

(Model.)

3 Sheets—Sheet 1.

J. C. KUPFERLE.

DOOR HANGER.

No. 344,914.

Patented July 6, 1886.

Fig. 1.

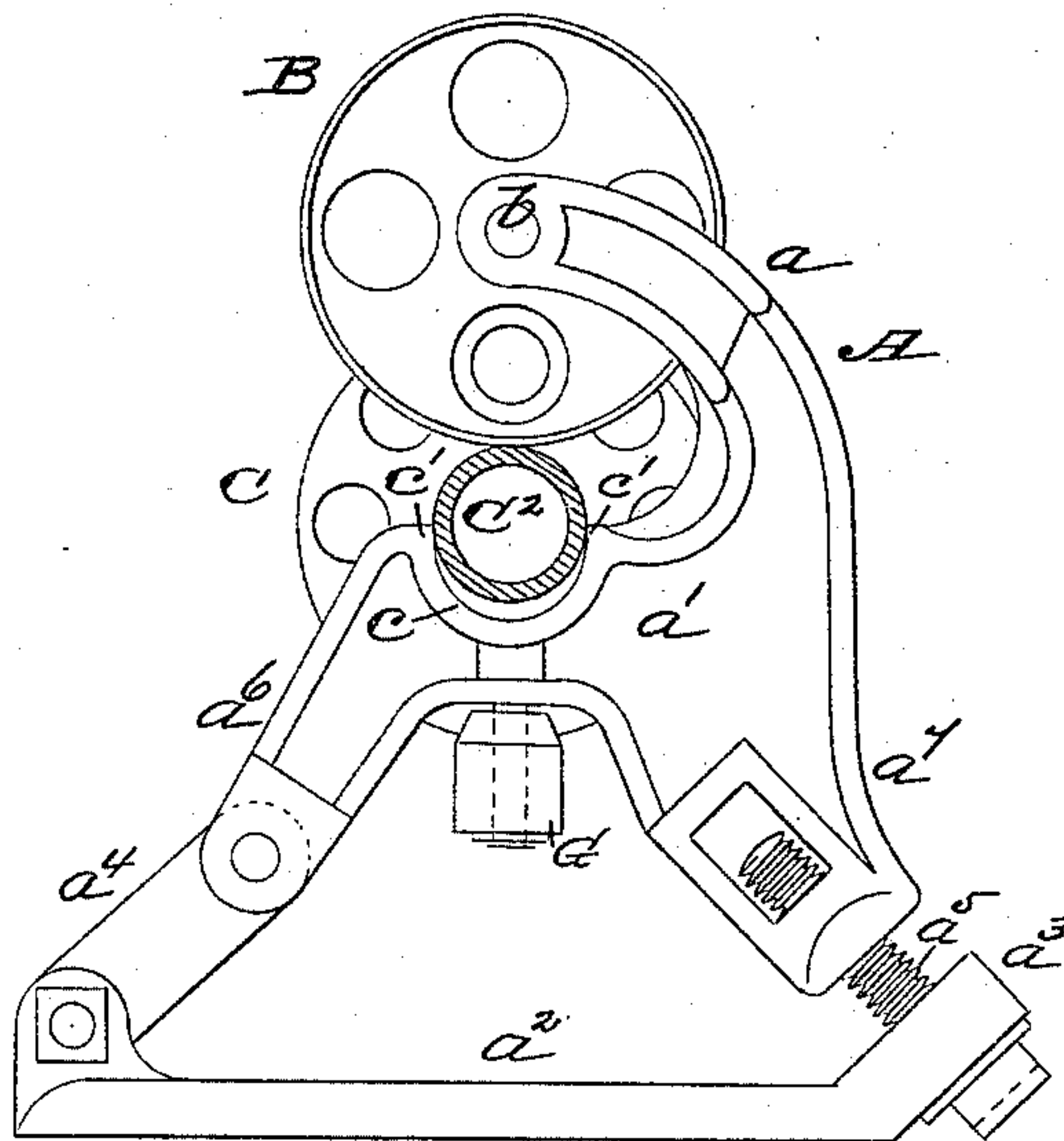
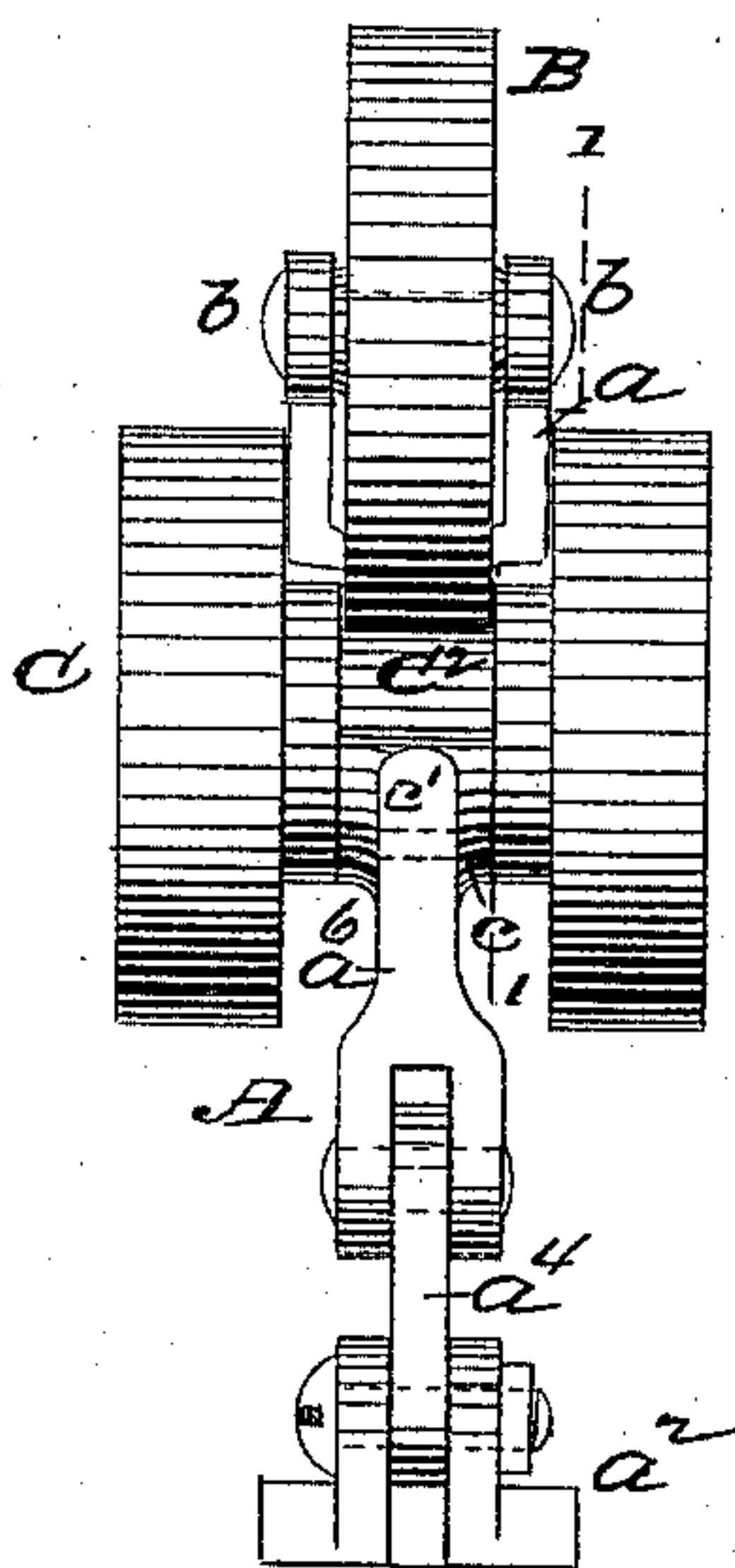


Fig. 2.



WITNESSES  
S. B. Houts  
J. W. Hoke.

INVENTOR  
John C. Kupferle  
by C. D. Moody atty

(Model.)

J. C. KUPFERLE.

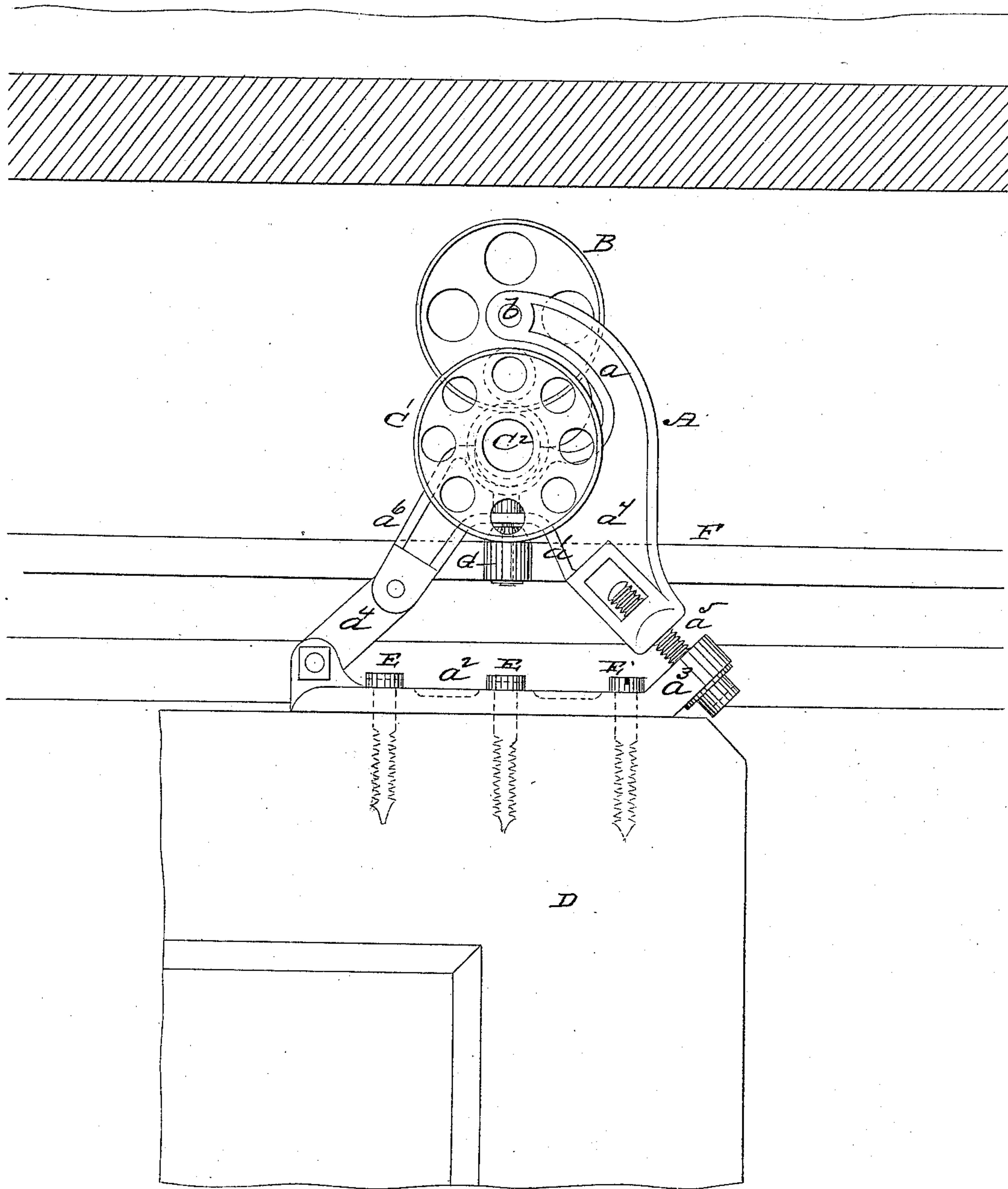
3 Sheets—Sheet 2.

DOOR HANGER.

No. 344,914.

Patented July 6, 1886.

*Fig. 3.*



WITNESSES  
S. B. Houts  
J. W. Hoke.

INVENTOR  
John C. Knapp  
by C. W. Moody, atty

(Model.)

3 Sheets—Sheet 3.

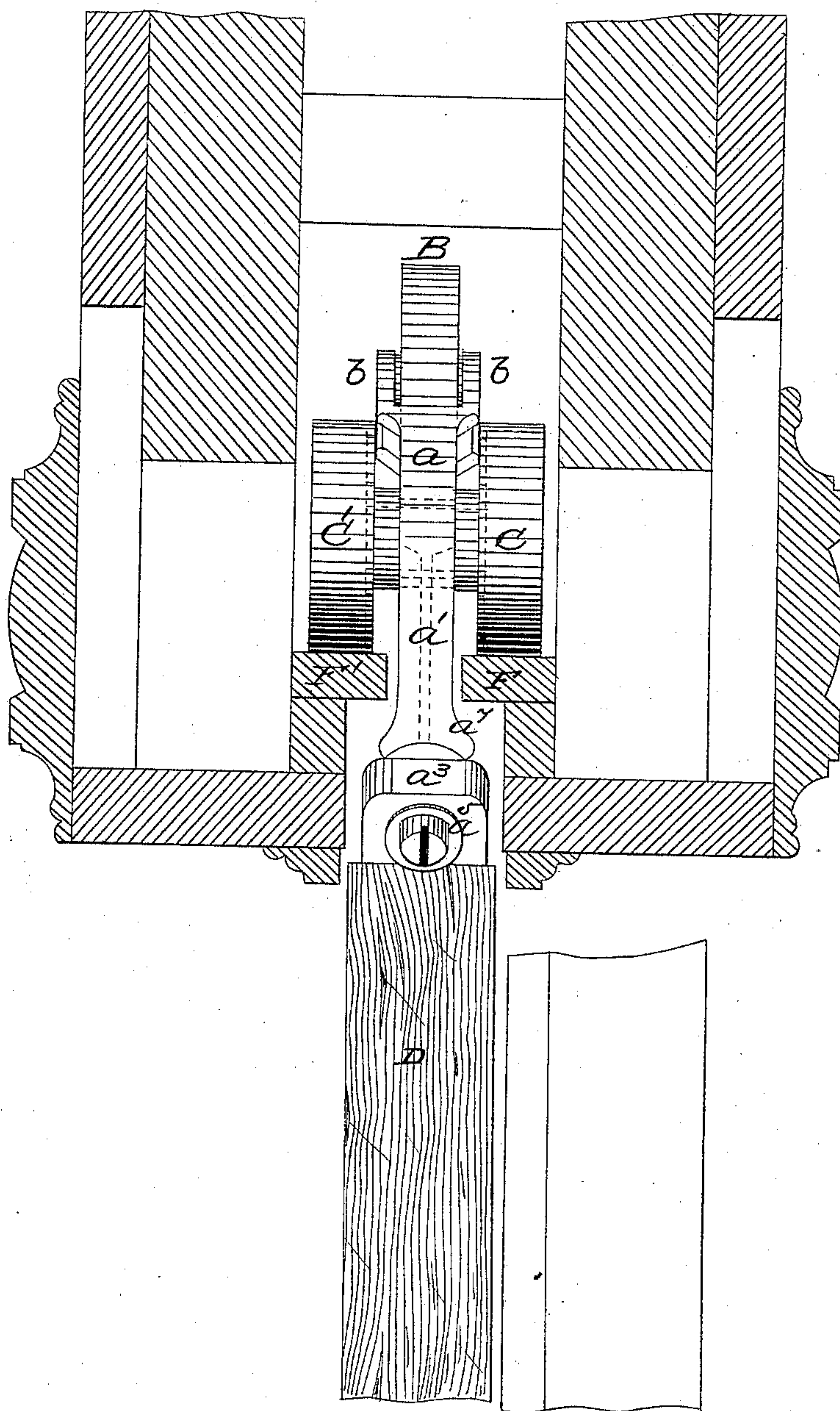
J. C. KUPFERLE.

DOOR HANGER.

No. 344,914.

Patented July 6, 1886.

*Fig. 4.*



WITNESSES  
S. B. Houts  
J. W. Hoke.

INVENTOR  
John C. Kupferle  
by C. B. Moody atty



# 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<sup>2</sup>, which is confined in the hanger-frame beneath the roller B, the hanger-frame being shaped out at *c* to receive the axle C<sup>2</sup>, 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*<sup>2</sup> represents that part of the hanger-frame which is attached to the door D, the part *a*<sup>2</sup> 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 pass-

ing downward through the part and into the door, as indicated in Fig. 3. The part *a*<sup>2</sup> inclines upward at its end *a*<sup>3</sup>. The parts *a'* and *a*<sup>2</sup> are connected by means of the link *a*<sup>4</sup> and the screw-bolt *a*<sup>5</sup>. The link is jointed at one end to the part *a'* and at the other end to the part *a*<sup>2</sup>. The screw-bolt passes upward through the inclined end *a*<sup>3</sup> of the part *a*<sup>2</sup>, and its threaded portion engages in the part *a'*. By screwing the bolt *a*<sup>5</sup> into the part *a'*, that part *a'* carrying the various rollers above named is drawn downward toward the part *a*<sup>2</sup>, and by unscrewing the bolt the part *a*<sup>2</sup> is lowered away from the part above. The link *a*<sup>4</sup> coacts with the screw-bolt by directing the movement of that end *a*<sup>6</sup> of the part *a'* as the opposite end, *a*<sup>7</sup>, 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<sup>2</sup>, and the two parts—the roller B and the axle C<sup>2</sup>—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<sup>2</sup> 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<sup>2</sup> 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<sup>2</sup>—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*<sup>2</sup>, the link *a*<sup>4</sup>, and the screw-bolt *a*<sup>5</sup>, with the upper roller, B, journaled at *b*, the lower rollers, C C', and axle C<sup>2</sup>, all substantially as described.

Witness my hand this 27th of January, 1886.

JOHN C. KUPFERLE.

Witnesses:

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