

(No Model.)

N. CLARK.
DOOR HANGER.

No. 328,382.

Patented Oct. 13, 1885.

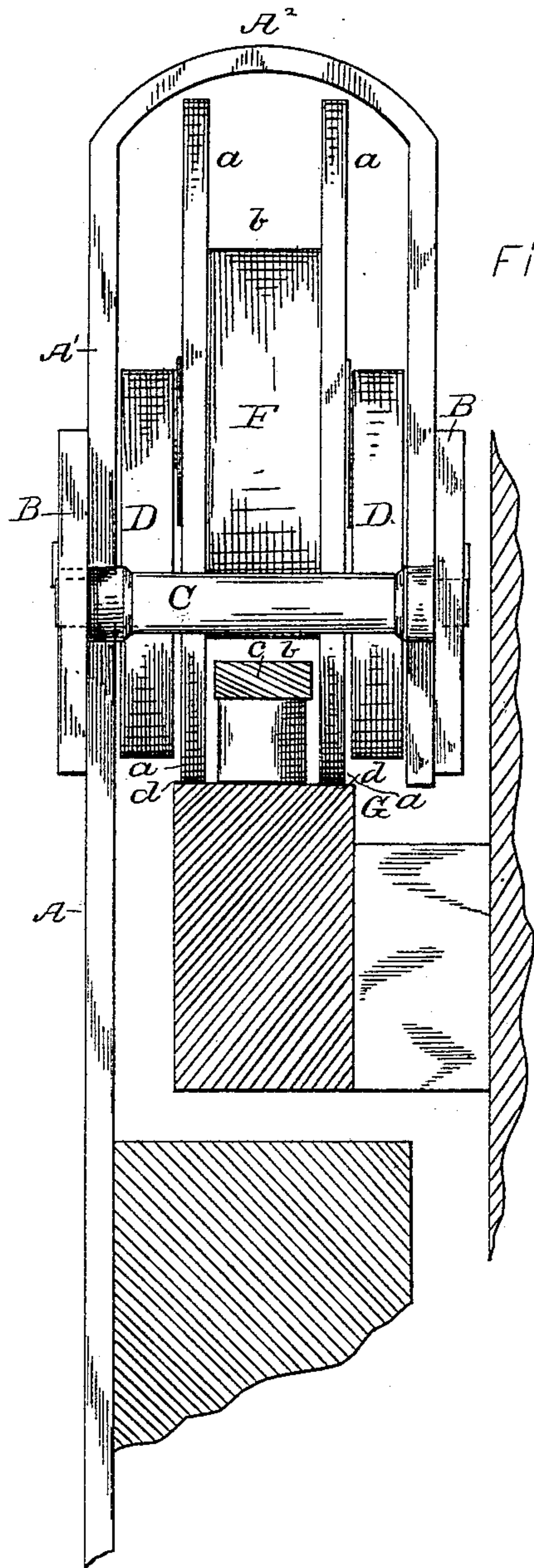


Fig. 1.

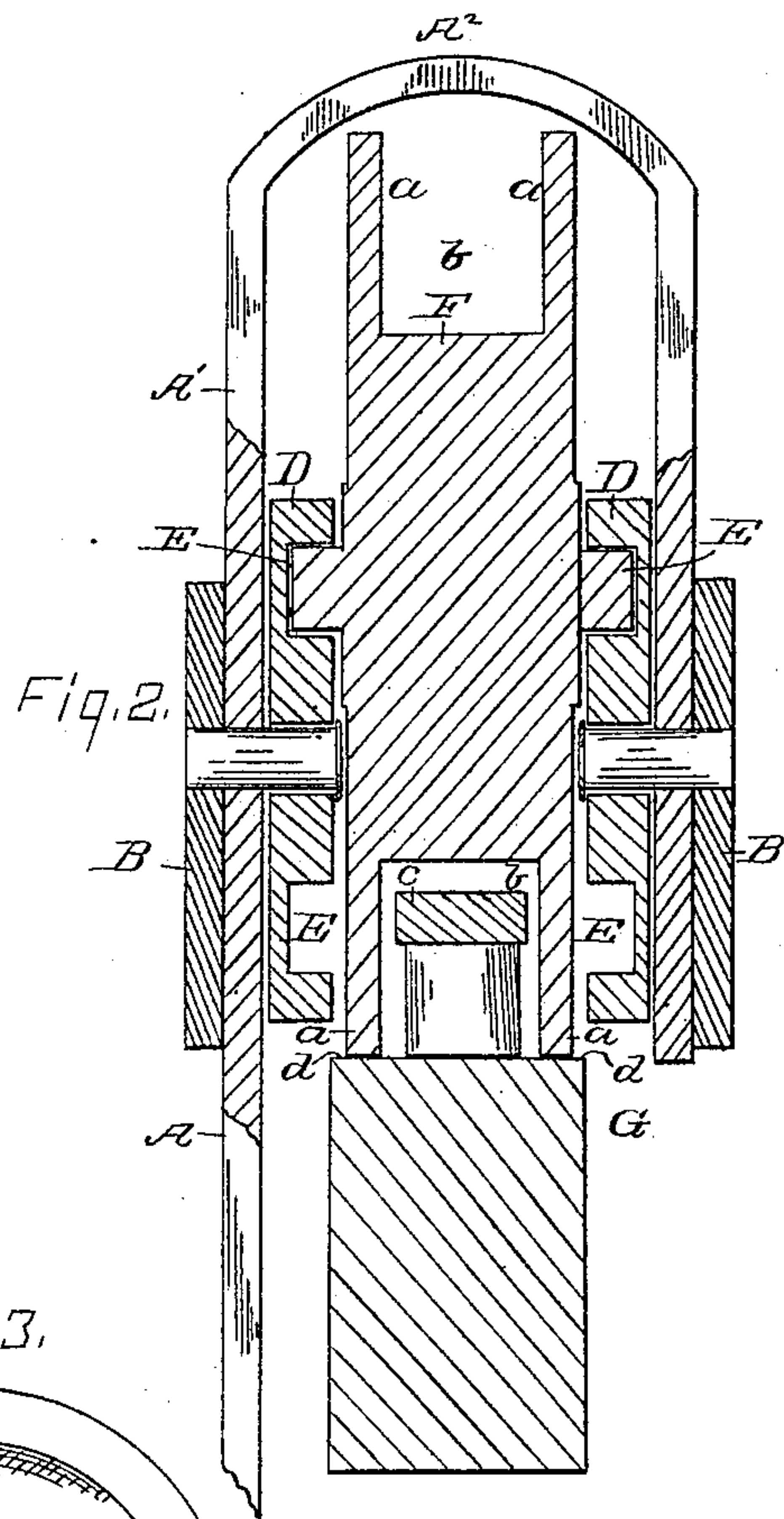


Fig. 2.

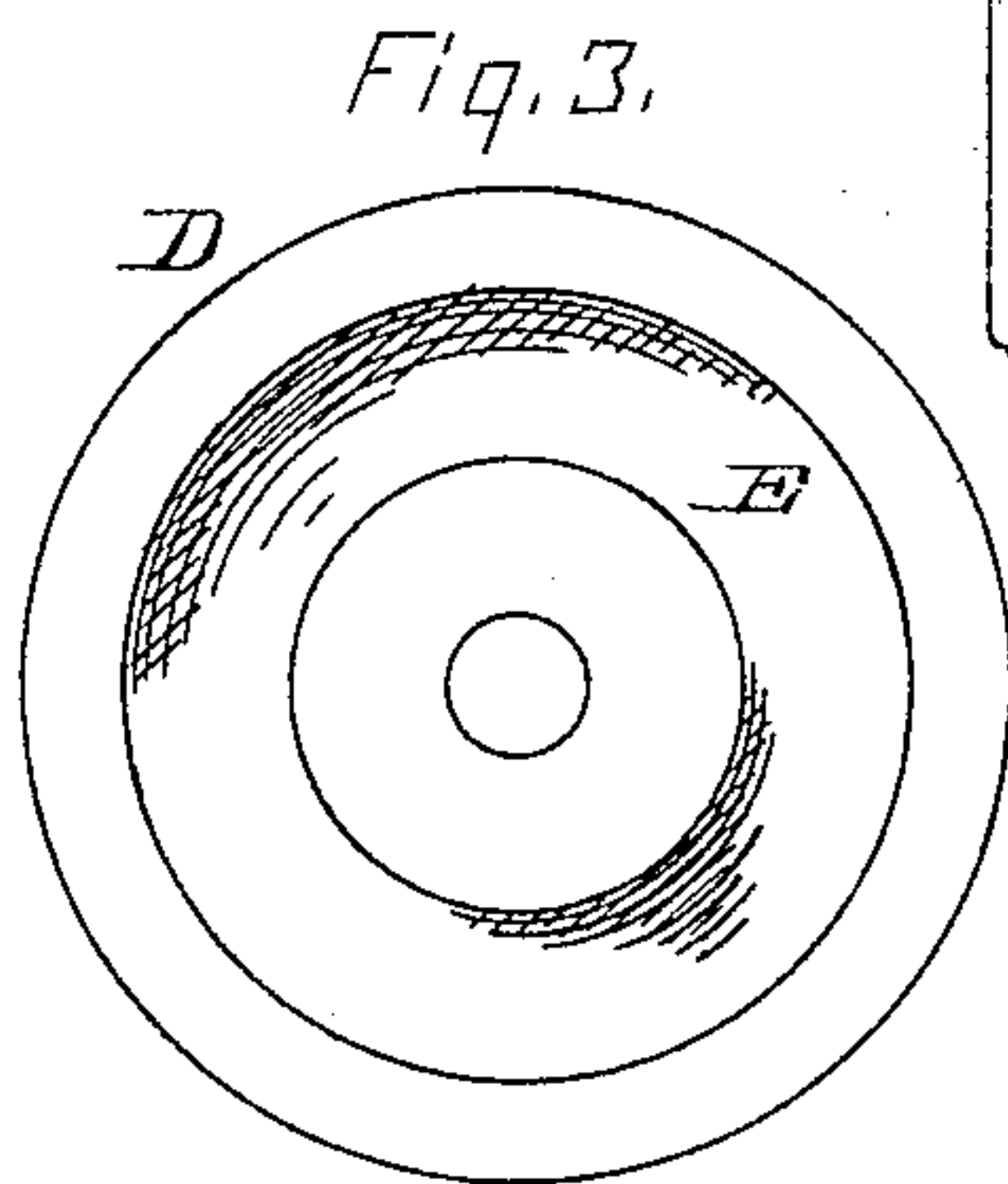


Fig. 3.

WITNESSES:

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NORMAN CLARK, OF STERLING, ILLINOIS, ASSIGNOR TO JOHN H. LAWRENCE
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DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 328,382, dated October 13, 1885.

Application filed July 28, 1885. Serial No. 172,920. (No model.)

To all whom it may concern:

Be it known that I, NORMAN CLARK, a citizen of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Barn-Door Hangers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention has reference to barn-door hangers, and especially to certain novel mechanism designed to substantially avoid the usual friction experienced in devices of this nature.

Barn-doors in order to obtain the required strength are made quite heavy, and this weight ordinarily produces great friction, rendering the doors difficult to move unless proper provision is made to prevent such friction. The obviating of such friction is the object of my invention.

I have an application for a patent pending in door-hangers designed to be carried on two tracks; but inasmuch as it is not always practicable to place two tracks, particularly above outside doors, my present invention is specially valuable in its adaptation to a single track.

In the drawings, Figure 1 is the end elevation of a hanger embodying my invention. Fig. 2 is a cross-section thereof in the line xx of Fig. 1. Fig. 3 exhibits the inner face of the friction-rollers D D.

A is the usual strap, attached to the upper end of the door, bowed over the operating mechanism of the hanger, and furnishing lateral seats for such mechanism. To the outer end of such bow A^2 , and on the same plane to the main strap A' of the strap A, are suitably attached transverse plates B B. The stem A' might be formed to include such cross-plates; but as I cut such strap from plate-steel for purposes of strength I use the cross-plates as a matter of economy, as I otherwise would have to cut the strap A from a plate of steel sufficiently wide to furnish seats for the cross-

braces C, which would result in a waste of material.

Horizontal braces C C are respectively interposed endwise between the plates B, near the ends of and suitably attached to the latter. The braces C, thus connecting the adjacent ends of the plates B, form, with such plates, the frame which contains and is carried by the roller mechanism of the hanger.

D D are twin friction-rollers journaled uni-laterally, respectively, in the opposite inner faces of the stem A' and bow A^2 .

On the inner faces of the rollers D, and near the edges of the latter, are formed the concentric annular grooves E.

F is the usual carrying-wheel, having exterior bearing-flanges, a a , and interior annular recess, b , formed on its periphery. The wheel F is furnished at each side of its center with journals fitted to enter and traverse the annular grooves E on the adjacent faces of the friction-rollers D.

The wheel F is placed between the rollers D, and all the parts placed in the relation shown before the braces C are finally attached. G is the usual track, constituted of the central rib, c , to project into the recess b of the wheel F, to hold and guide the latter, and the lateral flanges d , to furnish the path for the flanges a of such wheel.

The operation of my invention is as follows: The weight of the door is of course borne by the lower edges of the wheel F on the track G. This forces the journals of the wheel F against the outer wall of the grooves E of the rollers D at the upper extremity of such grooves. The revolution of the journals of the wheel F is prevented from creating friction by the rotation of the rollers D, and as the diameter of the wheel F is many times that of its journal-bearings a comparatively limited motion is imparted to the rollers D by the rotation of such journals, and by reason of the diameter of the grooves E being many times that of the journal-bearing of the rollers D the limited motion communicated to such rollers at such grooves is reduced to almost nothing at the axial bearings of such rollers—the sole point where one surface slides upon another. Thus all friction is substantially precluded.

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

5 The combination of the wheel F and the rollers D, unilaterally journaled, and provided with the annular grooves E, such wheel having journals adapted to traverse such grooves and support such rollers, substantially as shown, and for the purpose described.

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

NORMAN CLARK.

Witnesses:

J. F. CRISWELL,
WALTER N. HASKELL.