

J. H. VIVIAN.
COMBINED DOOR HANGER AND TRACK.
APPLICATION FILED JAN. 20, 1904.

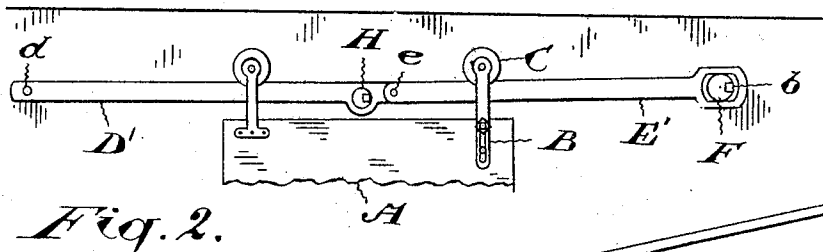
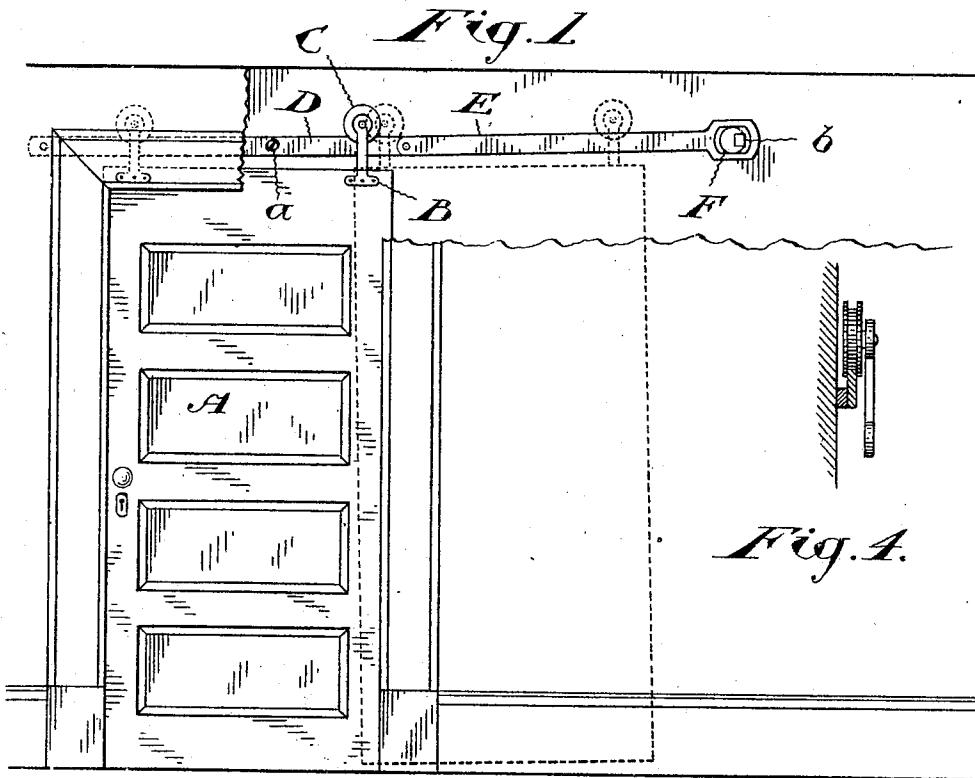


Fig. 2.

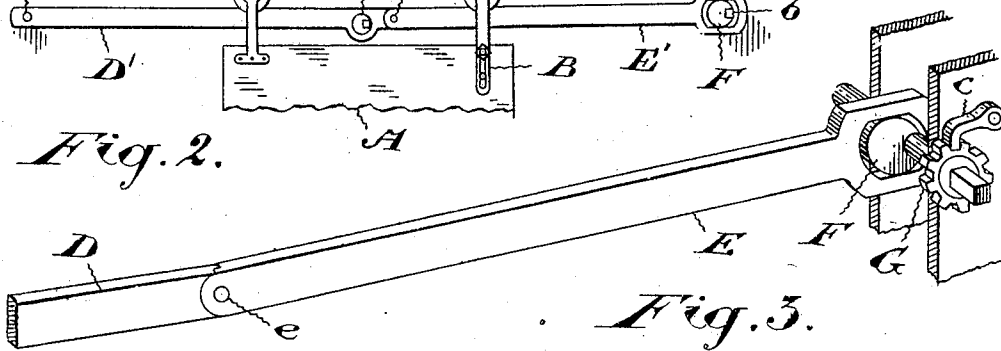


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN H. VIVIAN, OF TORONTO, CANADA.

COMBINED DOOR HANGER AND TRACK.

No. 797,031.

Specification of Letters Patent.

Patented Aug. 15, 1905.

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To all whom it may concern:

Be it known that I, JOHN H. VIVIAN, of the city of Toronto, county of York, Province of Ontario, Canada, have invented certain new and useful Improvements in a Combined Door Hanger and Track, of which the following is a specification.

The object of my invention is to devise a combined door hanger and track for self-closing doors in which the tendency of the door to close may be accurately regulated and in which the closing tendency of the door is comparatively great during the first part of the movement and decreases as the door approaches the closed position; and it consists, essentially, of the details of construction hereinafter described and then definitely claimed.

Figure 1 is an elevation of my door with the improved combined hanger and track. Fig. 2 is a similar view of a modified form of the track. Fig. 3 is an enlarged perspective view of the portion of the track shown in Fig. 1. Fig. 4 is a cross-section of the track, showing one of the hangers and friction-rollers.

In the drawings like letters of reference indicate corresponding parts in the different figures.

The general arrangement of the device will be similar to that in use with ordinary sliding doors, the patentable differences consisting in the particular construction of the track.

The door A is provided with the usual hangers B and friction-rollers C, adapted to run on the track. The track is formed in two sections D and E. The section D is located over the doorway and is preferably set at a slight incline, so that it tends to cause the door to retain its closed position. As shown in Fig. 1, section D is secured to the casing by suitable screws *a* or other fasteners. To the end of section D of the track the section E is pivotally connected by the joint *e*, which is shown in Fig. 3, so that the continuity of the track is maintained. It will be observed that the section E of the track is engaged only by the roller near the rear side of the door. Whether this roller engages the track D or not depends on the width of the door and the position of the hangers or other connections between the roller and the door. If it is desired, a guard-rail may be provided over the section E, as is commonly done with ordinary level tracks. This section E is normally at a greater inclination than the section D, and at its outer end it is supplied with vertical adjusting

means, whereby its angle of inclination may be varied at will. I show one means of accomplishing this vertical adjustment by means of an eccentric F, arranged in a suitable slot or opening in the end of the section E. The spindle *b* of this eccentric is journaled in the casing within which the track is arranged. One end of this spindle is squared for the purpose of applying a wrench or key thereto. I also show a ratchet-wheel G secured to the spindle, and it is engaged by the pivot-pawl *c*. The pawl serves to retain the eccentric in the position to which it has been moved by the action of the wrench.

Under some conditions it will be desirable to make the section D' of the track adjustable, as shown in Fig. 2. Its end is then pivoted at *d* and an eccentric adjustment H provided near the pivot-point *e* between the two sections. In order that the door may be maintained perpendicular when the section D' is adjusted, I provide a vertical adjustment in one of the hangers B. This may be of any form; but in Fig. 2 I show simply a slot or slots in the hanger and bolts passing through the holes in the door through the said slot or slots.

The slight inclination of the first portion of the track is sufficient to maintain the door in its closed position. It also permits the first movement of opening to be easily performed, so that considerable momentum has been imparted to the door before it begins to rise up the more steeply inclined portion of the track. This makes the door much more easy to open than one in which the track is of the same incline from start to finish. The portion of the track having the greatest inclination starts the door on its closing movement with considerable momentum, but as the portion of the track over the doorway is only slightly inclined the door, although it will close with certainty, will not go to the closed position with too great force.

The adjustment of the section E' permits of any inclination being given which may be necessary to insure the proper closing of the door. The adjustment of the part D' and the hanger B permits of changes being made in the inclination of the section to maintain the door closed when used, for example, as a street-car door, in which the passage of curves often tends to throw the straight-rolling door open.

What I claim as my invention is—

1. A door provided with journaled friction-

rollers in combination with a track engaged by the said rollers comprising two straight inclined sections connected together, the section on which the door is supported when in its closed position having less inclination than the other part, substantially as described.

2. A door provided with journaled friction-rollers in combination with a track engaged by the said rollers comprising two sections pivotally connected and suitably supported, the free end of the section on which the door is supported when in its open position being vertically adjustable, substantially as described.

3. A door provided with journaled friction-rollers in combination with a track engaged by the said rollers comprising two sections pivotally connected, the outer end of the first section being pivoted to a stationary part; and two vertical adjusters, one located at the outer end of the second section and the other adjuster adjacent to the pivot between the sections, substantially as described.

4. A door provided with hangers having friction-rollers journaled thereon, one hanger being vertically adjustable on the door, in combination with a track engaged by the said

rollers comprising two sections pivotally connected, the outer end of the first section being pivoted to a stationary part; and two vertical adjusters, one located at the outer end of the second section and the other adjuster adjacent to the pivot between the sections, substantially as described.

5. A door provided with journaled friction-rollers, one at or near the front edge of the door and one at or near the rear, in combination with an inclined track engaged by the front roller; and a track of greater inclination in the same direction engaged by the rear roller; substantially as described.

6. A door provided with journaled friction-rollers, one at or near the front edge of the door and one at or near the rear, in combination with an inclined track engaged by the front roller; a track of greater inclination in the same direction engaged by the rear roller, and means for varying the inclination of said track, substantially as described.

Toronto, January 15, 1904.

JNO. H. VIVIAN.

In presence of—

J. EDW. MAYBEE,
JOHN G. RIDOUT.