

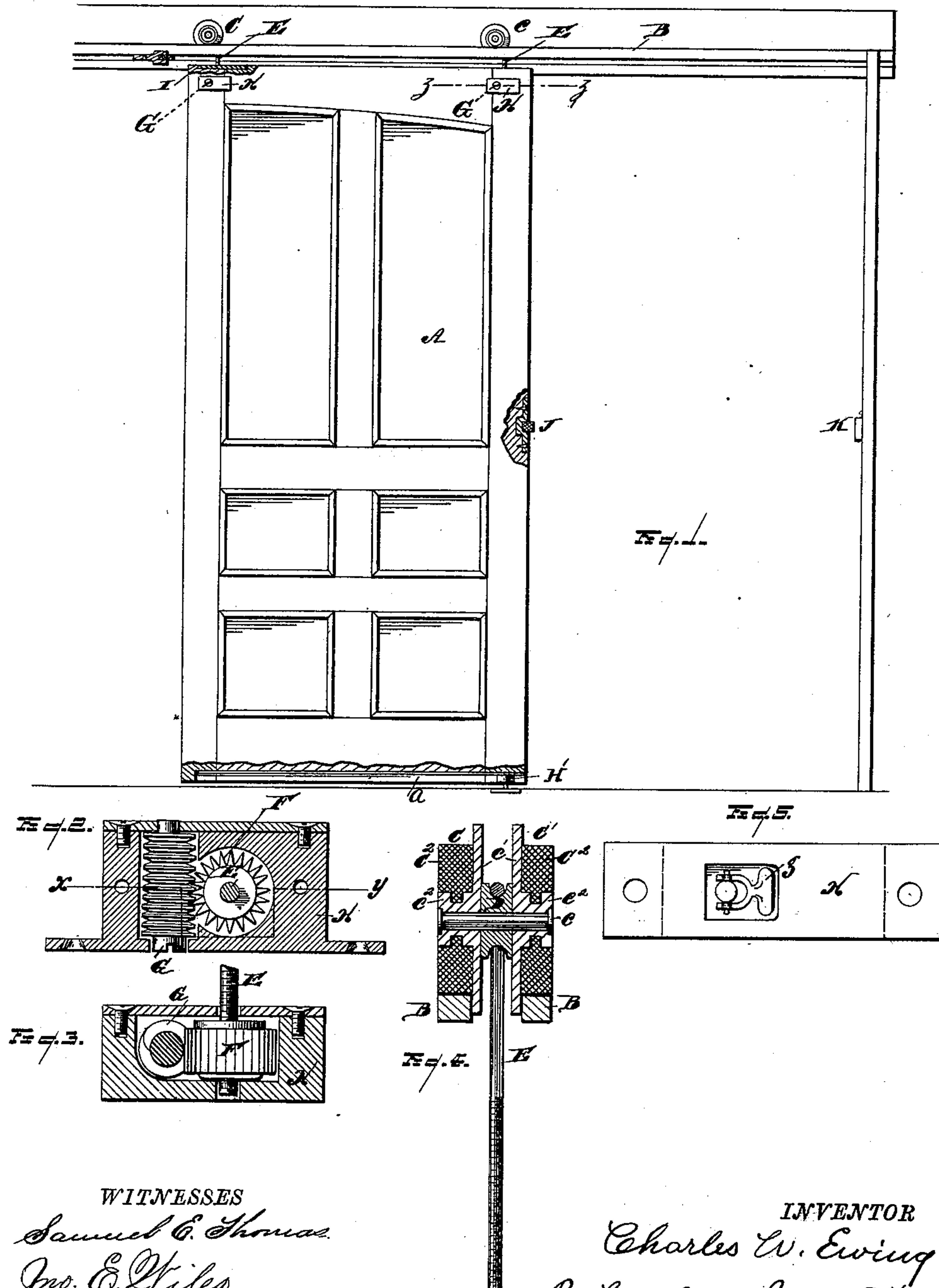
(No Model.)

C. W. EWING.

DOOR HANGER.

No. 352,529.

Patented Nov. 16, 1886.



WITNESSES  
Samuel C. Thomas.  
Geo. E. Miles.

INVENTOR  
Charles W. Ewing  
By Wells W. Beggitt,  
Attorney

# UNITED STATES PATENT OFFICE.

CHARLES W. EWING, OF YPSILANTI, ASSIGNOR TO EDWARD S. GRECE, OF  
DETROIT, MICHIGAN.

## DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 352,529, dated November 16, 1886.

Application filed January 30, 1886. Serial No. 190,331. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. EWING, of Ypsilanti, county of Washtenaw, State of Michigan, have invented a new and useful Improvement in Door-Hangers; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to certain new and useful improvements in door-hangers and guide-rollers, as more fully hereinafter described, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a front elevation showing parts in section. Fig. 2 is a horizontal section on an enlarged scale taken through the bearing-plate on the line  $z-z$  of Fig. 1. Fig. 3 is a sectional view of the same along the line  $xy$ . Fig. 4 is a vertical section of a portion of my invention. Fig. 5 illustrates a modification.

I carry out my invention as follows:

A represents a door; B, a track located above the door, consisting, preferably, of two parallel tracks separated from each other.

C C' represent my improved rollers, preferably flanged, as shown, to support the door upon said tracks. These rollers C C' are rotatable about a shaft or spindle,  $c$ . I prefer to construct each of said rollers with the face-plate  $c'$  and hubs  $c^2$ . The hub itself may be engaged upon the track, although I prefer to engage upon the hub in any suitable manner a rubber wheel, C<sup>3</sup>. The hub may be grooved, as shown, to receive the rubber and to hold it in place. Mounted upon the spindle  $c$  is an intermediate wheel, D, made rotatable also upon said spindle.

E is a supporting-rod engaged upon the intermediate wheel at one end and screw-cut along the opposite end, the intermediate wheel being preferably grooved to receive the upper curved end of said supporting-rod. The upper end of the supporting-bar may be simply turned over sufficiently to engage upon the intermediate wheel and to be readily lifted off therefrom whenever it may be desired to separate the door from the hanger or to engage it in place.

F is a worm-wheel screw-tapped upon the supporting-rod E, and G is a worm-screw meshing therewith.

H is a bearing-plate engaged in the door and supporting the worm-screw, said screw kerfed, so as to be operated by a screw-driver, preferably as shown in Fig. 2, or it may be provided with a folding handle,  $g$ , as shown in Fig. 5.

It will be seen that when the worm-screw is turned in either direction it will operate the worm-wheel with which it meshes, which in turn will be adjusted upon a supporting-bar, and thereby the door will be elevated or lowered with respect to the hanger-rollers, as may be desired, so that either side of the door may be adjusted or the whole door be lifted readily, so as to clear the floor or to clear the track to avoid friction, as might be necessary. This device for adjusting the door perpendicularly I regard as one of the main features of my invention. The mechanism for accomplishing this end is embedded in the door, so as not to be protruded therefrom in an untasty or unsightly manner.

The lower edge of the door, as shown in Fig. 1, is grooved at  $a$ , and a guide-roller, H', secured upon the floor, engages the groove of the door, so as to effectually guide the base of the door as it is drawn to and fro, the guide-roller, however, being out of sight and offering no obstruction whatever.

It may be found desirable to strengthen the door at the points where the supporting-rod extends upward to the hanging rollers, which may be accomplished by means of one or more plates, I. (Shown in Fig. 1.) These plates will compensate for any weakening of the door, being cut away for the insertion of the bearing-plate H.

J represents a cushioning device engaged upon the edge of the door, and K a cushioned stop.

It will be seen that the supporting-rod extends between the two tracks in its engagement upon the intermediate wheel.

What I claim is—

1. The combination, in a door-hanger, of the supporting-wheels consisting of the face-plates  $c'$ , having hubs  $c^2$ , and the elastic disks or wheels C<sup>3</sup>, interlocked with said hubs at the



sides of the face-plates, a spindle connecting the wheels, and a roller on the spindle between said wheels, substantially as described.

5 2. In a door-hanging device, the combination, with a supporting-rod, of a worm-wheel screw-tapped thereon, having in combination therewith a worm-screw meshing with said wheel, substantially as and for the purpose described.

10 3. The combination, in a door-hanger, of two supporting-wheels, a spindle connecting the latter and provided with a wheel interme-

diate the supporting-wheels, and a rod suspended from the intermediate wheel, with a bearing-plate for attachment to a door, a worm-wheel journaled in the plate and screw-tapped 15 on the rod, and a worm engaging the worm-wheel, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

CHARLES W. EWING.

Witnesses:

N. S. WRIGHT,

M. B. O'DOHERTY.