. This relative movement between the connecting means and the hanger frame, permits of adjustment of the connecting means angularly with respect to the hanger frame, and means is provided for securing the connecting means in its adjusted position.

In the accompanying drawings

Figure 1 is a sectional view illustrating one embodiment of the present invention;

Figure 2 is a view partly in elevation, and partly in section, said view being taken at right angles to Figure 2; and

Figure 3 is a horizontal sectional view taken on the line 3—3 of Figure 1.

In its present illustration, the invention comprises a hanger frame such as 10 and said hanger frame 10 may have a lower extension such as 12 provided with a suitable opening 14 preferably in the form of an elongated slot. While but one hanger frame is shown in the drawings it is to be understood that a sufficient number to properly suspend the door may be employed. The hanger frame is attached to a track member 16 which has engagement with anti-friction elements 18, which in turn have suitable engagement with a track 20, carried by a suitable support, as for example, a wall 22.

As more clearly shown in Figure 3, the hanger frame is cut out as at 24 in alignment with and forming a continuation of the opening 14 heretofore mentioned, and this cut out portion is so formed as to provide projections or the like 26 on its opposite sides near the bottom thereof.

The cut out portion 24 of the hanger frame 10 permits of the passage of the connecting means which in the present embodiment of the invention comprises a headed bolt 28, to position in the opening 14, as more clearly shown in Figure 2, the head 30 of the bolt resting upon the extension 12 of the hangar frame and positioned behind the projections 26 which serve to prevent accidental displacement of the connecting means relative to the hanger. The opposite end of the connecting means may be suitably attached to a door such as 29.

The head 30 of the bolt 28 has a curved or angular face 32 which rests upon the similarly curved opening 14. This construction permits of rocking of the bolt 28 within the opening 14 to positions in which it is angularly disposed with respect to the hanger frame 10 so that even though the hanger frame 10 when mounted on the track 20, may occupy a position at an angle to the true vertical plane, the connecting means will automatically position itself through the weight of the door, so as to suspend the door in the true vertical plane.

Suitable clamping means for securing the

connecting means in its proper position is employed and in the present embodiments this means comprises a nut 34 and a washer 36. It will be noted that the opening 38 in the washer 36 is larger than the diameter of the connecting means, which construction permits of movement of the connecting means relative to the washer 36, for the purpose of adjustment thereof relative to the hanger frame 10.

The washer 36 has a flat face 40 for engagement with the adjacent face of the extension 12, and an outer curved or angular face 42 which latter is adapted for engagement with a correspondingly curved or angular face 44 on the nut 34 when said nut 34 is screwed home to secure the connecting means to the hanger frame 10.

In Figure 1 of the accompanying drawings is illustrated one manner of use of the present invention. In this figure, that portion of the wall or support to which the track 20 is secured is out of vertical alignment with the plane in which the door should hang in order to provide free operation thereof. Under such conditions, with the ordinary type of door hanger, if the bolt 28 were rigidly secured to the hanger frame 10, the door could not hang in a true vertical plane but would instead, occupy a position in which it would be considerably spaced from the support or wall 22 and at a considerable angle thereto. Furthermore under such conditions the strain produced by the angular relation of the door to the true vertical plane would seriously interfere with the free and easy operation of the door.

With a hanger constructed in accordance with the present invention, however, when the above described or similar condition exists, the bolt 28 of the connecting means is adjusted within the opening 14 until it occupies a position in a true vertical plane. This adjustment of the bolt 28 may be readily obtained since the curved or angular face 32 of the bolt head 30, and the play provided by the elongated opening 14 permit the bolt to rock within the opening 14 to a position wherein the door hung therefrom will occupy a position in the true vertical plane. After the bolt has been properly positioned in the hanger frame 10, the nut 34 is tightened and the washer will be automatically positioned with its flat face 40 in engagement with the extension 12 of the hanger frame 10 and the angular face 44 of the nut 34 will engage the correspondingly curved or angular face 42 of the washer 36. If now the nut 34 be screwed home, the connecting means will be rigidly held in its adjusted position, and assuming that the adjustment has been properly made, the door will hang in the true vertical plane.

It is to be understood that the invention is not limited to the particular construction of the illustrated embodiment thereof, but that the invention may be embodied in other forms within the scope of the appended claims.

What is claimed as new is:

1. A door hanger including a hanger frame having an opening therein, a door suspension bolt mounted in said opening, said bolt having limited swinging movement in said opening to angular positions with respect to said hanger frame, and means carried by the bolt for rigidly securing the same in its adjusted position, said means comprising a head on said bolt, an angular face formed on said head and adapted for engagement with the hanger frame, a washer having a flat face for engagement with the hanger frame, said washer also having an angular face, and a nut having threaded engagement with said bolt and having an angular face for engagement with the angular face of said washer.

2. In a device of the character described, a hanger frame having an opening therein, a headed bolt mounted in said opening, the body of the bolt being smaller than the opening whereby to permit of angular adjustment of the bolt relative to the hanger frame, an angular face formed on the head of said bolt and adapted in all positions of the bolt to engage the hanger frame, a washer carried by the bolt, the opening in the washer being larger than the body of the bolt, said washer having a flat face for engagement with the hanger frame and an outwardly disposed angular face, and a nut having threaded engagement with said bolt, and having an angular face for engagement with the angular face of the washer, whereby the bolt may be rigidly held in angular relation to the hanger frame by clamping the hanger frame between the bolt head and the washer by said nut.

Signed at New York, N. Y., this 20th day of June, 1927.

NATHAN A. GUSSACK.