June 30, 1925.

1,543,935

O. P. McGEE

ELEVATOR DOOR CLOSER AND CHECK

Filed Feb. 14, 1922

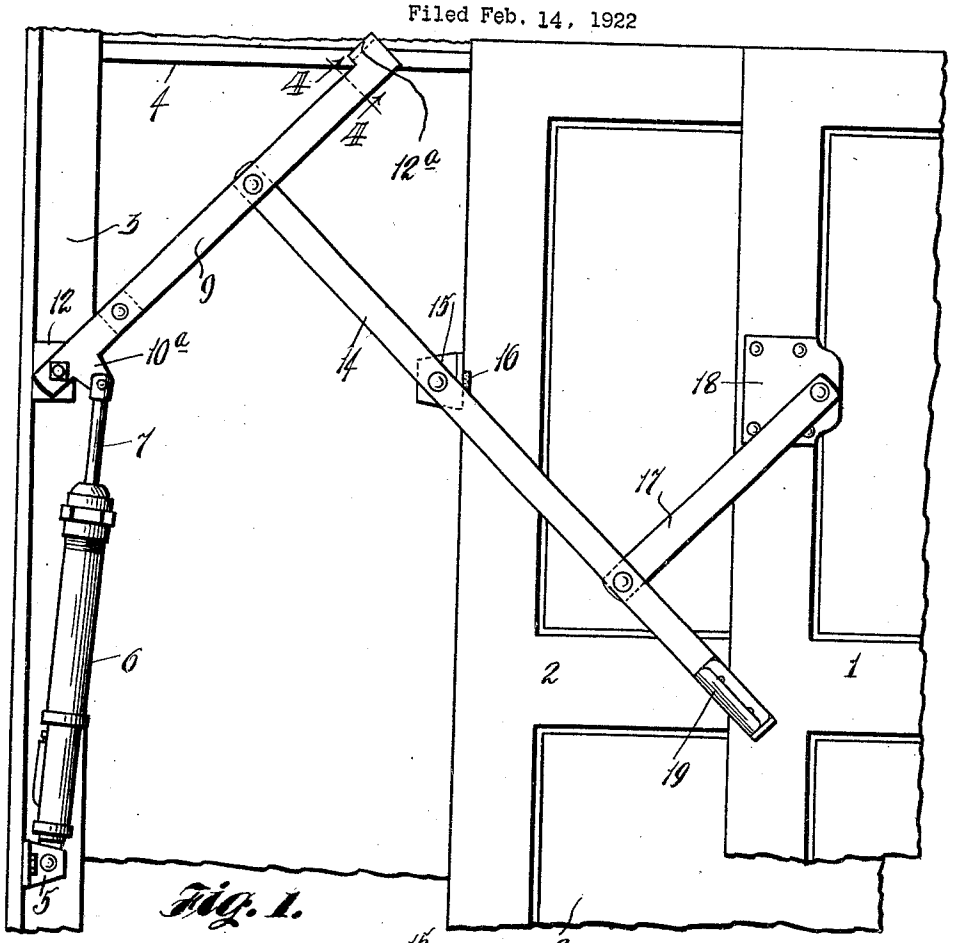

Fig. 1.

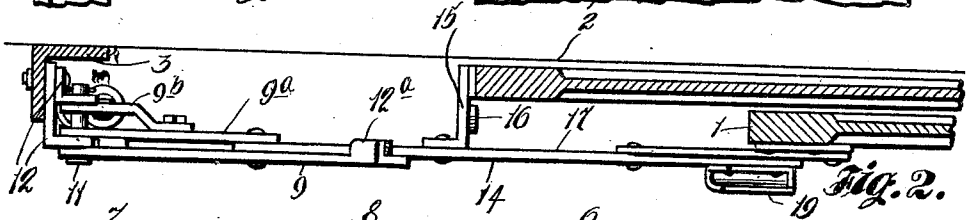

Fig. 2.

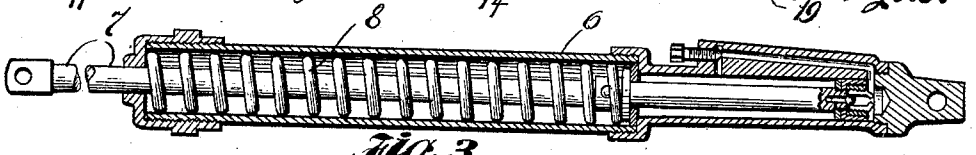

Fig. 3.

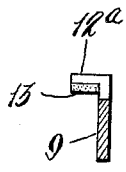

Fig. 4.

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UNITED STATES PATENT OFFICE.

OSCAR P. McGEE, OF DALLAS, TEXAS.

ELEVATOR-DOOR CLOSER AND CHECK.

Application filed February 14, 1922. Serial No. 536,464.

To all whom it may concern:

Be it known that I, OSCAR P. McGEE, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Elevator-Door Closers and Checks, of which the following is a specification.

This invention has relation to a device especially adapted for closing and checking the closing of sliding doors such for instance as are used in elevators to protect the opening leading from the elevator well, and in such connection it relates more particularly to the construction and arrangement of the parts constituting such a device.

The object of the invention is to provide a new and improved construction of lever and bars for the more easy and uniform operation and movement of the doors, to further provide a spring and check arrangement in connection with the lever and bars which greatly facilitates the opening and closing operation of the doors.

Other objects and advantages will become apparent by reference to the following description taken in connection with the accompanying drawings, forming part hereof in which—

Figure 1 is a front elevational view of the door closer and check embodying the invention and illustrated in position with the doors partly closed.

Figure 2 is a horizontal sectional view.

Figure 3 is a longitudinal sectional view of the spring and check, and

Figure 4 is a cross sectional view of one end of one of the levers.

Referring more in detail to the drawings, 1 denotes the forward and 2 the rear member of a sliding door and 3 is an L-strut or angle member secured in the well of the elevator. 4 denotes the rail upon which the doors are supported to ride on rollers.

Secured to the L-strut 3 by a bracket 5 is a combined spring and door check 6, a preferred construction of which is illustrated in Figure 3 of the drawings, but inasmuch as such a check and spring or their equivalents are old in the art it is only necessary to state that when the plunger 7 is elevated in the check and closer 6 it compresses a spring 8. The movement of the plunger 7 in the check is arrested and retarded at the proper moment by a liquid confined in the lower end of the check.

Just above the check 6 is a bar 9 forming part of the door operating means. Attached to this bar is a small side arm 9^a carrying one end of a check bar 9^b. The check bar has a depending lug 10^a to which is pivotally secured the plunger 7. As illustrated in Figure 2 one end of bar 9, arm 9^a and check bar 9^b are traversed by a bolt 11 passing through the angular brackets 12—12 fastened to the L-strut 3. 12^a is a lip provided with a leather silencer 13.

A main operating lever 14 has one end pivoted between the end of arm 9^a and about midway of the ends in the side of the bar 9 and secured by a bolt as shown. About midway of the ends of the lever 14 is an L-lug 15 secured to the edge of door 2 and provided with a rubber bumper 16 against jar of door 1. Approximately midway between one end of the lever 14 and the lug 15 is pivoted a bar 17, the opposite end of which is secured to swing from a plate 18 fastened to door 1. 19 is a handle for operation.

In Figure 1 the doors are shown in half open position, door 1 being the fast door and 2 the slow door, the doors sliding by each other in the operation of opening and closing. To open the doors or slide them by each other from the elevator opening for entrance of passengers into the car, the operator grasps the handle 19 and pulls downward from the horizontal, the lever and bars 9 and 17 assuming this horizontal position when they are closed with the doors across the elevator opening. Downward pressure on the lever 14 will thus, through bars 9 and 17 cause the doors to slide across the elevator entrance until the lever and bars have reached a vertical position. Meantime the lug 10^a has pulled the plunger upward against the tension of spring 8, the check 6 swinging on its bracket 5. To slide the doors in the opposite direction across the entrance, the handle 19 is moved in an opposite direction toward door 1, this door moving faster than door 2, the movement being assisted by the tension of spring 8 in check 6, the liquid in the bottom of the check retarding the movement of the plunger.

What is claimed is—

In combination with a pair of sliding doors, a fixed bracket, a bar, a pin carried by the bracket and on which the outer end of the bar is pivoted, an arm and a check bar each pivoted at their outer ends on said pin, the inner end of the check bar being piv-

oted to a central point on the arm, a check device connected to said check bar, a lever, means to pivotally connect the outer end of the lever to said first bar and to connect the inner end of said arm to the lever and first bar, means to pivotally connect said lever at an intermediate point to one of the doors, and a bar pivoted at one end to the other door and pivoted at its opposite end to the lever between the intermediate pivot of the lever and the opposite end of the lever.

In testimony whereof I have signed my name to this specification.

OSCAR P. McGEE.