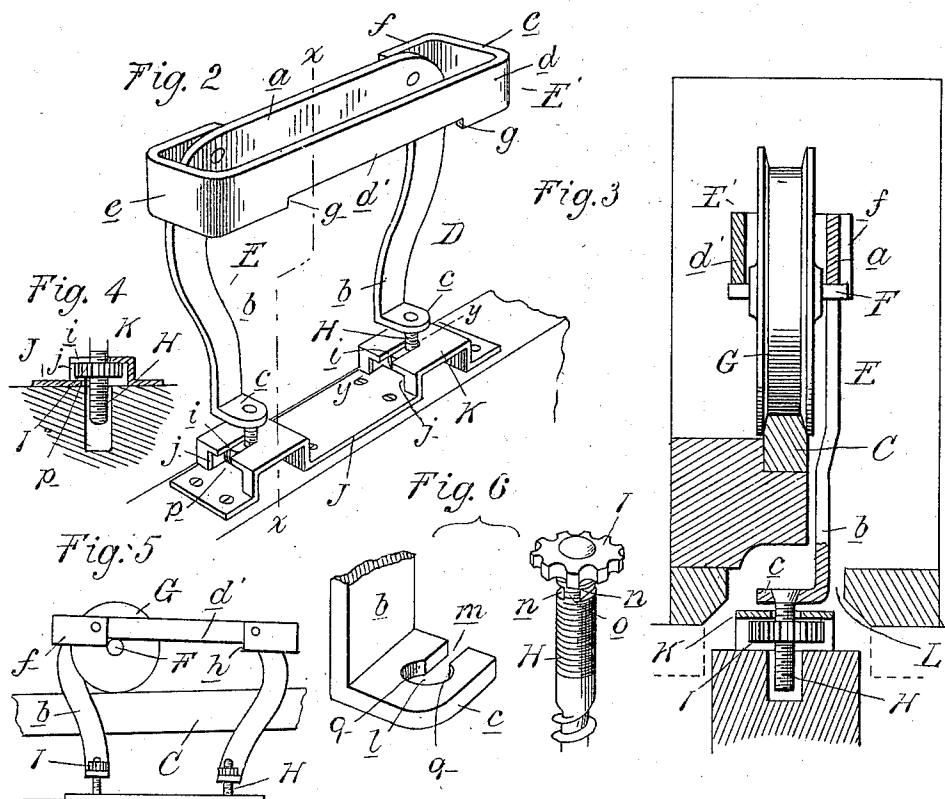
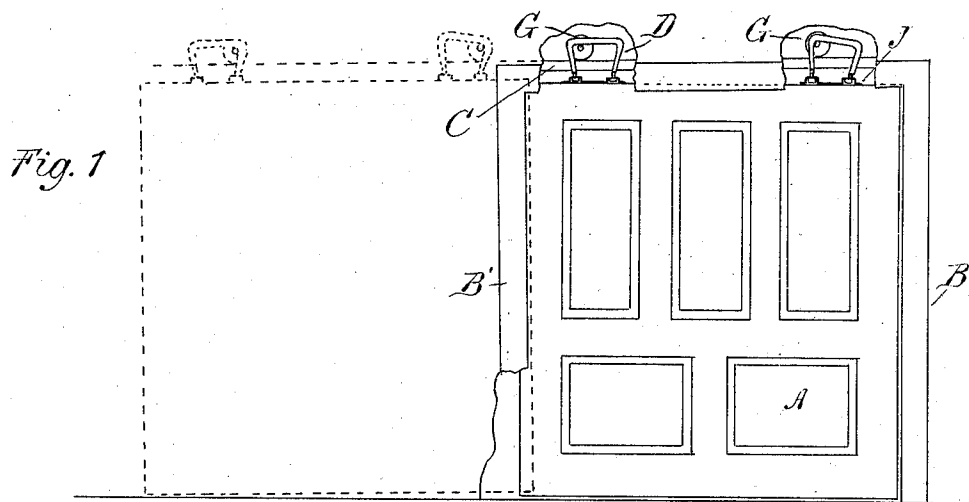


(No Model.)

W. J. ARNDT.
DOOR HANGER.

No. 542,457.

Patented July 9, 1895.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM J. ARNDT, OF DETROIT, MICHIGAN.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 542,457, dated July 9, 1895.

Application filed November 4, 1893. Serial No. 490,020. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. ARNDT, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Door-Hangers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 It is the object of my invention to provide a simple means for leveling up the door and one admitting of an adjustment to a door-casing which is out of true; also, to facilitate the attachment of the door to a traveler when the latter is in place upon its track.

15 To this end my invention consists in the peculiar construction, arrangement, and combination of the parts, as hereinafter described.

20 In the drawings, Figure 1 is a diagram elevation of a door and two hangers attached thereto, showing a door-casing which is out of true. Fig. 2 is a perspective view of a hanger-frame, illustrating its attachment to the door. Fig. 3 is an enlarged vertical section on line 25 $\alpha \alpha$, Fig. 2. Fig. 4 is a longitudinal section on line $y y$, Fig. 2. Fig. 5 is a side elevation of the hanger, showing a modified form of attachment to the door. Fig. 6 is a detached perspective view of some of the parts shown in Fig. 5, showing a still different form of attachment.

30 A is the door; B, the casing; C, the track, and D the hangers, of which I preferably employ two on each door, and which are of the following construction:

35 The hanger-frame is preferably made in two parts E and E', formed from bar-iron or steel. The part E is substantially bail-shaped, having a central horizontal portion a and depending side portions or arms b , terminating in a laterally-bent portion c . The part E' is in the shape of an open loop, having a long side d , provided with the centrally-reduced portion d' , the ends e , and short sides f , parallel to the side d . The two parts are secured together, preferably by riveting the side f to the portion a , so as to bring the portion a and d' parallel with each other and their lower edges flush, forming a double rail, adapted to ride on the axle F of the traveler or track-wheel G. This traveler is preferably grooved

to run upon the track C and is so proportioned that in traversing the length of the track it will also travel on the rails $a d'$, between the shoulders $g g$ and $h h$, said shoulders being formed by the enlarged ends of the part E', as shown in Figs. 2 and 5. To this hanger-frame the door is adjustably and detachably secured by a device of the following construction:

60 H are screw-threaded studs attached either to the arms b of the hanger-frame, Figs. 2 and 3, or to the door, Figs. 5 and 6, and I are nuts on said studs, preferably of circular form, having notched peripheries. When the studs are attached to the hanger-frame I employ a locking-plate J, adapted to be secured to the upper edge of the door, having struck-up portions K, provided with slots i and j , adapted to receive respectively the studs H and nuts I, all so arranged that the hanger and plate may be brought into engagement by passing the nuts I under the struck-up portions K, and the nuts may then be adjusted through the side openings.

75 The construction shown in Figs. 5 and 6 is substantially the same as the one just described, with the exception that the screw-threaded studs are secured to the door either by means of a plate, Fig. 5, or by being screwed directly into the wood, Fig. 6. The lugs c of the hanger-frame in this modification are provided with central apertures l adapted to receive the studs, and entering-slots m of a lesser diameter. The studs near their upper ends are also cut away at n , leaving a reduced portion o , adapted to enter through the slot m .

80 The hangers being constructed as shown and described, the manner of hanging a door is as follows: The hanger-frames are first placed in position with their traveler upon the track, the arms b projecting down through the slot L in the casing. The nuts I being first screwed to the ends of the studs the latter are engaged with the slotted plate J or the lug c (according to the construction used) and then locked from disengagement by adjusting the nut on the stud. When the construction shown in Figs. 2, 3, and 4 is used this locking is effected by the shoulder p on the plate J, which, when the stud is adjusted

down, will prevent its withdrawal. In the construction shown in Figs. 5 and 6, as the studs *H* are of greater diameter than the entering-slots *m* and can only enter said slots
 5 at the reduced points *o*, an adjustment of the nut down upon the studs will effectually lock the latter from disengagement. In both constructions the engagement is effected without
 10 the necessity of removing the nut from the stud, which has an obvious advantage over constructions in which the nut must be engaged with the stud after the door is in position.

It will be noticed that in the construction
 15 shown in all the figures the screws act as the locking means for preventing the lateral or longitudinal movement of the hanger relative to the door. In Figs. 2 and 4 the screw is projected below the plate *p* and into the hole
 20 in the door, while in Figs. 5 and 6 the screw engages with the side walls of the apertures *l*. By this means all pawls or other independent means for locking the parts is dispensed with.

25 If desired, the end of the stud may be riveted over, so as to prevent any accidental disengagement of the nut.

The leveling of the door is accomplished by adjusting the nuts on one or both sides of the hanger. Where, as in Fig. 1, the door-casing
 30 is out of true, so that the sides *B* and *B'* are not parallel, by adjusting one or both of the hangers with their rails inclined, the door may be made to hang flush with the side *B* when closed or the side *B'* when open, as shown in
 35 full and dotted lines, Fig. 1, the inclined rail of the hanger in riding over the traveler either raising or lowering that end of the door.

While I have shown my hanger as arranged

to run on a single track, it may also be easily adapted for a double track.

What I claim as my invention is—

1. In a door hanger, the combination with a door member and a track wheel, of a rail member on the wheel having depending arms, locking plates on one of the members, each
 45 plate having open-ended slots entering from corresponding sides of the plates and a stop formed thereon, screws on the other member adapted to pass into and rest in the slots, locking
 50 nuts on the screws, and said screws directly engaging the stops after adjustment to prevent the lateral or longitudinal movement of the hanger independent of the door, substantially as described.

2. In a door hanger, the combination with a door, of a wheel, a rail on the wheel having depending arms, offsets on the lower ends of the arms, screws secured to the offsets and projecting downwardly, a locking plate on
 60 the door having raised arched portions formed with different sized passages in their corresponding sides one above the other, the upper passage adapted to receive the screws, locking nuts on the screws adapted to pass
 65 through the lower passages in the raised portions for locking the screws in their adjusted positions, and stops projecting into engagement with the screws to prevent the independent longitudinal movement of the hanger,
 70 substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM J. ARNDT.

Witnesses:

M. B. O'DOHERTY,
 O. F. BARTHEL.