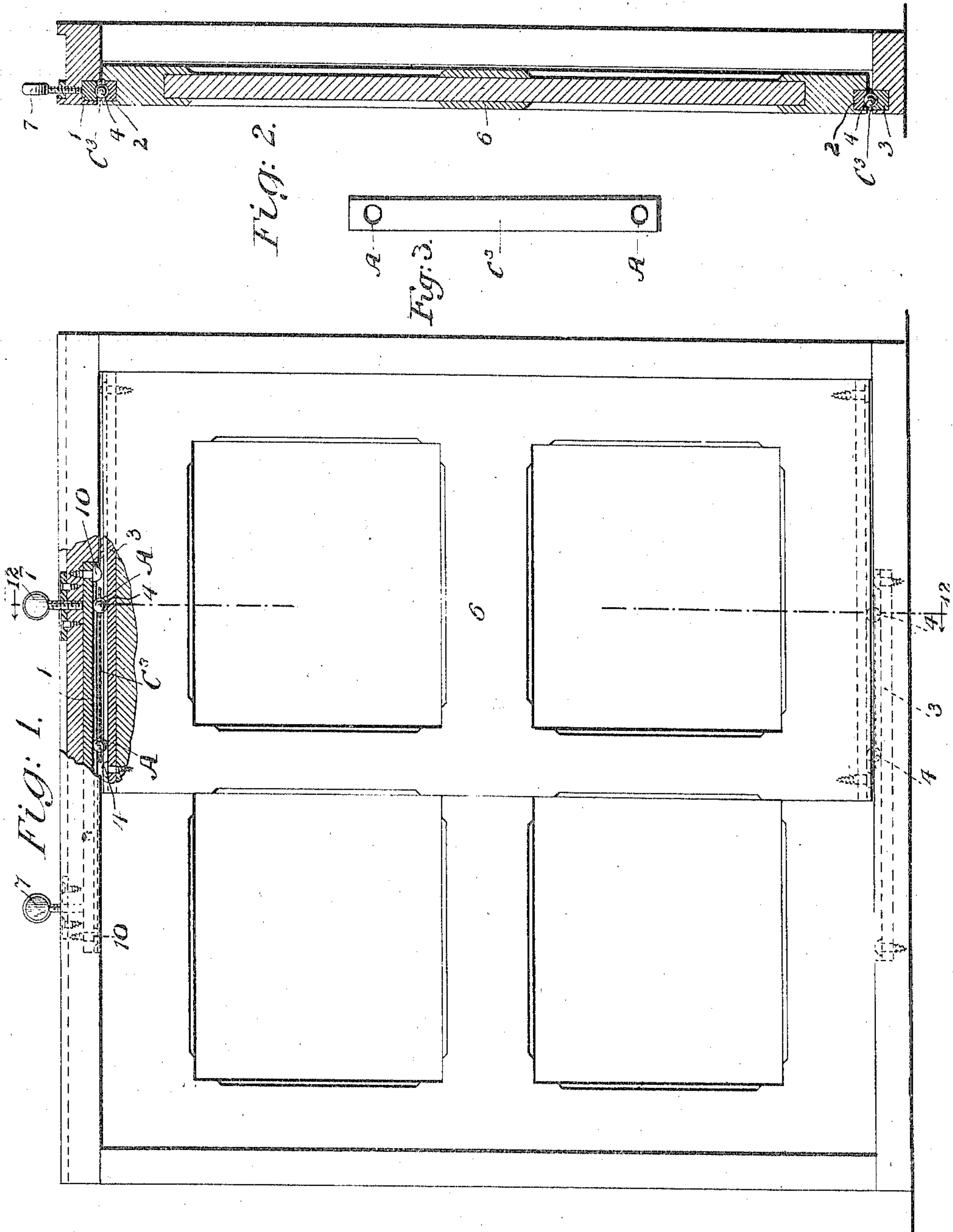


M. COSSEY.
DOOR SUPPORTING DEVICE.
APPLICATION FILED FEB. 11, 1905.

950,717.

Patented Mar. 1, 1910.



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UNITED STATES PATENT OFFICE.

MYRON COSSEY, OF NEW YORK, N. Y., ASSIGNOR TO RELIANCE BALL BEARING DOOR HANGER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

DOOR-SUPPORTING DEVICE.

950,717.

Specification of Letters Patent.

Patented Mar. 1, 1910.

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To all whom it may concern:

Be it known that I, MYRON COSSEY, a citizen of the United States, and resident of the borough of Brooklyn, city of New York, State of New York, have invented certain new and useful Improvements in Door-Supporting Devices, of which the following is a specification:

My invention relates to door supporting devices wherein the door moves between upper and lower tracks with antifriction devices interposed between its ends and the respective tracks. In devices of this character the weight of the door is necessarily entirely supported by the antifriction devices on the lower track. It is desirable that the antifriction devices be movable with the door but a less distance; also that the units of each series of antifriction devices be kept in fixed relative position with regard to each other, and that the upper and lower series of antifriction devices move substantially the same distance.

The object of my invention is to provide door supporting devices which will operate in the manner above suggested.

The accompanying drawing illustrates a preferred embodiment of my invention and in which:

Figure 1 is a side elevation showing a door, or sliding panel, movable between two tracks. Fig. 2 is a cross section taken on the line 12-12 of Fig. 1. Fig. 3 is a detail view of a ball carrier or spacer.

The upper track is indicated by 1 and the lower track by 3.

The door is indicated by 6 and, as shown, is provided with a metal bar 2 at its upper and lower ends, said bars being securely fastened to the door and forming part thereof. These metal bars 2, as well as the tracks 1 and 3 are grooved, and these grooves form ways in which antifriction devices, shown as balls 4, may run. Any desired number of balls may be inserted between the tracks and the ends of the door, and in the present case I have shown two balls in the series at each end. In order to maintain the balls in each series in fixed relative position with regard to each other, I employ a bar C³ provided with two openings A which form cages to receive the balls, and the bar will be supported on the balls between the tracks and the ends of the door. Owing to the arrangement of the opposing grooves and the balls running

in them, the door is effectually prevented from being moved inward or outward away from the tracks, but permits the door to move freely edgewise.

In a construction of this character the entire weight of the door is supported on the lower series of balls, and when the door is moved edgewise the balls will move with it, but will travel only half the distance that the door travels. As the balls are connected by the bar C³ it is evident that each ball in the series will travel the same distance as the others.

As before stated, it is desirable that the upper series of balls shall travel substantially the same distance as the lower ones and in order to do this, it is necessary to have substantially the same pressure on the upper series of balls as there is on the lower series. To accomplish this result, the upper track bar 1 is connected to its support by screws 10. I also employ two adjusting screws 7, 7, which pass through the support and engage the upper side of the bar.

In assembling the parts the door will be fitted to exert more or less pressure on the upper series of balls when the track 1 is held against the support by the screws 10. But if this pressure is not sufficient or is not uniform throughout the length of the track 1, either or both of the screws 10 can be loosened, and either or both of the screws 7 be tightened to force the track more tightly against the balls, and thus increase the pressure on the balls to the desired extent.

Obviously the screws 7, 7, might be connected to the track bar 1 by a ball and socket joint, and serve alone to support the upper track 1 instead of the screws 10. Also other means may be employed to effect the adjustment of the track 1.

Having described the invention, I claim:—

1. In door supporting devices, the combination of upper and lower grooved tracks, a door interposed between them and having grooves in its upper and lower ends to register with the grooves in the respective tracks, a series of balls interposed in the grooves between the door and tracks, and means for adjusting the upper track vertically to vary the pressure on the upper series of balls.

2. In door supporting devices, the combination of upper and lower grooved tracks, a door interposed between them and provided with grooves in its upper and lower

ends to register with the grooves in the respective tracks, a series of balls interposed between the doors and the respective tracks, a separate strip for each series of balls, having cages to receive the balls of the series and hold them in fixed relative position to each other, and means for adjusting the upper track vertically to vary its pressure on the upper series of balls.

10 3. In a door supporting device, the combination with upper and lower grooved tracks, of a door carrying upwardly and downwardly facing grooved tracks registering with the first mentioned tracks, a series of 15 balls interposed in the grooves, and means

for adjusting one of said tracks to vary the pressure on the balls.

4. In a device of the class described, the combination with a door having grooved tracks at its top and bottom, of fixed upper 20 and lower grooved tracks registering with said first mentioned tracks, a series of balls in said grooves, and retainers for said balls.

In witness whereof I have signed my name to the foregoing specification in the presence 25 of two subscribing witnesses.

MYRON COSSEY.

Witnesses:

HORACE L. BALCH.