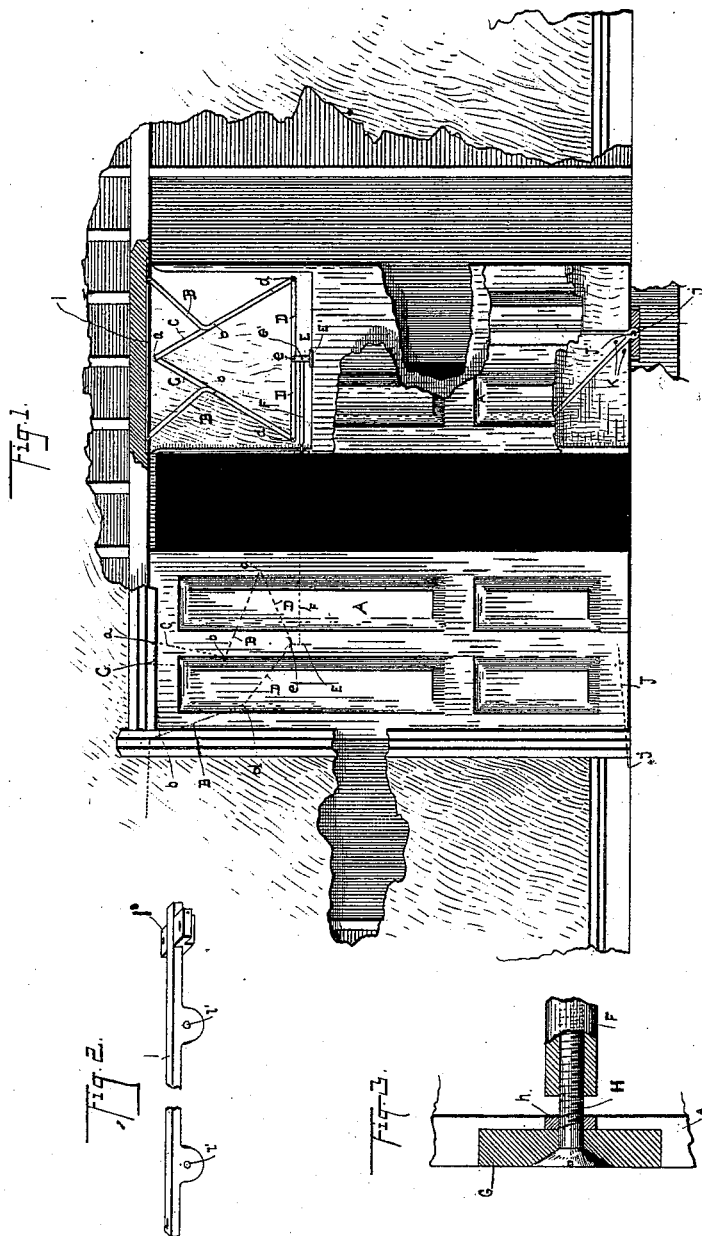


(No Model.)

C. C. RUNYAN.
SLIDING DOOR HANGER.

No. 342,710.

Patented May 25, 1886.



WITNESSES
N. S. Amick
Geo. W. King

Chas C. Runyan INVENTOR
By Leggett & Leggett Attorneys

UNITED STATES PATENT OFFICE.

CHARLES C. RUNYAN, OF MANSFIELD, OHIO.

SLIDING-DOOR HANGER.

SPECIFICATION forming part of Letters Patent No. 342,710, dated May 25, 1886.

Application filed March 10, 1886. Serial No. 194,692. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. RUNYAN, of Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Sliding-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 pertains to make and use the same.

My invention relates to improvements in sliding-door hangers; and it consists in certain features of construction, and in combination of parts hereinafter described, and pointed out in the claims.

My present invention is designed as an improvement on a device for which United States Letters Patent No. 331,258 were granted to me, bearing date November 24, 1885, the improvement consisting, essentially, in adapting the device to inside doors.

In the accompanying drawing, the figure is a side elevation of sliding doors with my improvements attached, portions of one of the doors and casing being broken away to show the internal construction.

A represents the doors, that are made double—that is, of two thicknesses each, the two parts being separated, so as to admit of the hangers operating inside the doors. The two parts of the door are blocked apart and stayed at different places, where such blocking or staying will not interfere with the hangers, and also the edges of the door are closed up and made solid. The space between the two portions of the door is left open at both ends of the door—that is, at top and bottom. The hangers are, in the main, substantially as described in my Letters Patent aforesaid, and consist of supporting-levers B, of the bell-crank variety, carrying bars C, pivoted at a fixed point, *a*, to the door, and pivoted at *b* to the levers, and links D, pivoted at *d* to the lower end of the levers B, and pivoted at *e* to each other and to the upper end of the bar E, the lower end of the latter being pivoted at *E'* to the door, and directly under the point *e*. By swinging the bar E on its pivot *E'* the hangers are carried in one direction or the other, to make the door hang plumb, and this may be done in hanging the doors or after-

ward, when from the settling of the building it is found necessary. Some mechanism should therefore be provided for adjusting the bar E from the outside of the door. This may be done in various ways, of which, perhaps, the device shown is as convenient and practical as any, and is as follows: At some point midway of the bar E—for instance, at *e'*—is pivoted the rod or bar F, the latter extending toward the front edge of the door. A plate, G, is set in flush with the edge of the door, and a screw-rod, H, having preferably a countersunk head, passes through the plate G, and has jam-nuts *h* screwed up against the inside of the plate, to hold the rod from moving endwise. The inner end of the rod screws into a threaded hole in the end of the bar F. By turning the screw-rod H, usually with a screw-driver, the bar F is moved endwise to adjust the bar E, until the door is brought plumb. The upper ends of the levers B are pivoted to a bar, I, that in turn is secured to the casing above the door in the following manner: A loop, staple, or suitable device, *I'*, is secured to the wood-work above and far enough inside the pocket that receives the door to support the inner end of the bar. This staple should be secured in position before the sides of the pocket are closed up. This being done, the bar I, at any time, and with the hangers attached, can be placed with the inner end thereof resting in the staple, and the other end is then secured to the casing with screws. The bar I may be provided with depending ears set in pairs, or ribs, between which the levers B are pivoted by means of pins or bolts passing laterally through the respective ears or ribs and levers, or the bar may have vertical slots to receive the ends of the levers B, whichever way may be preferred. The pivotal points *i'* may be placed nearer together than is usually done with these hangers for outside doors, and the bar C may be pivoted a little lower down on the levers B, and the links D may be made a trifle shorter, to the end that the hangers are brought nearer together, so as to be concealed inside the door.

To hold the door from rubbing against the casing on either side I have devised the following: A lever, J, of the bell-crank variety,

has trunnions *j* projecting laterally from the angle of the lever. These trunnions are secured in suitable boxes secured to the floor at the edge of the pockets. The arms of the 5 levers extend up inside the door and fit easily therein. Pins K, secured to the door, extend in a lateral direction and embrace loosely one arm of the lever J. As the door moves backward and forward, the pins cause the lever to 10 oscillate. The broad flat surface of the lever moves easily inside the door, but prevents the door from swinging laterally, so that the door does not rub the casing. The bar J should have a smooth surface, and the corners 15 should be rounded a trifle, so as not to chafe the door.

With my improved hangers no threshold, track, or other obstruction, is had on the floor, and the door, when properly hung and 20 adjusted, will move easily and noiselessly; and the hangers should last a lifetime without repair.

What I claim is—

1. The combination, with a sliding door, of 25 hangers, substantially as described, arranged inside the door.

2. The combination, with sliding-door hangers, substantially as described, of a swinging

fulcrum for the links D and suitable mechanism, preferably as shown, for adjusting the 30 fulcrum, substantially as set forth.

3. The combination, with a sliding-door hanger, substantially as described, of a swinging fulcrum for the links D and suitable mechanism, preferably as shown, for adjusting the 35 swinging fulcrum from the outside of the door.

4. The combination, with a sliding door, of a bell-crank lever pivoted to the floor, with the arms of the lever operating inside of the door, and suitable pins or stops connected with 40 the door for engaging an arm of the lever and oscillating the same by the movement of the door, substantially as set forth.

5. The combination, with a sliding-door hanger, substantially as described, of a supporting-bar, to which the hangers are pivoted, 45 and a staple inside the door-pocket for supporting the rear end of the supporting-bar, the parts being arranged substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 2d 50 day of March, 1886.

CHARLES C. RUNYAN.

Witnesses:

CHAS. H. DORER,
GEO. W. KING.