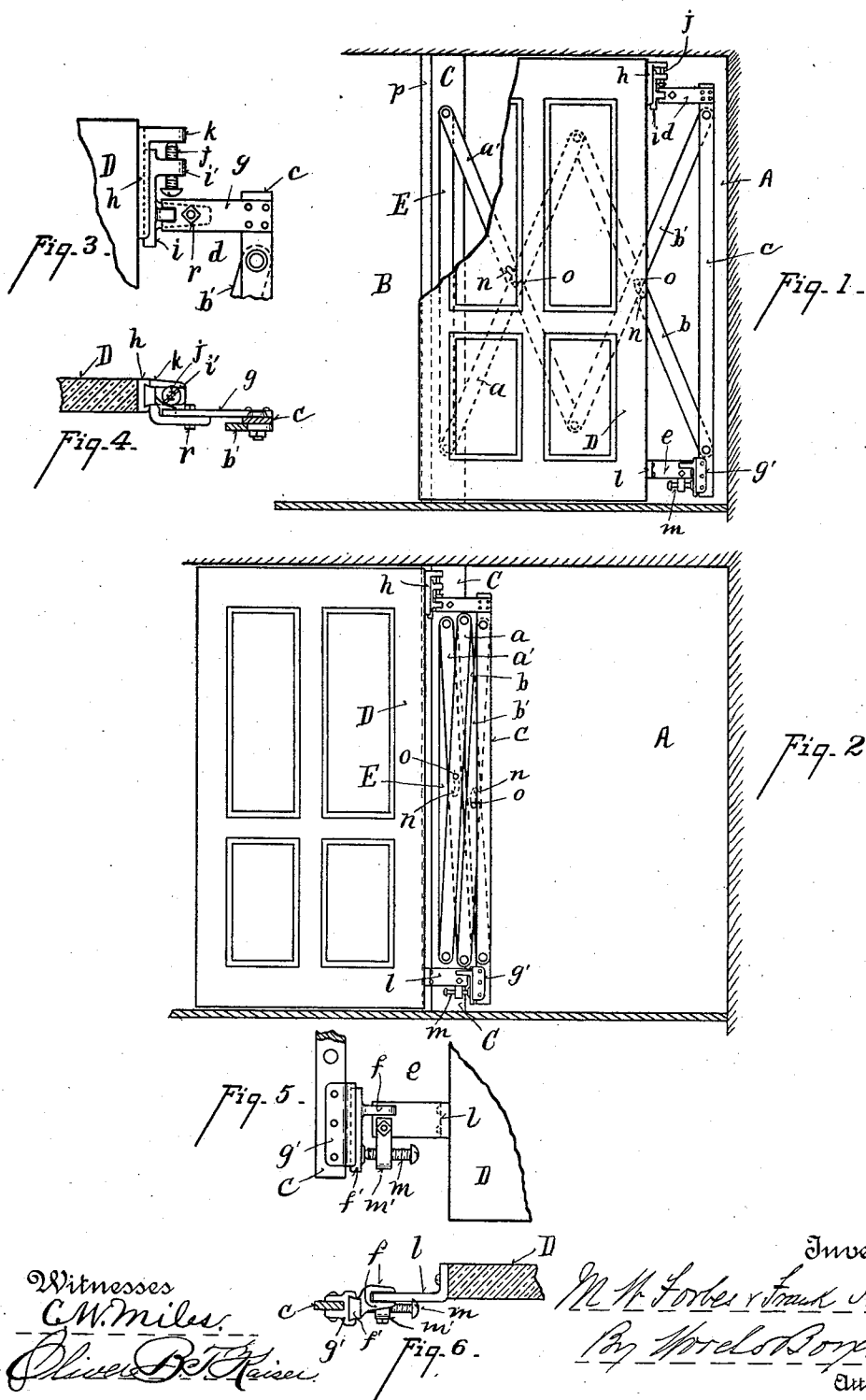


(No Model.)

M. W. FORBES & F. HART.
SLIDING DOOR.

No. 566,159.

Patented Aug. 18, 1896.



Witnesses

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UNITED STATES PATENT OFFICE.

MARTIN W. FORBES AND FRANK HART, OF MIAMISBURG, OHIO.

SLIDING DOOR.

SPECIFICATION forming part of Letters Patent No. 566,159, dated August 18, 1896.

Application filed December 11, 1895. Serial No. 571,779. (No model.)

To all whom it may concern:

Be it known that we, MARTIN W. FORBES and FRANK HART, residing at Miamisburg, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Sliding Doors, of which the following is a specification.

This invention has for its object to provide new and improved means for suspending sliding doors and adjusting them vertically for easy and smooth movements.

To accomplish this object, our invention consists in the features of construction and the combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a side elevation of our improvement, showing the door inclosed within the recess. Fig. 2 is a similar view showing the door extended, filling the doorway. Fig. 3 is a side elevation of the upper suspending-bracket and its adjustable parts. Fig. 4 is a bottom plan view of Fig. 3. Fig. 5 is a side elevation of the lower suspending-bracket and its adjustable parts. Fig. 6 a top plan view of Fig. 5.

A represents the recess into which the door is retracted when the doorway is open.

B represents the doorway-space, and C represents the jamb-stud at the outer end of the recess and upon which the sliding door is supported.

D represents the rear door-stile.

E represents a metallic strip secured upon the inner facing of the jamb-post and to which the X-links are hinged at the top and bottom. *a b* represent one set of these links. Link *a* is hinged to the bottom of the jamb-post, and its top end to link *b*, and the bottom end of this link is hinged to a vertical bar *c*. This bar is detachably connected by brackets *d e* to the door-stile.

In order to adjust the door-supports vertically, we provide the following devices: *g* represents a guide-bracket connected to the vertical bar *c*. *i* represents a shoe secured to bracket *g* and sliding in ways in plate *h*, secured to the door-stile. *k* represents a lug projecting from the upper end of plate *h*. *j* represents a screw tapping a lug *i'* on the shoe *i* and engaging lug *k*, thereby support-

ing the weight of the door, and by means of which the door may be adjusted to the proper height.

The door is secured to bar *c* at the bottom by bracket *e*, which is adjustable in a horizontal direction to hold the door in a vertical position.

l represents a plate secured to the door-stile and engaging a forked lug *f* on shoe *f'*, which slides in ways in plate *g'*, secured to bar *c*.

m represents a screw tapping lug *m'*, which is secured to plate *l*. The screw *m* bears upon the shoe *f'* and holds plate *l* away from the shoe *f'* the distance required to make the door plumb.

Of course the vertical adjusting devices could be placed at the bottom of the door and the plumb at the top. Links *a'* and *b'* are hinged to the vertical strips or bars *E c* at reverse positions to that of the links *a b*, as shown in Fig. 1.

In order to prevent the sagging of the links and to maintain the door in any given vertical position of adjustment, the links are connected together at their central and crossing points as follows: *n* represents segmental slots formed in the links *a b*. *o* represents pivotal bolts secured to the links *a b'*, which project through slots *n* and are provided with heads to prevent the bars from spreading. The curves of the slots conform to the path of the pin traveling therein. Thus the weight of the door is distributed equally to the several links, the slots and pins forming a brace-bearing and effectually preventing the sagging of the links. So the weight of the door and the suspending-links are sustained upon the bars *E c*, and this is an important feature of our invention.

p represents a facing-strip secured to the front face of the jamb-post, so as to close the recess up against the door, there being sufficient space between the jamb-post and the door-stile to allow the links and their connections to move freely without coming in contact with either the door or side posts. Another advantage is secured by means of this space and facing-strip, as the adjusting-screws *m j* may be reached when the facing-strip is removed and the door readily adjusted to a plumb-line and to the right verti-

cal position. Besides this allows the door to be taken off and put onto the link-supports if desired by removing the bolt *r*, which secures the door to the bracket.

5 Several advantages accrue from the use of our device. The door is more easily adjusted in position and is better maintained in the adjusted position, it being wholly independent of longitudinal support from the lintel,
10 but being sustained vertically by the jamb-post. Hence it is less liable to sag or be thrown out of position by the settling of the building.

We claim—

15 1. A sliding-door hanger having crossing links pivoted to a vertical bar which is connected to the door at one end by a vertically-movable bracket supported upon an adjusting device, substantially as specified.

20 2. In a sliding-door hanger, the combination with the vertical bar detachably con-

nected to the rear edge of the door, crossing links pivoted to the door-jamb, to said vertical bar, and to each other, of a bracket connecting the said vertical bar to the door and
25 means for adjusting said bracket laterally and holding it in its adjusted position, substantially as described.

3. In a sliding-door hanger, the combination with crossing links pivoted to the door-jamb and to a vertical bar, of vertically-mov-
30 able brackets connecting the opposite edges of the door and said bar, and means for adjusting one of said brackets vertically and the other laterally, substantially as described.
35

In testimony whereof we have hereunto set our hands.

MARTIN W. FORBES.
FRANK HART.

Witnesses:

W. A. REITER,
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