(Model.) 3 Sheets—Sheet 1.

J. C. KUPFERLE.

DOOR HANGER.

No. 344,914. Patented July 6, 1886.

Fig. 1.

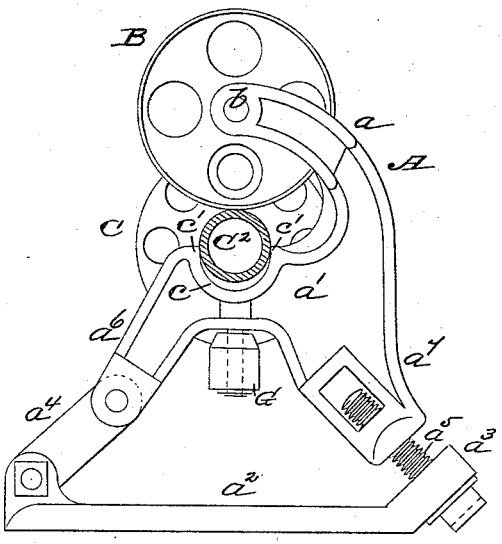
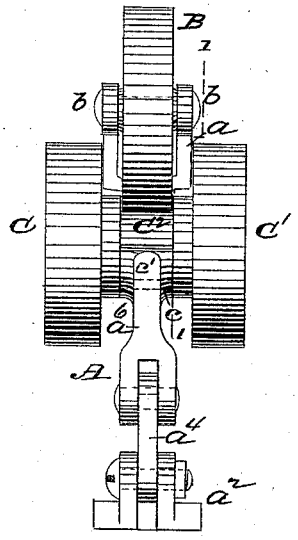


Fig. 2.



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(Model.) 3 Sheets—Sheet 2.

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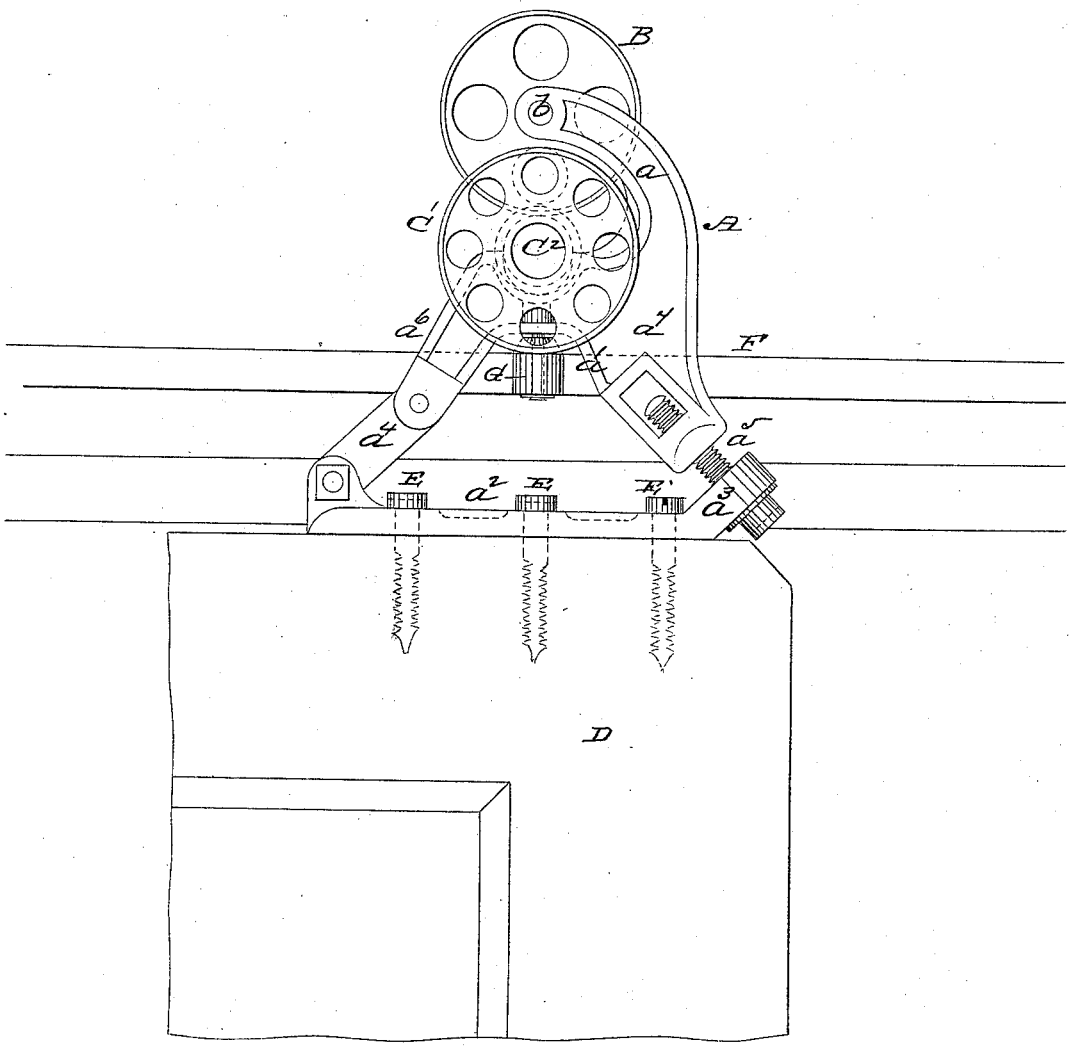
Fig. 3.



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(Model.)

3 Sheets—Sheet 3.

J. C. KUPFERLE.

DOOR HANGER.

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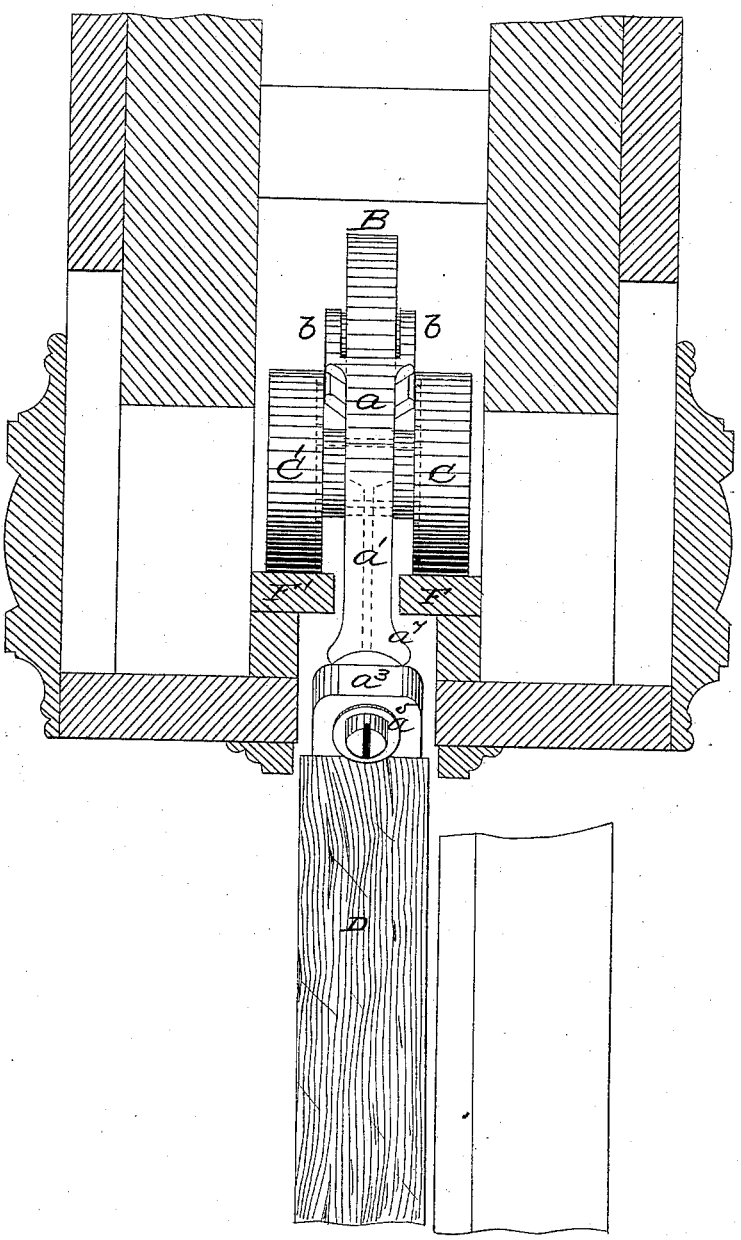
Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN C. KUPFERLE, OF ST. LOUIS, MISSOURI.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 344,914, dated July 6, 1886.

Application filed February 1, 1886. Serial No. 190,442. (Model.)

To all whom it may concern:

Be it known that I, JOHN C. KUPFERLE, of St. Louis, Missouri, have made a new and useful Improvement in Door-Hangers, of which the following is a full, clear, and exact description.

The improvement relates to the means provided for reducing the friction of the movement of the hanger-rollers, and also to the means for adjusting the hanger.

In the annexed drawings, making part of this specification, and exhibiting the improved hanger, Figure 1 is a vertical section on the line 1 1 of Fig. 2. Fig. 2 is an end elevation of the hanger. Fig. 3 is a side elevation of the hanger attached to a door. The outer upper corner only of the door is shown, and the wood-work above is shown in section. Fig. 4 is a view showing the hanger, in end elevation, attached to the door, the view being of the opposite end of the hanger to that shown in Fig. 2 and the wood-work overhead being in section.

The same letters of reference denote the same parts.

The improved hanger consists, mainly, of the hanger-frame A, a roller, B, journaled in the upper part of the hanger-frame at *b*, and a pair of rollers, C C′, attached to an axle, C^2, which is confined in the hanger-frame beneath the roller B, the hanger-frame being shaped out at *c* to receive the axle C^2, and while allowing the axle to revolve hold it from being displaced from beneath the roller B, when the last-named part is rotated by reason of moving the door.

The bearing *b* is in the upper end of the arm *a* of the hanger-frame, and the box *c* is vertically beneath the bearing *b*, and is contained in the portion *a′* of the hanger-frame. The box *c* extends sufficiently downward to prevent the axle, when the hanger-frame is dropped so as to cause the roller B to bear upon the axle, from bearing downward upon the bottom of the box.

The portions *a a′* of the hanger-frame constitute a single part, in practice a single casting which is vertically adjustable with reference to the door in the following manner: a^2 represents that part of the hanger-frame which is attached to the door D, the part a^2 being laid upon the top of the door at its corner and being fastened to the door by any suitable method—such as the screws E passing downward through the part and into the door, as indicated in Fig. 3. The part a^2 inclines upward at its end a^3. The parts *a′* and a^2 are connected by means of the link a^4 and the screw-bolt a^5. The link is jointed at one end to the part *a′* and at the other end to the part a^2. The screw-bolt passes upward through the inclined end a^3 of the part a^2, and its threaded portion engages in the part *a′*. By screwing the bolt a^5 into the part *a′*, that part *a′* carrying the various rollers above named is drawn downward toward the part a^2, and by unscrewing the bolt the part a^2 is lowered away from the part above. The link a^4 coacts with the screw-bolt by directing the movement of that end a^6 of the part *a′* as the opposite end, a^7, is acted upon by the screw-bolt. When the hanger is attached to the door and all the parts are in position, as shown in Figs. 3, 4, the rollers C C′ rest, and are adapted to be rolled upon the track-rails F F′, respectively, and the roller B bears upon the axle C^2, and the two parts—the roller B and the axle C^2—are adapted to roll upon each other. The axle, now, as shown more distinctly in Fig. 1, does not bear downward in the box *c*, but is merely confined laterally at the points *c′ c′* therein, and hence the friction of the axle within the box *c* is so slight as not to practically impede the movement of the door. Then when the door is moved, the roller B and axle C^2 roll upon each other, and the rollers C C′ roll upon the rails F F′, and in consequence the door can be moved more readily than when the axle C^2 bears upward against a fixed bearing in the hanger-frame.

So far as this feature of the improvement is concerned—namely, the use of a roller-bearing in combination with the roller-axle C^2—the improvement is adaptable to any form of door, as well as to hangers of other descriptions.

I claim—

The combination of the part *a′*, having the box *c*, the part a^2, the link a^4, and the screw-bolt a^5, with the upper roller, B, journaled at *b*, the lower rollers, C C′, and axle C^2, all substantially as described.

Witness my hand this 27th of January, 1886.

JOHN C. KUPFERLE.

Witnesses:
C. D. MOODY,
J. W. HOKE.