

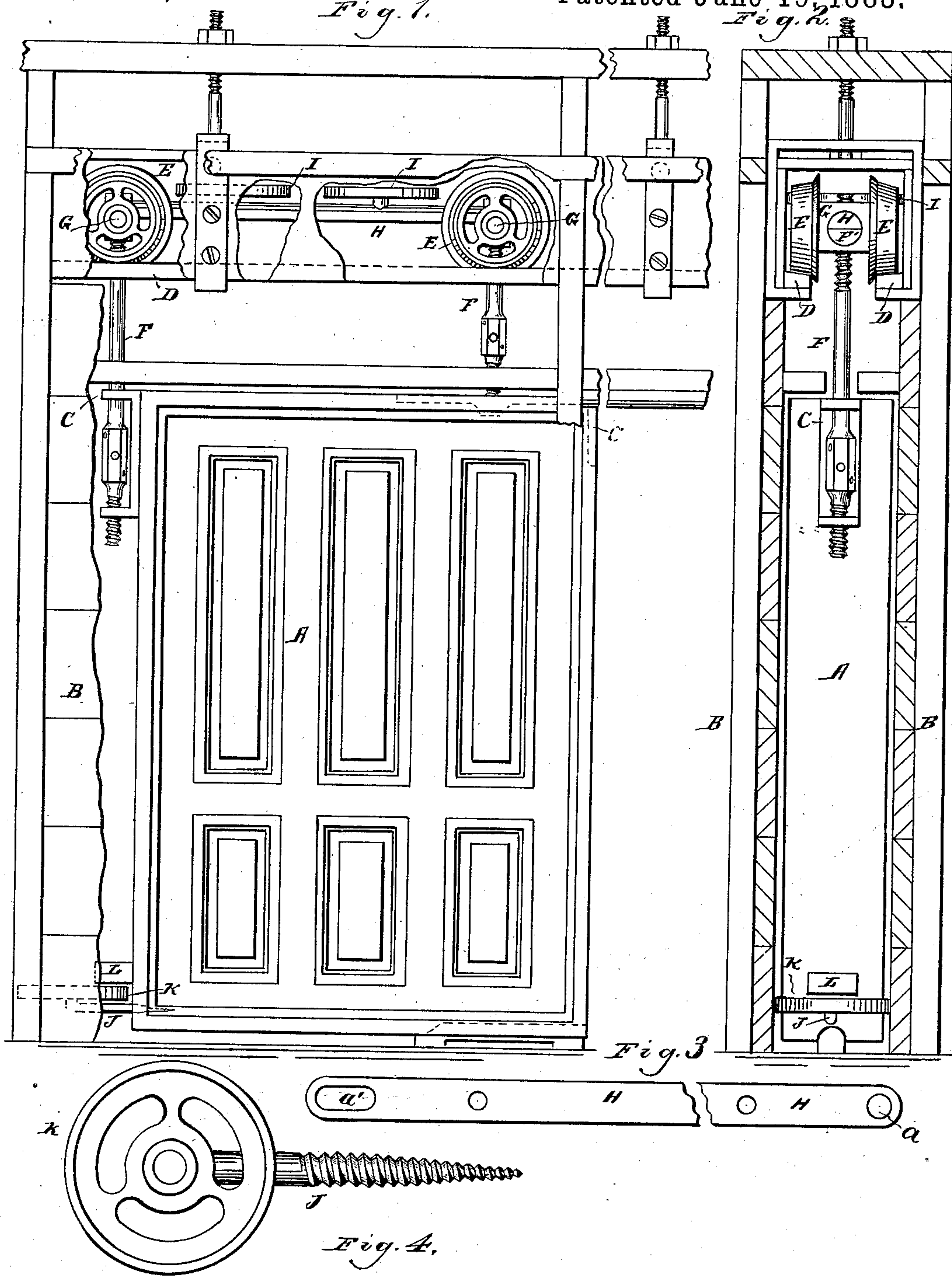
(No Model.)

2 Sheets—Sheet 1.

W. F. BERRY.
DOOR HANGER.

No. 279,526.

Patented June 19, 1883.



Witnesses,
Henry Frankfurter,
Geo. A. McBride.

Inventor,
Wilbur F. Berry
per, F. F. Warner—
his Attorney.

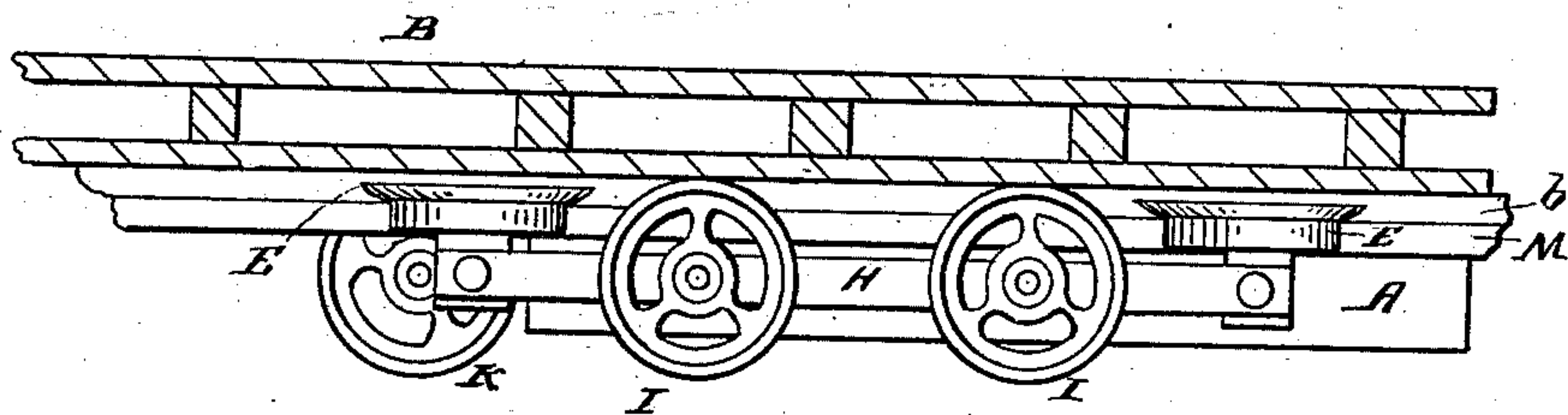
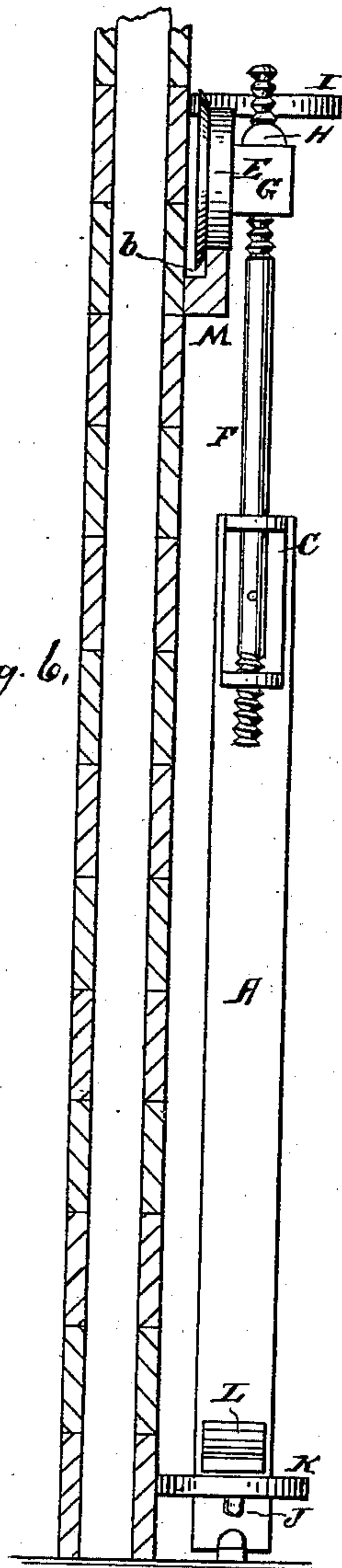
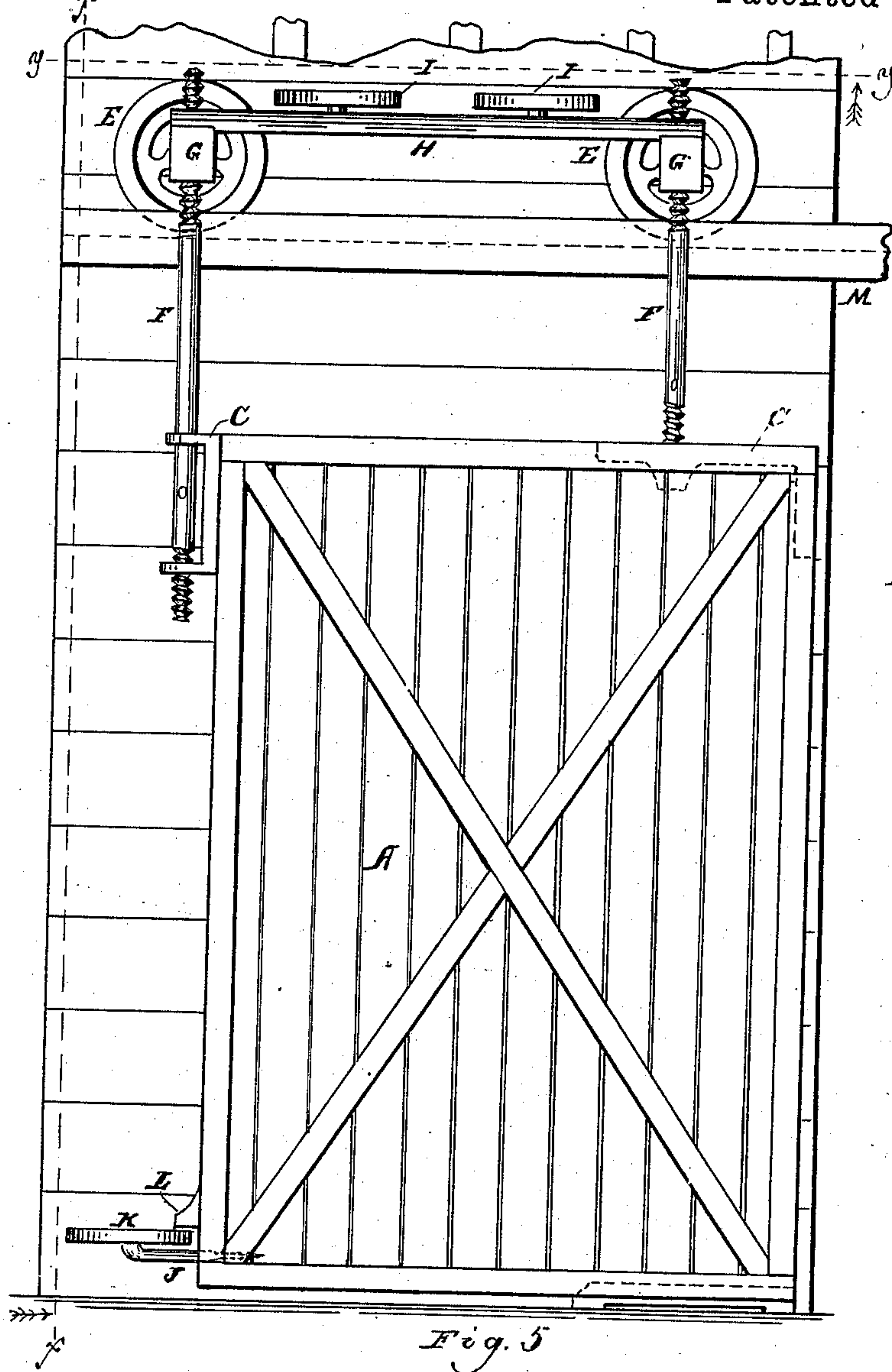
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UNITED STATES PATENT OFFICE.

WILBUR F. BERRY, OF CHICAGO, ILLINOIS.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 279,526, dated June 19, 1883.

Application filed April 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILBUR F. BERRY, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Door-Hangers, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1 represents a side elevation of a door hung by means of my improved hangers. Fig. 2 is an end view of the same viewed in the direction of the rear edge of the door, the walls being shown in transverse section. Fig. 3 is a detail, the same being a top view of the bar connecting the sheaves and supporting the guide-rollers. Fig. 4 is a detail of the same, being a top view of the lower guide-wheel and its screw. Fig. 5 is a side elevation of the hanger somewhat modified to adapt it for hanging barn-doors. Fig. 6 is a section in the plane of the line $x x$, viewed in the direction indicated by the arrow there shown; and Fig. 7 is a section in the plane of the line $y y$, viewed in the direction indicated by the arrow there shown.

Like letters of reference indicate like parts.

My invention relates to that class of door-hangers in which the doors are suspended by means of depending hanger-rods operating in connection with sheaves supported on tracks arranged above the door. My present purpose is to provide suitable means for preventing the lateral or wobbling movement of the sheaves on their tracks or ways. I also aim to prevent the warping of the doors and to adapt hangers of this class to be used with advantage for hanging barn-doors. For the purpose of accomplishing these several objects, I employ the means hereinafter set forth, and particularly pointed out in my claims.

A represents the door, and B the wall in which it is arranged.

C C are door-plates applied to the upper corners of the door.

D D are parallel ways or tracks arranged horizontally above the door.

E E are the sheaves, mounted on the said tracks, and F F are hanger-rods depending from the sheave-axles G G and entering the plates C C. The sheaves, the track, the hanger-rods, and the door-plates, constructed and

applied in various ways, have heretofore been employed for hanging doors; and the particular construction which I have shown in the drawings I have elsewhere described, and do not, therefore, here intend to claim the same, broadly, as my present invention, as before stated, relates in part to the means employed for preventing the lateral movement or wobbling motion of the sheaves upon their tracks or ways, which means I will now proceed to describe.

H is a rod or bar connecting the axles G G, and I I are horizontally-arranged wheels mounted and turning on the said bar. In diameter these wheels are such as to fill or very nearly fill or extend across the space in which the sheaves roll, and the sides of the framework which inclose that space, and against which the perimeters of the wheels I I will bear if the sheaves move laterally or wobble very slightly, should be smooth and straight. It will be perceived, therefore, that the slightest tendency of the sheaves to wobble or move laterally will be overcome by the contact of the wheels I I with the sides of the recess in which the sheaves move.

In the figures shown the hanger-rods F F pass through semicircular nuts F' F', located in a circular opening in the sheave-axle, thereby permitting the said axle to tilt slightly when the sheaves run over an uneven track, without a corresponding displacement of the door.

In order to apply the bar H and wheels I I for use in connection with hangers so made, I make the ends of the rod or bar half-round or semi-cylindrical, as indicated in Fig. 3, so that these ends may enter the semicircular part of the openings not filled by the nuts F' F'; and to connect the sheave-axles to each other by means of these bars, I make in one end of each bar a circular opening, a , and in the other end a slot, a' . By this means the hanger-rods F F, after passing through the nuts F' F', may pass through the openings a and a' . By employing the slot a' , less nicety of construction and adjustment results in arranging the parts together, although a circular opening may be employed in the place of the slot a' , if deemed best. The bars H H, however, may be arranged upon the sheave-axles, instead of entering them, and the form of the said bars, whether

at the ends or at the intermediate parts, may be varied, as may be either necessary or desirable.

Another feature of my invention relates to the means employed for preventing the warping of the door. For this purpose I screw into the rear edge of the door a screw-pin, J, and on the outer end or part of this screw I mount a horizontally-arranged wheel or roller, K, filling or very near extending across the recess in which the door moves, as indicated in Figs. 1 and 2. By this means the door, as will be perceived, will be prevented from warping at its inner or lower corner, where it has heretofore been free, or without means for preventing its lateral movement there without also binding on some other part. The wheel K, as is obvious, prevents such binding in case the door tends to warp, for the wheel will rotate against the wall to which it is then carried. To prevent the wheel K from tilting on its axis, I apply to the rear edge of the door a block or projection, L, arranged just above the wheel, as shown in Figs. 1 and 2.

To adapt hangers of this class to be applied to barn-doors without much expense, I employ a rail, M, which I locate on the interior of the wall and above the door, as shown in Figs. 5, 6, and 7. This track I arrange horizontally, and its form is such as to form a groove or channel between the wall and that part of the track on which the perimeters of the sheaves rest. In this case I employ a single sheave in connection with each hanger-rod, and the sheaves are flanged, and the flanges are so arranged as to run or move in the grooves *b b*. The axles of these sheaves I connect, as before described, by means of rods or bars H H, on which are wheels I I. It should be stated that when the bars H H are arranged upon the sheave-axles, as shown in Figs. 5, 6, and 7, the rod or bar H should be shouldered, as shown at *c*, Fig. 5 so as to prevent the rod or bar from slipping back or forth longitudinally on the axles. In other respects the hanger may be constructed and applied in the manner already

described, or in any well-known or suitable way.

The wheel or roller K, as will be perceived, when applied to a barn-door hung in the manner shown and described, will prevent the lower edge of the door from swinging outward against the wall or ceiling of the barn. The wheels I I will prevent the sheaves from contact with and from binding against the outside of the barn, while the flanges will keep them on the track. The wheels I I, in connection with the flanges, will also tend to prevent the door from swinging inward or away from the ceiling.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a door-hanger, of the sheaves E E, the rod or bar H, connecting the axles G G of the sheaves, and the horizontally-arranged guide-wheels I I, mounted on the said bar or rod and arranged to ride in the sheave way or recess, substantially as and for the purposes specified.

2. The combination, with a suspended door, of a horizontally-arranged wheel or roller, K, applied to the lower rear part of the door, when the said door moves in a recess, and when the said wheel extends across or nearly across the said recess, substantially as and for the purpose specified.

3. In a door-hanger in which there are sheaves, hanger-bars, and door-plates for suspending the door, the combination, with the single sheave rail or track M, applied to the building, of the connecting rod or bar H and the horizontally-arranged wheels I I and K, when the said rods are connected each to a single sheave adapted to ride upon the said track, and when the wheel K is applied to the lower inner part of the door, substantially as and for the purpose specified.

WILBUR F. BERRY.

Witnesses:

F. F. WARNER,
GEO. L. MCBRIDE.