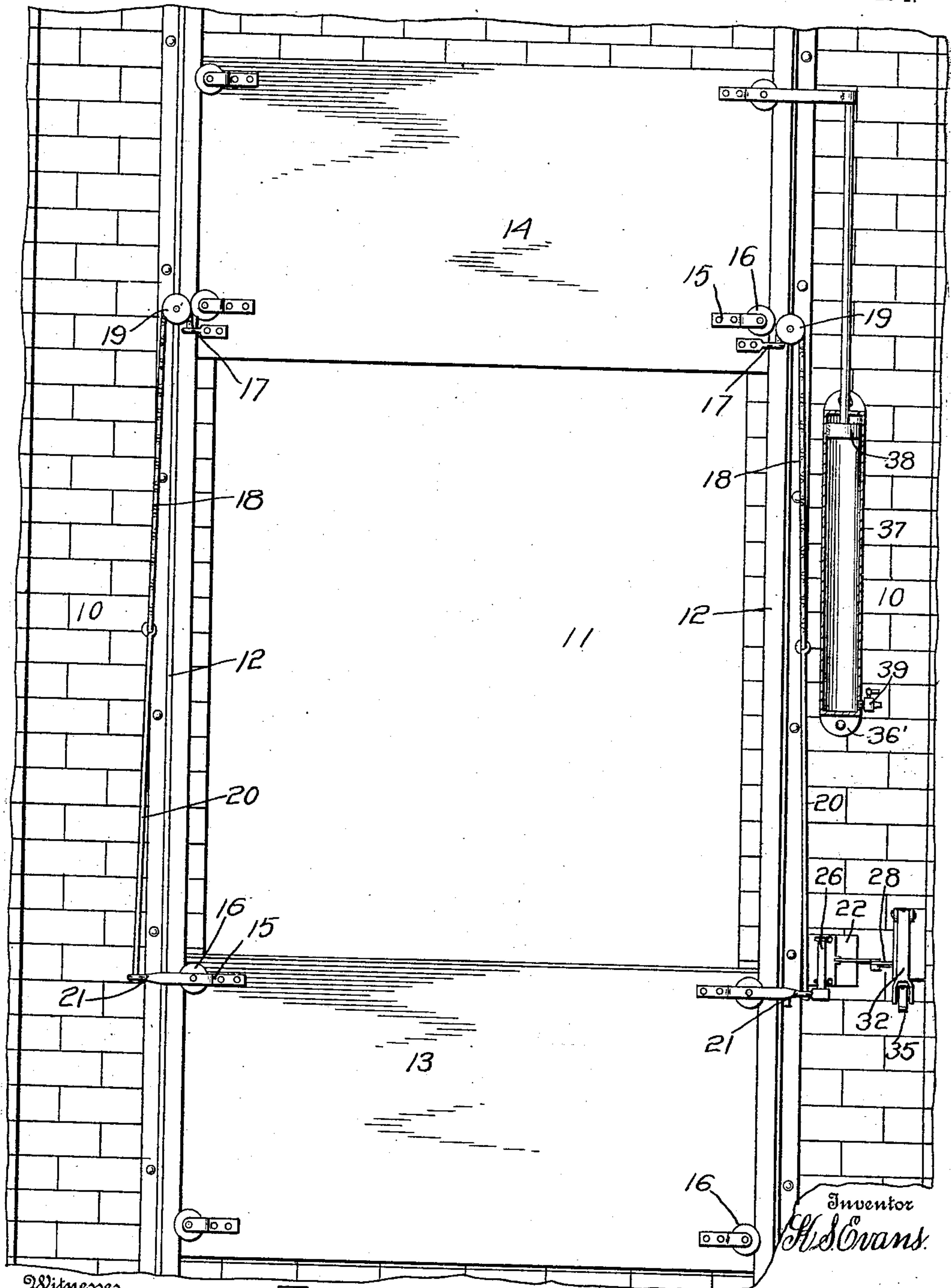


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 AUTOMATIC CHECK AND RELEASE MECHANISM FOR ELEVATOR DOORS.
 910,654. APPLICATION FILED MAR. 25, 1907. Patented Jan. 26, 1909.
 3 SHEETS—SHEET 1.



Witnesses
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H. G. Smith.

Fig. 1.

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Charles Evans

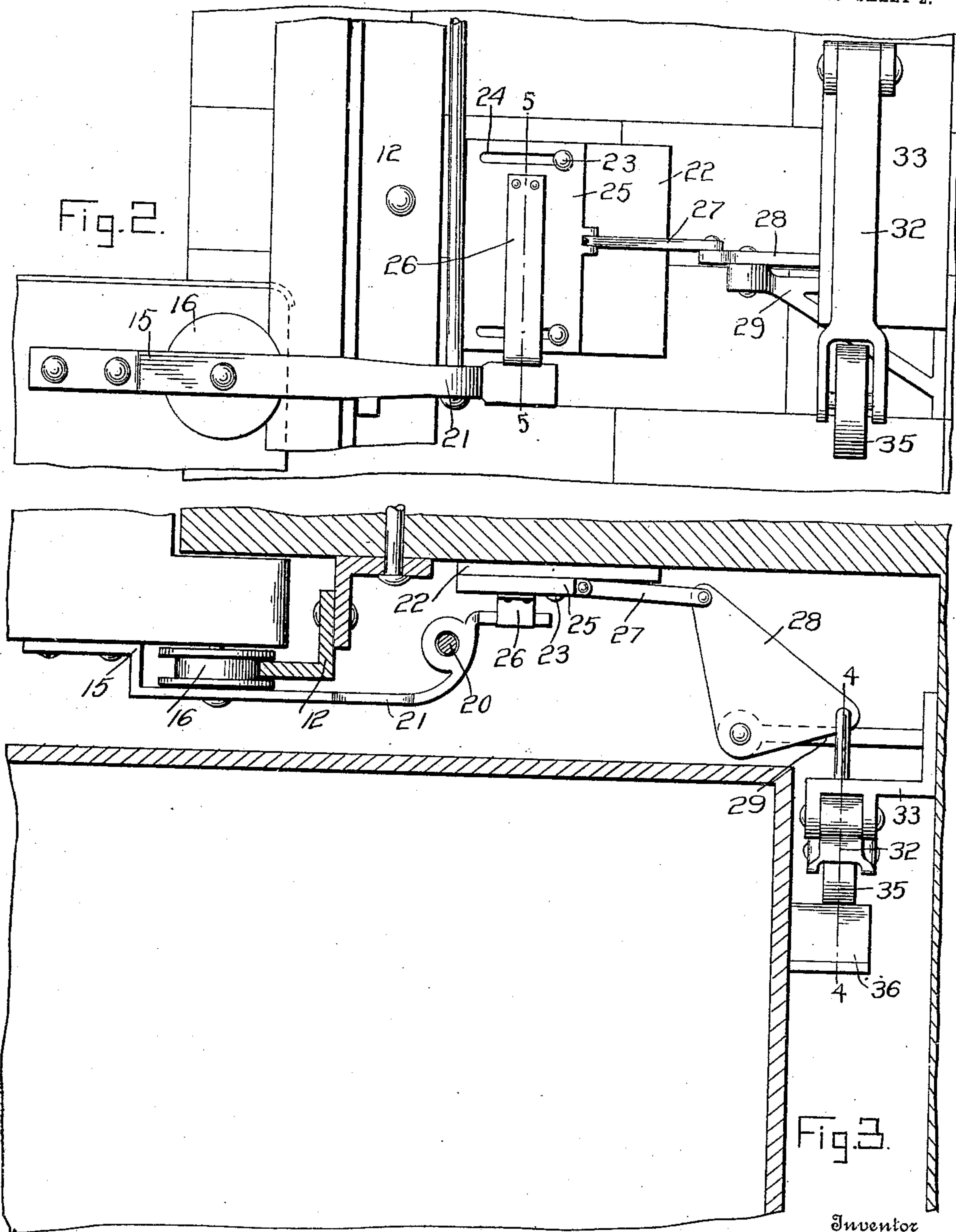
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 3 SHEETS—SHEET 3.

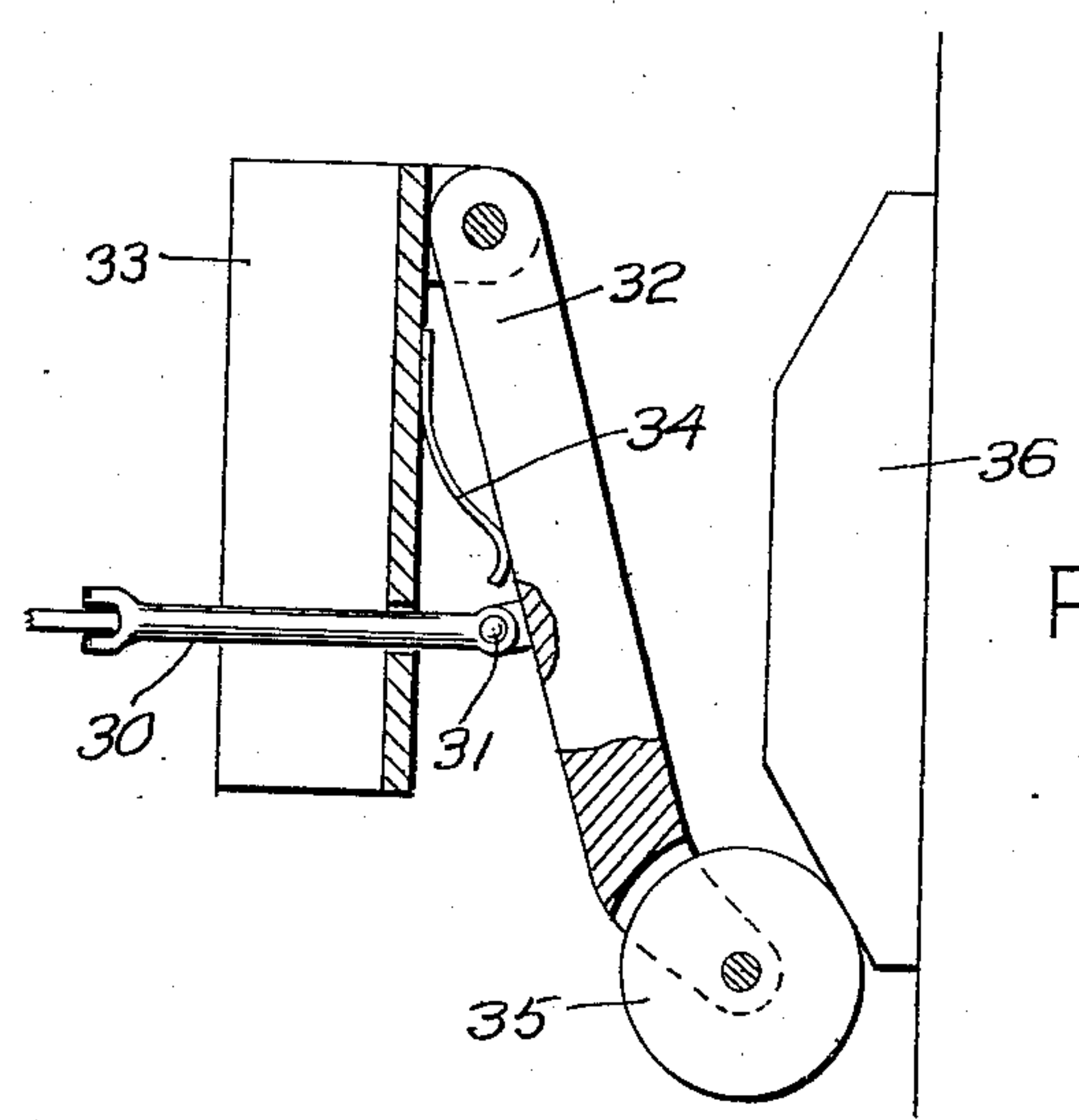


Fig. 4.

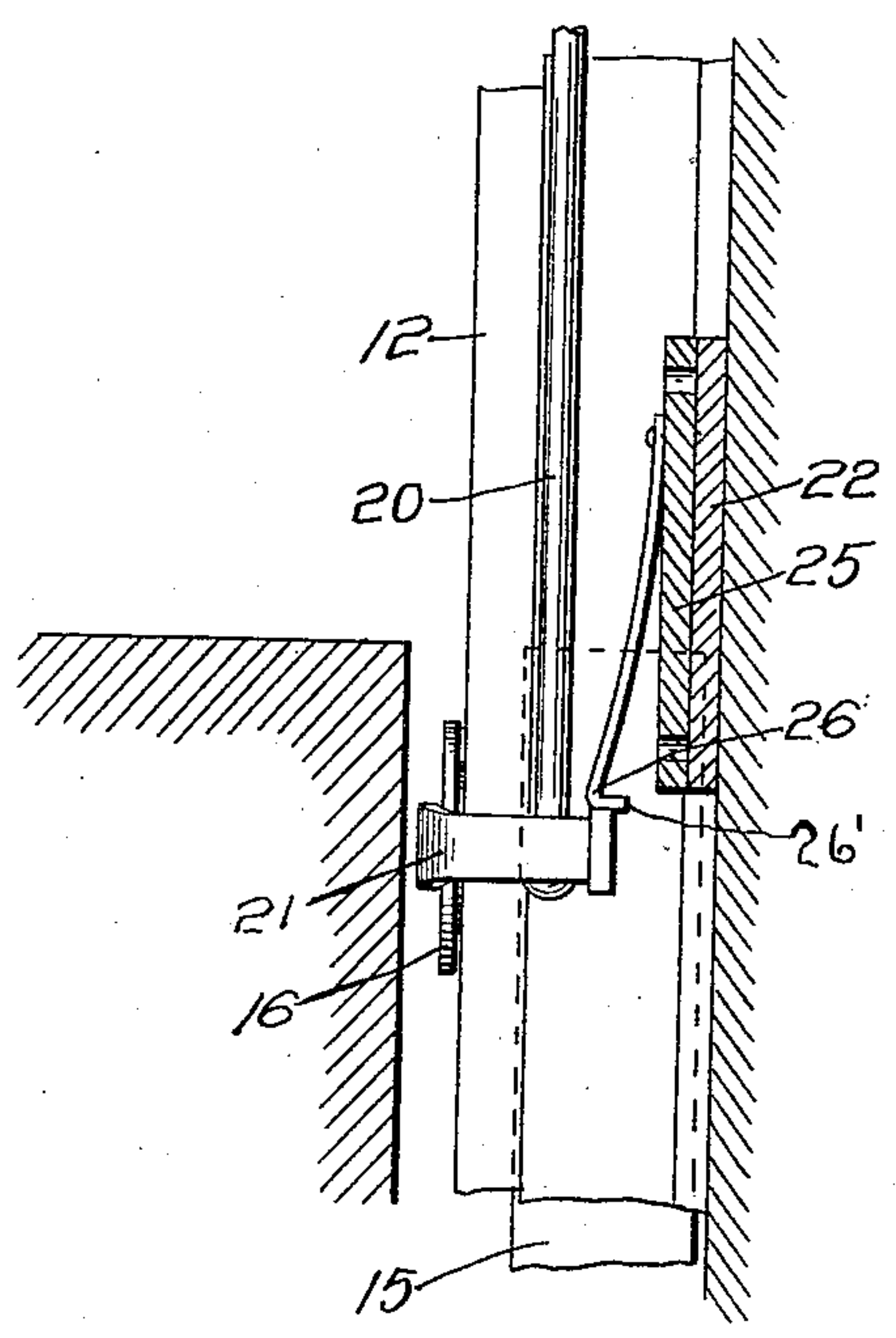


Fig. 5.

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UNITED STATES PATENT OFFICE.

KYRLE S. EVANS, OF BALTIMORE, MARYLAND.

AUTOMATIC CHECK AND RELEASE MECHANISM FOR ELEVATOR-DOORS.

No. 910,654.

Specification of Letters Patent.

Patented Jan. 26, 1909.

Application filed March 25, 1907. Serial No. 364,290.

To all whom it may concern:

Be it known that I, KYRLE S. EVANS, a citizen of the United States, residing at Baltimore, in the State of Maryland, have
5 invented certain new and useful Improvements in Automatic Check and Release Mechanisms for Elevator-Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention,
10 such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to automatic checking and releasing mechanisms for elevator
15 doors and has for its object to provide a mechanism of this class which will enable the door to be held open while the car is at a standstill at the door-way but will release the door and will permit the same to automatically close as soon as the car moves from this
20 position.

One of the features of my invention resides in the provision of a pneumatic device for cushioning the movement of the door and
25 preventing its sudden movement and this means may be regulated to suit the weight of the door and to produce the desired rapidity of movement from one position to the other.

The mechanism embodying my invention is employed in connection with the ordinary form of sectional sliding elevator door in use in combination with freight shafts and comprises a slidable member which forms an
35 abutment for a member carried by one of the door sections and prevents the movement of the sections from open to closed position. This slidable member is actuated as soon as the car reaches the landing at which the door
40 is located. The upper door section is of slightly greater weight than is the lower section as is usually the case so that the doors when released by the movement of the car away from the door-way, will be automatically closed.
45

In the accompanying drawings, Figure 1 is an interior view of a freight elevator shaft showing the application of my invention, Fig. 2 is a detail view in elevation of the door retaining device, Fig. 3 is a plan view of the
50 same, Fig. 4 is a sectional detail on the line 4—4 of Fig. 3. Fig. 5 is a sectional detail on the line 5—5 of Fig. 2.

In the drawings there is shown a shaft wall
55 provided with a door-way 11 upon opposite sides of which are arranged guide tracks 12.

The door for the door-way comprises a pair of sections which are arranged one above the other, the lower section being indicated by the numeral 13 and the upper section by the
60 numeral 14 and the latter section being of slightly greater weight than the lower section. Upon each of these sections, at the side thereof, there are arranged brackets 15 between which brackets and the opposing
65 portions of the sections are journaled rollers 16 which travel upon the tracks 12. Connected at one of its ends to a bracket 17 carried by the upper door section 14 at each side thereof, is a chain 18 and this chain is en-
70 gaged over a pulley 19 and is connected with one end of a rod 20 it being understood of course that there are two chains and two rods, one being located at each side of the door section. The upper pair of brackets 15
75 upon the lower door section 13 are provided with extensions 21 through which the lower ends of the rods 20 are engaged, the said rods being headed at their lower ends. From the foregoing it will be understood the door
80 sections, being merely counterbalanced, can be readily slid into open or closed position and that in fact the closing of the doors is automatic.

Secured in any suitable manner upon the
85 wall of the shaft and to one side of the door-way therein is a plate 22 and disposed against this plate and held thereon by means of headed studs 23 which extend through slots 24 is a plate 25, this connection of the plate
90 22 being such as to permit of its sliding movement. A resilient arm 26 is secured at its upper end to the plate 25 and extends downwardly at an angle with respect to the plate and has its lower end turned inwardly
95 as at 26' to form an abutment for the extension 21 of one of the brackets 15. Pivotaly connected with this plate 25 is a link 27 which is also pivotally connected with a rocker 28 which is mounted upon a suitable
100 bracket 29 upon one wall of the elevator shaft. A rod 30 is also connected with this rocker and is pivotally connected as at 31 with a pivoted arm 32 carried by a bracket 33 which is also located upon the same wall of
105 the shaft as is the bracket 29, there being a leaf spring 34 interposed between the bracket 33 and the arm 32 to normally hold it away from the bracket and to position a wheel 35 which is journaled at the end of the arm in
110 the path of a beveled strip 36 carried by the elevator car.

From the foregoing description of my invention it will be observed that upon engagement of the strip 36 with the wheel 35, the arm 32 will be swung inwardly toward its bracket 33 against the tension of the spring 34 and this will result in a movement of the rocker which movement will be communicated to the plate 25 to slide the same into position for engagement by the extension 21 of the bracket 15. When in this position, the door sections may be moved to open position and when this has been done, the extension 21 will ride over the detent 26 and engage beneath the same so as to hold the door sections in open position while the car is stationary.

In order to cushion the movement of the door and prevent its sudden closing, I provide upon the wall 10 of the shaft a bracket 36' upon which is supported a cylinder 37 in which works a piston 38, the piston being connected at its upper end to one of the uppermost brackets 15. In one side of the cylinder adjacent the lower end thereof there is arranged a vent cock 39 which may be opened to a greater or less degree to regulate the escape of air from the cylinder.

What is claimed is—

1. The combination with an elevator car and a sliding shaft-door, of a projection carried by the door, a plate slidably mounted on the shaft-wall, a spring latch carried by the plate, a lever pivoted to the shaft-wall, a bell-crank connected to the lever, a connection between the bell crank and the aforesaid plate, and means carried by the elevator car for operating the lever.

2. The combination with an elevator car and a sliding shaft-door, of a projection carried by the door, a plate slidably mounted on the shaft-wall, a spring latch carried by the plate, a lever pivoted to the shaft-wall, a bell-crank connected to the lever, a connection between the bell-crank and the aforesaid plate, means carried by the elevator car for swinging the lever in one direction, and a spring engageable with the lever for swinging the same in the opposite direction.

In testimony whereof, I affix my signature, in presence of two witnesses.

KYRLE S. EVANS.

Witnesses:

GEO. H. CHANDLEE,
S. R. BRATTAN.