J. OLMAN.

DOOR HANGER.

APPLICATION FILED APR. 2, 1913.

1,067,486. Patented July 15, 1913.

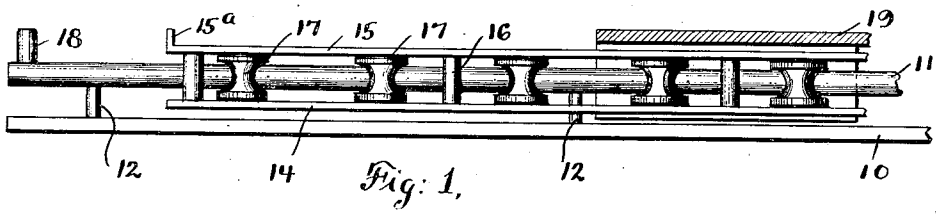


Fig: 1.

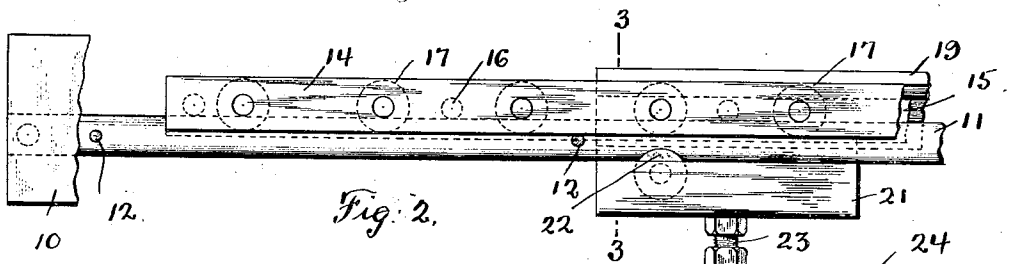
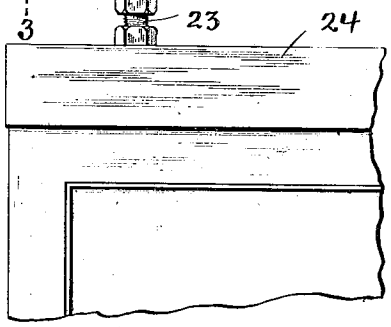


Fig: 2.



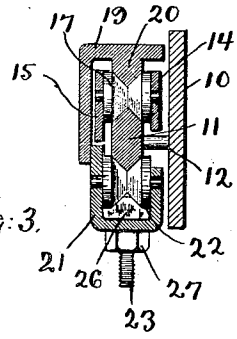


Fig: 3.

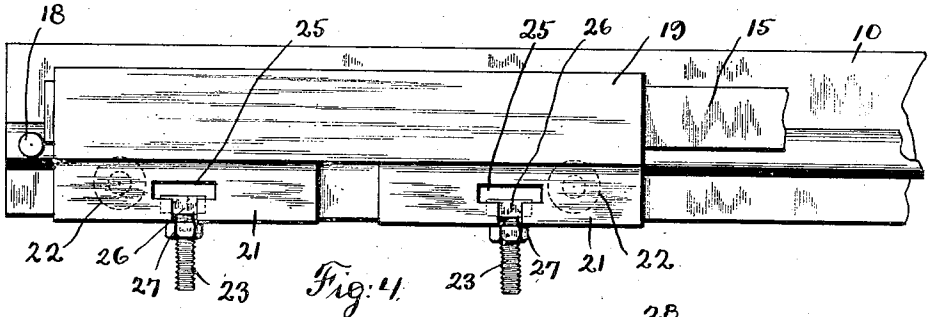


Fig: 4.

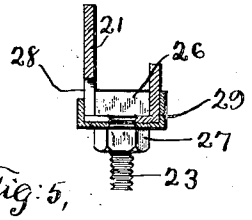


Fig: 5.

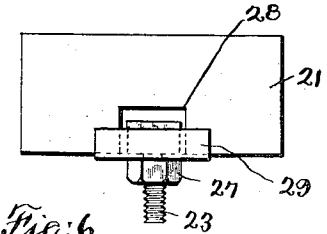


Fig: 6.

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UNITED STATES PATENT OFFICE.

JACOB OLMAN, OF NEW YORK, N. Y.

DOOR-HANGER.

1,067,486. Specification of Letters Patent. Patented July 15, 1913.

Application filed April 2, 1913. Serial No. 758,365.

To all whom it may concern:

Be it known that I, JACOB OLMAN, of the city, county, and State of New York, have invented a new and useful Improvement in Door-Hangers, of which the following is a full, clear, and exact description.

My invention relates to improvements in hangers for sliding doors, and especially doors for elevator wells, though the hanger may be applied to sliding doors of any description.

My invention is especially intended as an improvement on the construction shown in Letters Patent of the United States No. 947,930, issued to me on February 11th, 1910.

The object of my invention is to improve the construction shown in my former patent by making the apparatus simpler, easier to assemble, and easier to operate.

A particular object of my invention is to hang the door on the hanger frames so that it can be very easily hung or removed, and to provide means for preventing accidental removal.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a broken top view of the structure embodying my invention, the hanger frame being shown in longitudinal section. Fig. 2 is a broken front elevation with parts broken away. Fig. 3 is a cross section on the line 3—3 of Fig. 2. Fig. 4 is an enlarged rear elevation of a portion of the structure. Fig. 5 is a cross section of a slightly modified form of connection between the hanger frame and door bolt, and Fig. 6 is a rear elevation of the structure shown in Fig. 5.

In the drawings 10 represents the supporting frame, which may be as usual in elevators or other structures, and on this is supported the track 11, the support being by means of studs 12 so that the track is spaced apart from the frame. A carriage slides along the top of the track, this carriage comprising the side plates 14 and 15 which are spaced apart by rivets or bolts 16, and which carry rollers 17, these being pivoted in the carriage frame, and it will be noticed that as shown in Figs. 1 and 2, the rollers are concave, and the track 11 convex, both having a round surface which enables the carriage to ride easily and with little danger of leaving the track.

In Fig. 3 I have shown the convexity of the track and the concavity of the carriage in sharper degree, forming sharp angles, but this form or any degree of convexity of the track and concavity of the carriage can be used. The back plate 15 of the carriage is provided with an outwardly extending flange 15^a at each end, against which the hanger frame 19, presently referred to, strikes, so that both will move together at such time, as presently described. The track has at the ends and on the back side, abutments 18 for limiting the movement of both carriage and hanger frame, but other forms of abutments will answer as well.

The hanger frame nearly encircles the carriage and rides thereon, as well as riding against the under side of the track 11, the upper part of this frame comprising an angle plate 19, the top horizontal portion of which has a guide rail 20 which fits the rollers 17 of the carriage. The under side of the hanger frame is formed by a generally U shaped plate 21, the rear member of which is higher than the front member, and this is riveted or otherwise fastened to the plate 19, although the parts 19 and 20 could be made in a single piece if preferred. The lower member 21 of the hanger frame carries rollers 22 which fit snugly against the under side of the track 11, as shown in Fig. 3, and thus it will be seen that the hanger frame is accurately guided on both the carriage and track, that the parts will move very smoothly without play, and that there is absolutely no possibility of the hanger as a whole leaving the track.

The door 24 is suspended by means of suitable bolts 23 which can be connected with the door top in any usual way, and the lower parts 21 of the hanger frame are provided near the bottom and on the back sides, with key-hole slots 25, so that when the door is to be hung or unhung, the nuts 27 on the under side of the members 21 can be loosened, and the bolt heads 26 raised with the door and then pulled out sidewise through the slots 25. In this connection I call attention to the fact that the parts 21 need not be continuous, that is to say, they need not run the full length of the upper part 19 of the hanger frame, though they may be of the same length as the part 19, if preferred.

In Figs. 5 and 6 I have shown a slight modification of the lower part 21 of the

hanger frame, which is better adapted to heavy doors, as it requires less lifting in hanging or unhanging. As here shown the members 21 are provided with slots 28 which are wide enough to receive the bolt heads 26, and the lower portions of which are flush with the inner bottom surface of the member 21. This enables the bolt head 26 to be slipped easily in and out without raising the door to any great extent, and to prevent any possible sliding out, I use clips 29 of a general U shape which serve as washers, and the sides of which overlap the side walls of the member 21, thus closing the slot 28 so as to prevent the bolt 26 from sliding out. In this connection it will be understood of course that the lower or bottom portions of the members 21 are slotted opposite the slots 25 and 28, to permit the adjusting of the bolts 23 as above described. This is shown clearly in Fig. 5.

It will be noticed that the bolt heads 26 fit snugly in the lower part 21 of the hanger frame, so that when once inserted the bolt heads cannot turn.

From the foregoing description it will be seen that I have devised a very simple and secure hanger for doors, which operates easily and without danger of running off the track. When the door is slid, the hanger frame comprising the parts 19 and 21, slides freely on the track 11 and on the carriage, and the carriage itself comprising the parts 14, 15 and 17, slides freely on the track, so that the door movement is exceedingly easy. As the door approaches the limit of movement, the member 19 of the hanger frame strikes the flange 15ª, and both carriage and hanger frame move together until the limit of movement is reached, that is until the flange 15ª strikes the abutment 18 or corresponding part.

I claim:—

In a door hanger such as described, the combination with the track and the sliding hanged frame suspended from the track and provided with an inwardly turned bottom portion, and a slot in the side and bottom respectively to receive the head and shank of a suspending bolt, of a clip on the suspending bolt shaped to close the side slot of the hanger frame.

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