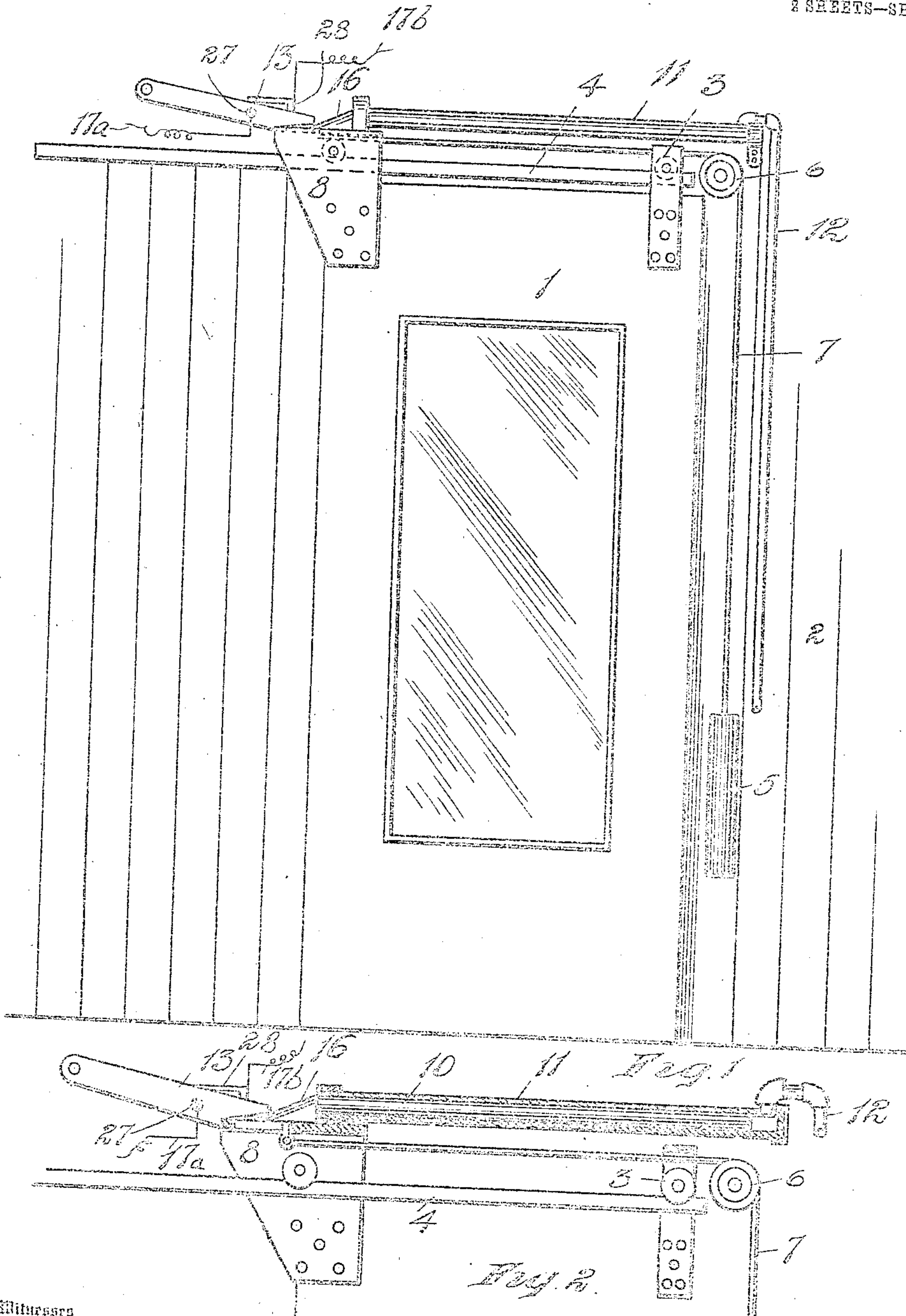


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RAILWAY CAR DOOR OR GATE.
APPLICATION FILED MAR. 15, 1909.

925,139.

Patented June 15, 1909.
2 SHEETS—SHEET 1.



Witnesses
Clarence E. Day
W. J. Jennings

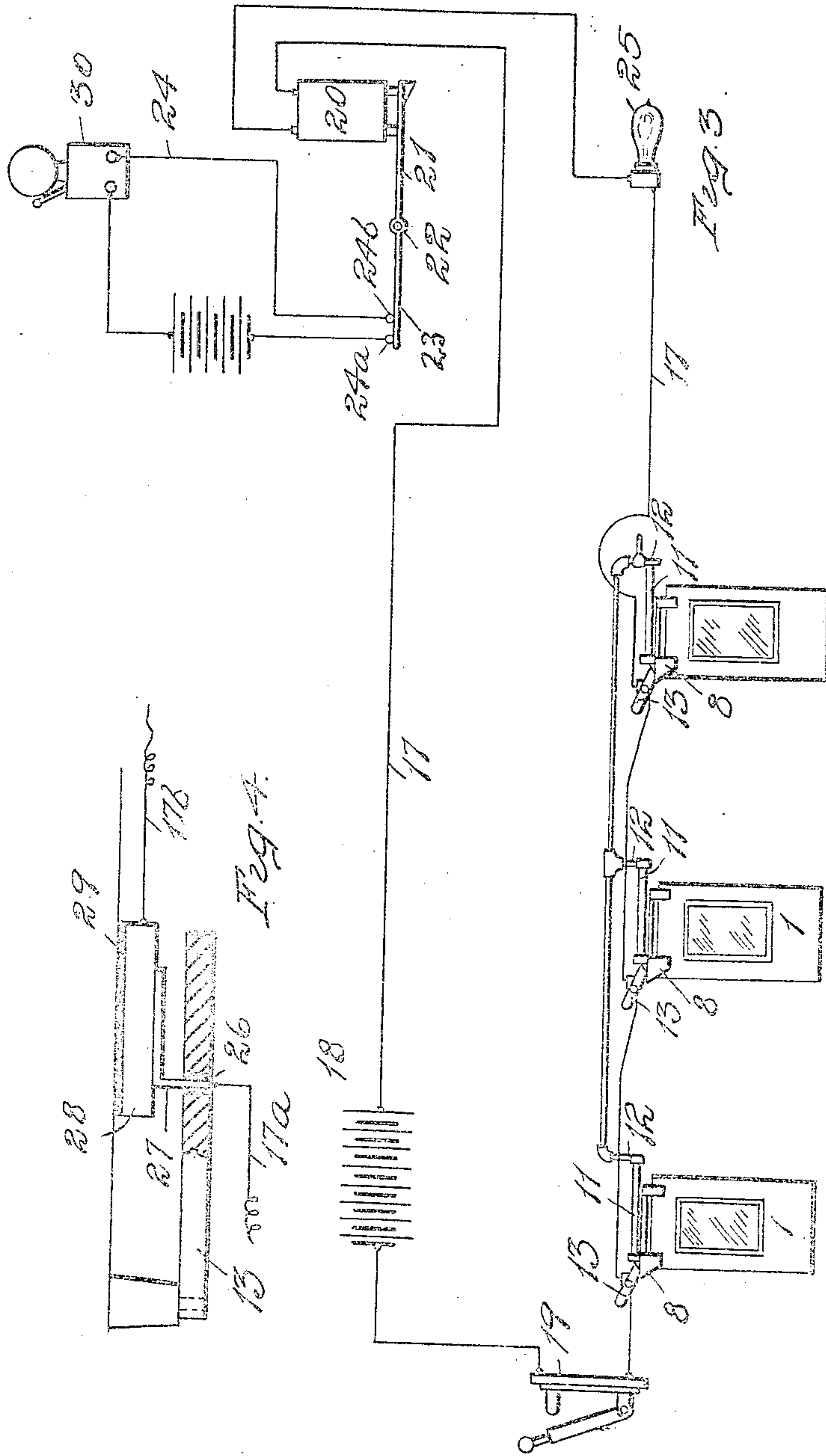
Inventor
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UNITED STATES PATENT OFFICE.

LOUIS A. SHERMAN, OF DETROIT, MICHIGAN.

RAILWAY-CAR DOOR OR GATE.

No. 925,189.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed March 15, 1909. Serial No. 483,350.

To all whom it may concern:

Be it known that I, LOUIS A. SHERMAN, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful improvement in Railway-Car Doors or Gates, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to railway car doors or gates; it has for its object an improved opening and closing device for those gates which are arranged to control the admission of passengers to railway cars, whereby the entire series of gates on a train are controlled from a single point, and whereby the car itself cannot be started or put in motion until the admission doors or gates are closed.

In the drawing:—Figure 1, shows a door or gate in closed position. Fig. 2, shows the means by which the door or gate is opened. Fig. 3, is a diagrammatic showing of a series of doors and their electrical connections. Fig. 4, is a plan view, partly in section, of the locking latch and of the electrical connections thereabout, looking from above.

1 indicates the door, 2 the car to which it is attached. The door is supported on roller bearings 3 on the track 4, and is provided with a weight 5 suspended on a spindle cord 7, which passes over the sheave 6 to a projection 8, rising above the track 4. The door is closed by the pull of the weight on the cord. Immediately upon releasing the tension of the opening means, which consists of an air-actuated piston 10 engaging in a cylinder 11, to which air is admitted through a pipe 12 from a distant source of supply, the door is locked shut by a pivoted latch 13, that drops into locking engagement behind the projection 8. The piston 10 is provided with a conical nose 16, that engages under the end of the latch, and at the first part of the actuation of the piston the air pressure or fluid pressure lifts the latch out of engagement with the projection. The lifting and unlocking of the latch is followed by the engagement of the nose with the projection 8, and the subsequent opening of the door by the further projection of the piston 10 from its cylinder.

When the doors are closed, the locking levers 13, or, rather the current-carrying members which they support, constitute the com-

pleting members of a circuit 17, which derives its energy from a battery 18. The opening or closing of the circuit may also be regulated by the switch 19. In this closed position the magnet 20 is energized, and attracts to itself the weighted and otherwise depressed, armature end 21 of the pivoted lever 22, by the contact of whose end 23 against the terminals 24^a and 24^b of the circuit 24, its closed or open condition is determined. When the circuit 17 is closed, the circuit causes an illumination of the lamp 25, which thus indicates that all the doors are shut and latched.

The latch lever 13 is not a current conductor at all, but through it extends an insulating sleeve 26, through which passes the stem portion of the resilient contact finger 27, which, at its lower end, is connected with the adjacent portion 17^a of the circuit wire and with its outer end engages the contact plate 28 which is similarly connected with its adjacent portion 17^b of the circuit, and is insulated from the side of the car, on which it is supported by the mica or other insulating medium 29. Its contact with this plate 28 is possible only when the latch 13 is in full locking position, so that upon the rise of the latch 13 under the actuation of the piston 10, the electrical circuit 17 is broken. When this occurs, the end 21 of the lever 22 falls from the then non-attracting magnet, and, by contact against the terminals 24^a and 24^b closes the circuit 24 and causes a ringing of the bell 30 to announce the closing of the circuit 24 and the opening of the circuit 17.

As the simultaneous opening of all the doors is what is desired in this type of door-control system, it is obvious that the control of the actuating fluid for all of the doors may be arranged at any desired point, and that the piping to the individual doors may be connected therewith accordingly.

What I claim is:—

1. In combination with a weight closed door, a latch adapted to lock the door in closed position, a fluid actuated piston adapted to engage the latch and unlock the same from the door and to subsequently engage the door and open the same, substantially as described.

2. In combination with a sliding door, a weighted cord engaging over a sheave, by whose pull the door is normally held closed, a latch adapted to lock the door in closed po-

sition when it has reached its position of full closure, and a fluid actuated piston member adapted to trip said latch and release it from locking position and to thereafter press
5 against the door to effect its opening, substantially as described.

3. In combination with a weight closed door, a latch adapted to lock the door in closed position, spaced electric terminals
10 adapted to be brought into connection when said latch is in locking position, means for indicating that the electric circuit is thereby closed, and a fluid actuated piston adapted
15 to force the latch from its locking position and by continued forward movement to cause the opening of the door, substantially as described.

4. In combination with a plurality of

weight closed doors, latch members adapted to lock the same in closed position, a fluid
20 actuated piston for each latch adapted to trip the same from their locking position and for moving its door to open position, an electrical circuit adapted to be closed by
25 the descent of all of said latch members to locking position and to be broken by the displacement of any one from its locking position, and means actuated by the opening
and closing of said circuit for indicating its condition, substantially as described. 30

In testimony whereof, I sign this specification in the presence of two witnesses.

LOUIS A. SHERMAN.

Witnesses:

CHAS. C. JENNINGS,
WILLIAM M. SWAN.