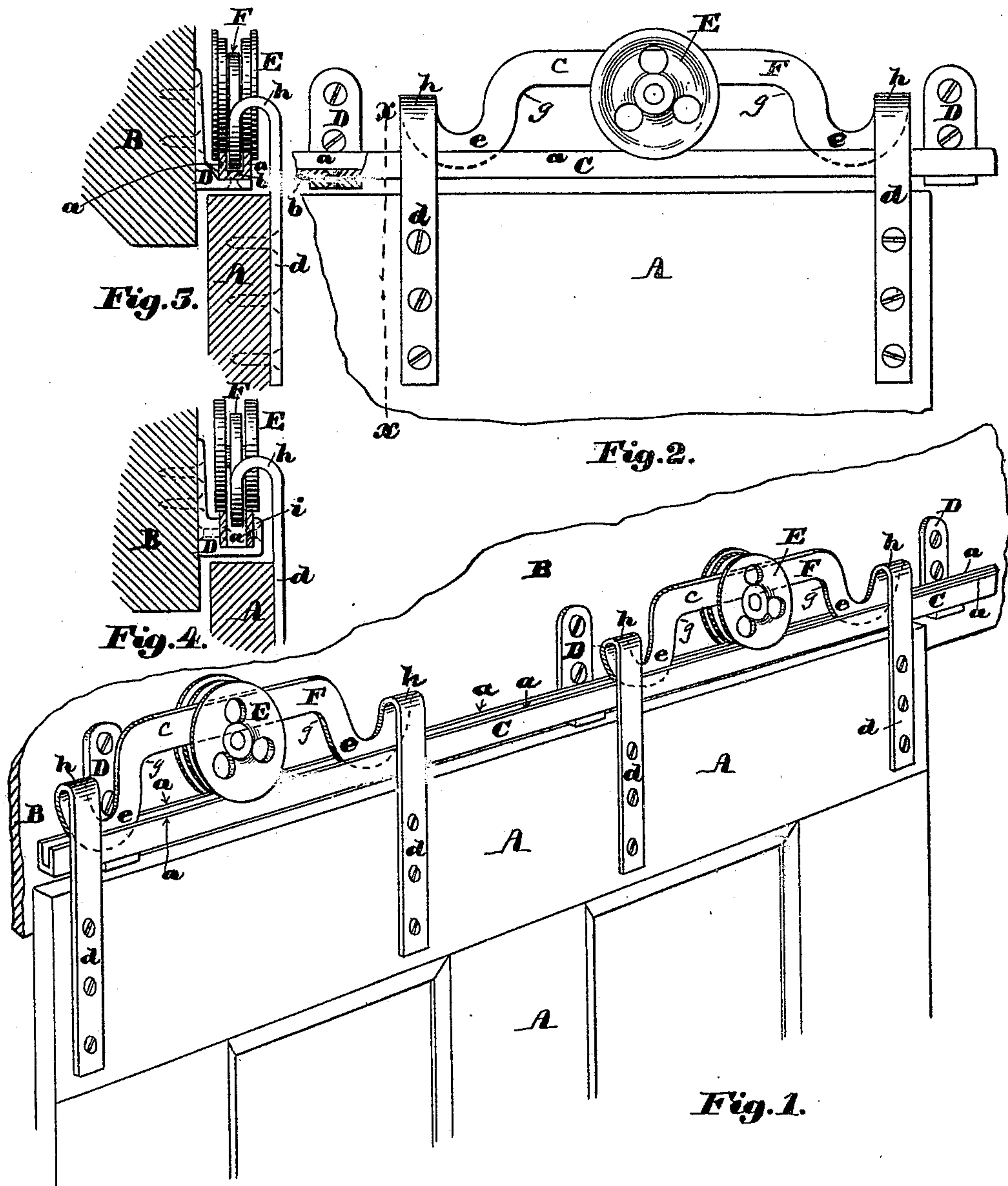


(No Model.)

E. N. HUTCHINS.
DOOR HANGER.

No. 435,499.

Patented Sept. 2, 1890.



Witnesses:

Charles R. Butler,
Walter E. Lombard

Inventor:

Elmer N. Hutchins:
by N. P. Lombard
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UNITED STATES PATENT OFFICE.

ELMER N. HUTCHINS, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR TO
MORRIS E. KANALY, OF SAME PLACE.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 435,499, dated September 2, 1890.

Application filed April 17, 1889. Serial No. 307,549. (No model.)

To all whom it may concern:

Be it known that I, ELMER N. HUTCHINS, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Door-Hangers, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to that class of sliding door-hangers which includes a track, a rider-wheel, and a rider-bar supported by said wheel and secured to the upper portion of the door; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the drawings, and to the claims to be hereinafter given and in which my invention is clearly pointed out.

Figure 1 of the drawings is a perspective view of the upper portion of a door provided with a pair of the improved door-hangers, their supporting-wheels, and the track upon which said wheels rest and along which they roll as the door is moved to and fro. Fig. 2 is a side elevation of a portion of the upper part of the door and showing a single hanger and wheel. Fig. 3 is a transverse section on line *x x*, Fig. 2, and showing the wheel and rider-bar in elevation, and Fig. 4 is a similar view showing a slightly-modified construction of the track and wheel.

In the drawings, A is the door.

B is the lintel of the door-frame.

C is the supporting track or rail, made, preferably, of a single bar composed of two vertically-arranged parallel ribs *a a*, connected together at their lower edges by and formed integral with a horizontal web *b*, said rail being supported by the brackets D D, to the horizontal portions of which it is secured by rivets passing vertically through the web *b* and the feet of said brackets, as shown in Figs. 2 and 3, the upright portions of said brackets being secured to the lintel B of the door-frame by screws, as indicated by dotted lines in Figs. 3 and 4 and by full lines in Fig. 1.

The rider-wheel E consists of two wheels rigidly connected by an axle or hub of considerably less diameter than said wheels, and each part of said wheel may have a guiding-

flange, as shown in Fig. 3, or without said flange, as shown in Fig. 4. The two tread-surfaces of the rider-wheel rest upon the upper edges of the ribs *a a* of the track-rail C, as shown.

F is the hanger and rider-bar combined, comprising a straight or rider section *c*, legs *d d*, by which the door A is suspended, and guiding-pendants *ee*, which project downward into the channel between the ribs *a a* of the track-rail C, and thus render it impossible for the rider-wheels to become derailed, said hanger and rider-bar being made from a single piece of flat bar iron or steel by bending it into the shape shown in Figs. 1, 2, and 3.

In making the combined rider-bar and hanger F, I take a bar of iron or steel, say about one inch wide by one-fourth of an inch thick and of the desired length. I then bend the two end portions edgewise at points the proper distance apart to give the desired length of straight section *c*, until said end portions are at right angles, or nearly so, to said straight or rider section to form the stops *g g*, then bend said end portions in the opposite direction until they point in the reverse direction and are again at right angles to the rider portion *c*, with the semicircular pendent bends *e e* between said end portions and the rider portion, and then I bend said end portions in the direction of the thickness of said bar to form the arches *h h* and bring the pendent legs *d d* into the proper position outside of the track-rail to be secured to the outside of the door A, as shown, said arches *h h* bridging the outer rib of the track-rail C, while the guiding pendants or tongues *ee* are in the same plane as the rider-section *c* and project into the channel or space between the ribs *a a* of said track-rail C, as shown in Figs. 3 and 4. By this construction the rider-section of the hanger is brought directly over the center of the door, while the legs *d d* occupy a plane corresponding to the outer face of the door, and being all made from a single piece of metal a considerable saving is made in the cost of the hanger and rider-bar, and the same is much less liable to become disarranged or out of order than when made in two or more pieces. This hanger and rider-bar can be used with equally good results, so far as the opera-

tion of the device is concerned, with the track-rail shown in Figs. 1 and 3 or with the rail shown in Fig. 4, which consists of two separate rails *a a*, placed a short distance apart and parallel to each other and connected together only by the brackets *D D*, which when this form of track is used have to be provided with the outer upturned lugs *i*, to which the outer or front rail *a* of said track is riveted, as shown in Fig. 4. I prefer to use the track composed of a single bar, of the form shown in Figs. 1, 2, and 3, for the reason that it is much less expensive, less liable to disarrangement, and equally effective.

The guiding pendants or tongues *e e* extend into the channel or space between the ribs *a a* sufficiently far to serve as effective guides and prevent the derailment of the rider-wheels, but must not come in contact with the web *b* of the integral track-rail, or the hangers of the divided rail, so it is important that the length of the guiding pendants or tongues should be properly proportioned to the diameters of the rider-wheels.

While the divided rider-wheel will preferably be provided with flanges, in order that the device shall have all the safeguards against accidental derailment, as shown in Figs. 1, 2, and 3, said flanges may be dispensed with, if desired.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A rider-bar and hanger combined made from a single piece of metal and having the straight rider-section *c*, stops *g* to limit its travel, and pendent guiding-tongues, all in the same plane, the pendent hanger-legs *d d*, occupying a different plane, and the arches *h h*, connecting said legs to said guiding-tongues and bridging the outer member of the track-rail, substantially as described.

2. In a device for hanging sliding doors, the combination of a track-rail having two guiding-ribs or bearing-surfaces, a divided rider-wheel having two tread-surfaces connected together by an axle of less diameter than said wheels, and a combined rider-bar and hanger made from a single piece of metal and comprising a straight rider-section, stops for limiting its movement, and pendent guiding-tongues occupying the same plane and pendent hanger-legs occupying a different plane to that occupied by said rider-section, stops, and guiding-tongues, and connected to said tongues by arches which bridge the outer member of said track-rail.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 16th day of April, A. D. 1889.

ELMER N. HUTCHINS.

Witnesses:

N. C. LOMBARD,
FRANK F. NESDELL.