No. 673,841. Patented May 7, 1901.

J. F. LYDON.

DOOR HANGER.

(Application filed Mar. 19, 1900.)

(No Model.)

Fig. 1.

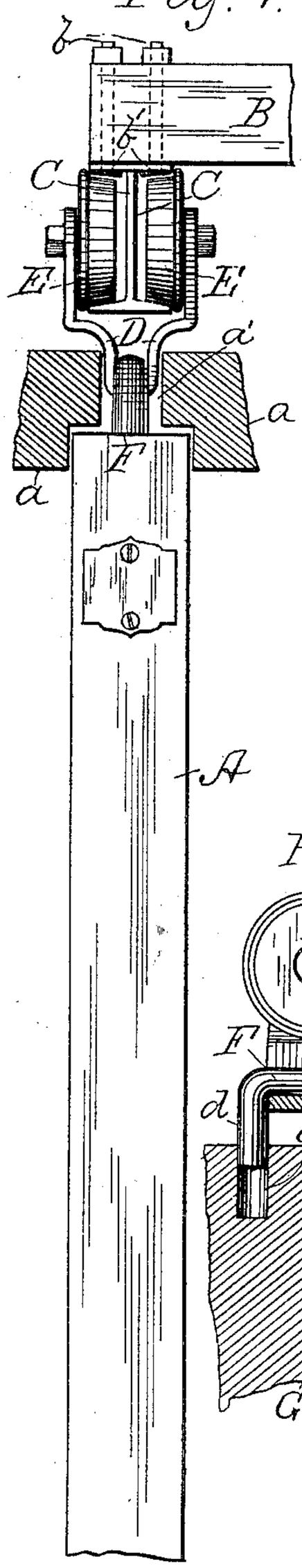


Fig. 2.

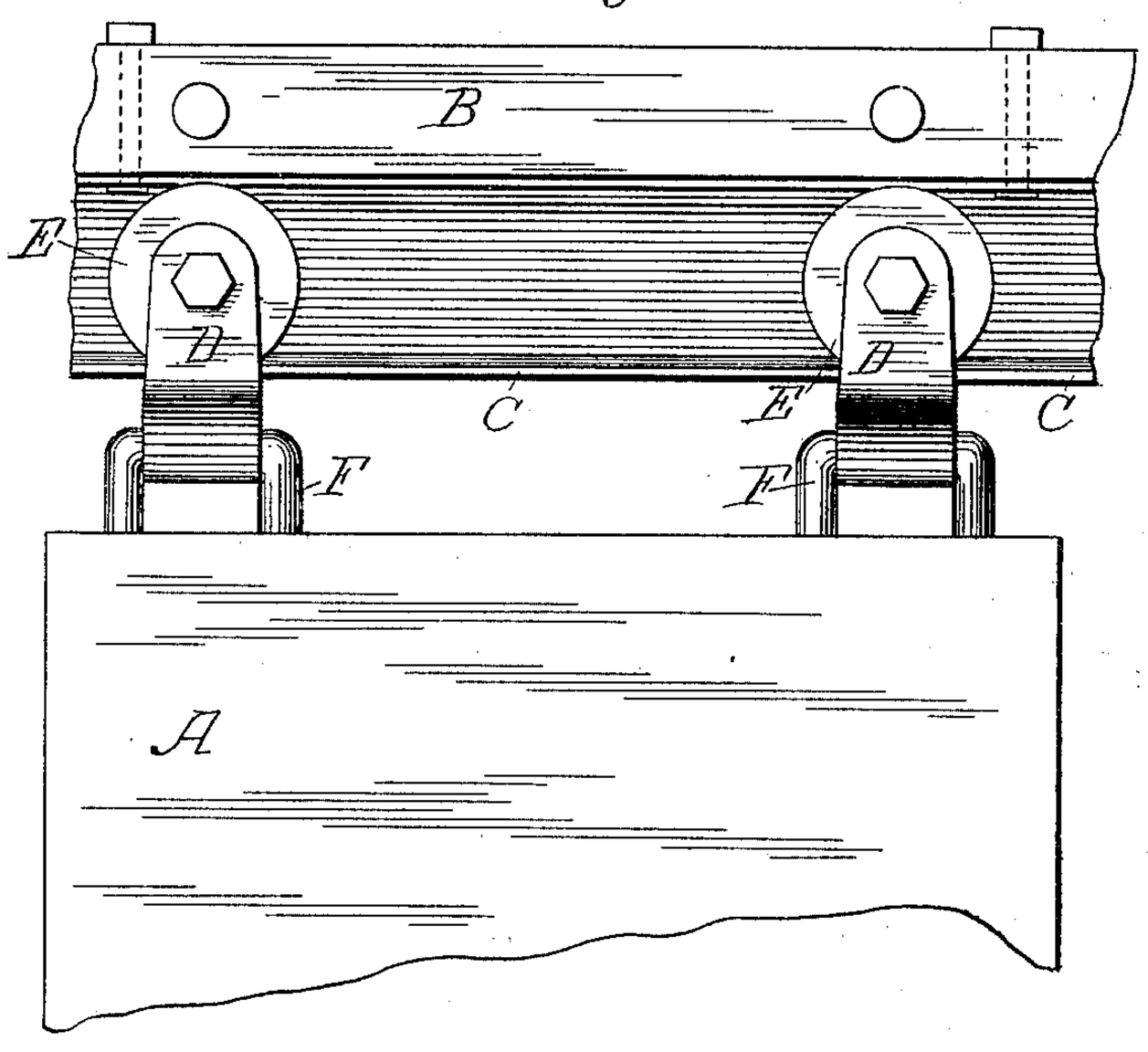


Fig. 3.

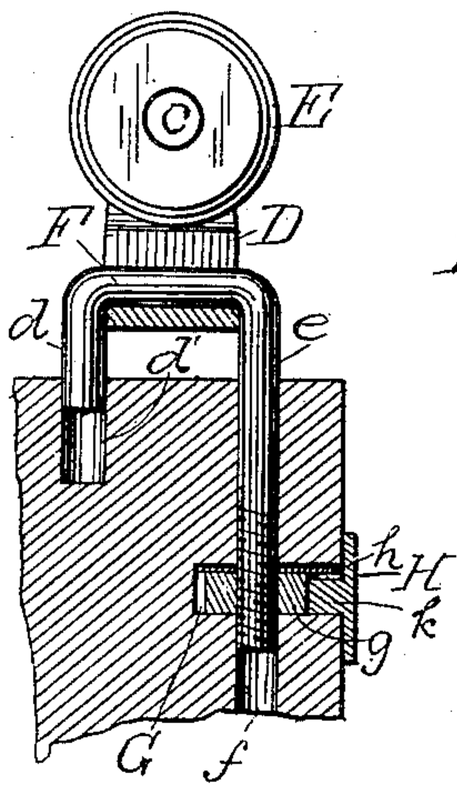


Fig. 4.

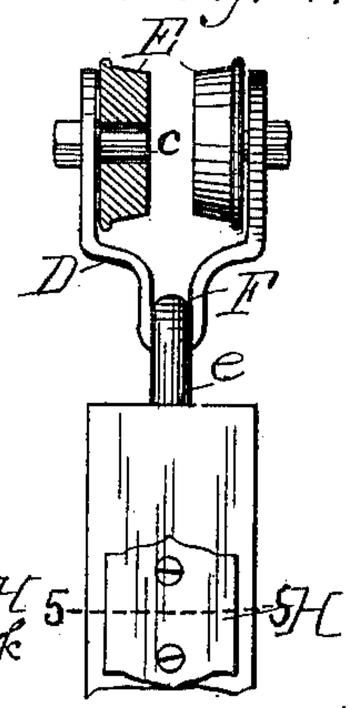
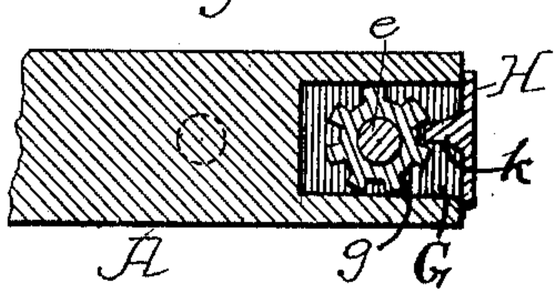


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN F. LYDON, OF DAVENPORT, IOWA, ASSIGNOR TO THE INTERNATIONAL MANUFACTURING COMPANY, OF SAME PLACE.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 673,841, dated May 7, 1901.

Application filed March 19, 1900. Serial No. 9,214. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. LYDON, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Door-Hangers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention relates to door-hangers; and its object is to provide therein such a connection between the door and the means suspending the same that the door can readily be moved laterally or vertically to a limited extent to close the doorway or fit easily in the surrounding framework when the doorway is open. This I accomplish by the means hereinafter fully described and as particularly pointed out in the claims.

In the drawings, Figure 1 is an end edge view of a sliding door suspended by means of my hanger and showing the framework in which the said hanger moves in cross-section. Fig. 2 is a side view of said door-hangers and track therefor. Fig. 3 is a side view, partly in section, on a larger scale, of one of the said hangers, together with the portion of the door to which it is connected. Fig. 4 is an end edge view of the same. Fig. 5 is a sectional view taken on dotted line 5 5, Fig. 4.

In the drawings, A represents a door. *a a* represent the lintel, which is constructed in the usual manner to provide a groove in which the upper edge of the door can run and a longitudinal slot *a'* in the center of said groove, through which the door-hanging devices depend, and B represents a longitudinally-disposed horizontal beam of suitable dimensions, which is secured in place above the said slotted portion of the door-frame and between the sides of the hollow wall, within which it is inclosed.

Secured by bolts *b* to the under side of beam B is a longitudinal I-beam C, the vertical web of which is in the same vertical plane as the center of slot *a'* of the door-frame. This I-beam constitutes the tram or track upon the inclined upper surfaces of the lower flanges of which the rollers of the truck of the door-hanger travel, as will hereinafter more fully appear. The necessity of economizing both space and weight in devices of this character requires the use of the smallest size of I-beam possible. This could not be done if the under side of the upper flanges of said beam were beveled in the usual manner, because the heads of bolt *b*, which are passed down through said flanges, would take up too much room and not allow space for the passage of the rollers of the door-hanger. I avoid this difficulty and make the use of the smallest size of I-beam practicable by making a beam C with the upper side of its lower flanges beveled and the under side of its upper flanges on planes at right angles to the vertical sides of the web of said beam. This permits the shoulders of the head of the bolts to lie flat against said flanges and economizes sufficient space, so that by beveling the heads *b'* of said bolts *b* from the inner side outward, as shown, the tread of the hanger-rollers can clear them without danger of interference.

The hanger comprises a U-shaped strap D, provided near the upper extremities of its vertical branches with inwardly-projecting studs *e*, said strap being so proportioned that when the parts are assembled the studs *e* lie in a horizontal plane just below the plane of the center of height of the I-beam C. The distance between the vertical branches of strap D is slightly greater than that between the edges of the oppositely-projecting flanges of the beam, and the studs *c* each project therefrom about one-third said distance, thus leaving a clearance between their ends of the remaining third of said space. The rollers E E have circumferential flanges on their outer sides, are loosely journaled on studs *c c*, and correspond in thickness to the width of the space between them, so that when being mounted said rollers can just be slipped, one at a time, between said studs *c* and then onto the same.

The diameter of the beveled tread of rollers E is such that when traveling on the lower flanges of the beam they can just clear the bolts *b*, and the diameter of their circumferential flanges is so much greater than the distance between the flanges of the beam that they prevent said rollers from working toward the web of the I-beam, and together with the beveled contact between the tread of the

rollers and the lower flanges of the beam keep the said rollers on said studs. Thus it will be observed that the rollers can be easily removed from or mounted upon studs *c* when the hanger is off the beam, but are held securely in place when the door is hung.

The vertical branches of strap D are bent inward at a point below the lower flanges of the beam, so as to narrow the inner curvature of the bend of said strap and provide an open bearing for the horizontal upper portion of the inverted-L-shaped hanger F, the length of which is such that it will not have longitudinal play in said bearings. This hanger has two vertical branches depending from this horizontal portion. The one *d* is comparatively short and is adapted to enter a vertical guide-hole *d'* bored in the top edge of the door and is designed to prevent lateral movement of the hanger, and the other vertical branch of the hanger is comparatively long and constitutes an attaching-arm *e*. This arm *e* is extended down into a vertical hole *f*, bored into the upper edge of the door midway between its sides and within, say, an inch or more of the contiguous vertical edge of said door. About six inches, say, or less from the top of the door a horizontal recess G is made in the vertical edge or side of the door deep enough for the lower screw-threaded portion of said attaching-arm *e* to pass through the same, and in this recess a nut *g* is placed, through which said attaching-arm is tapped. The circumference of nut *g* is serrated, so that by inserting a screw-driver or other suitable tool in said recess said nut can be turned to screw up or down on arm *e* to adjust the door vertically, as desired. In order to protect the roof of recess G and make the turning of nut *g* easier, a rectangular or other shaped washer *h* may be interposed between them, if desired. This recess G may be left open, if desired; but I prefer to close the same with a suitable ornate screw-plate H, and I utilize this plate H by providing the same with an inwardly-projecting lug *k* to lock said nut and prevent its turning. This is accomplished by the lug *k* entering one of the serrations of nut *g* or bearing against its sides.

What I claim as new is—

1. The combination with an overhead tram or track, and a carrier or truck comprising a U-shaped strap having a bearing or knuckle made in the bend thereof, of a door having a vertical hole made in its upper edge near the vertical edge thereof and having a lateral recess made in its vertical edge intersecting said hole, an inverted-L-shaped hanger having its horizontal portion journaled in said bearing and having its screw-threaded longer arm inserted in the vertical hole in said door, a nut seated in said recess and engaging the screw-threaded portion of said hanger, a plate closing the mouth of said recess having an inwardly-projecting lug that is adapted to engage the sides of said nut and lock the same.

2. The combination with an overhead tram or track and a carrier or truck comprising a U-shaped strap having a bearing or knuckle made in the bend thereof, of a door having a vertical hole made in its upper edge near the vertical edge thereof and having a lateral recess made in said vertical edge intersecting said hole, and an inverted-L-shaped hanger having its horizontal portion journaled in said bearings, having its longer arm adjustably secured in said hole and its shorter vertical arm entering a guide-opening in the upper edge of the door.

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Witnesses:
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