

(No Model.)

R. W. MAGRANE.
ELECTRIC SAFETY DEVICE FOR ELEVATORS.

No. 513,122.

Patented Jan. 23, 1894.

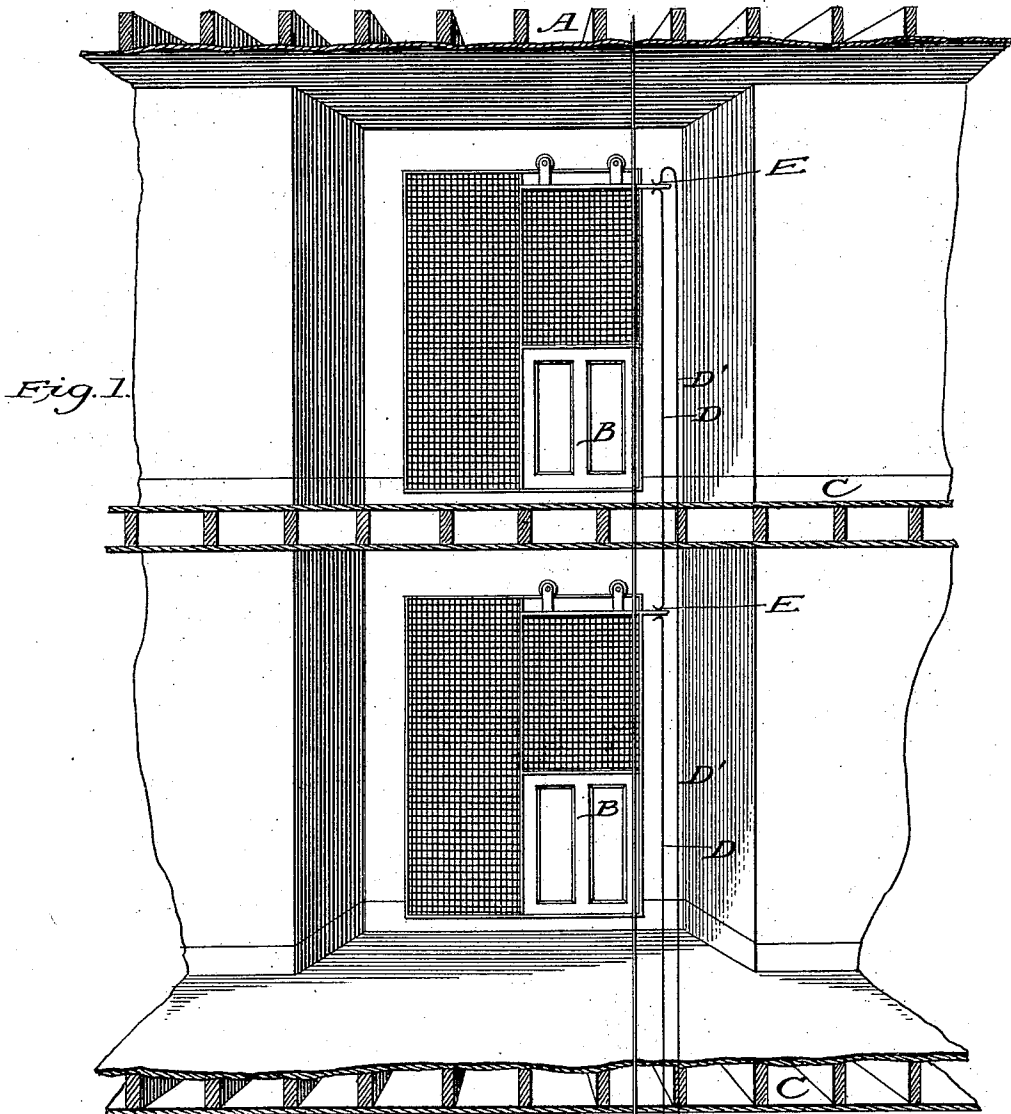


Fig. 1.

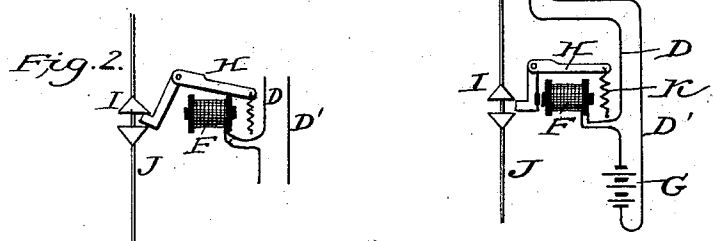


Fig. 2.

Witnesses.

Inventor

J. J. Fredricks.
A. J. Oesterle.

R. W. Magrane.

UNITED STATES PATENT OFFICE.

ROBERT W. MAGRANE, OF BROOKLYN, NEW YORK.

ELECTRIC SAFETY DEVICE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 513,122, dated January 23, 1894.

Application filed March 17, 1892. Serial No. 425,351. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. MAGRANE, a citizen of the United States of America, and a resident of the city of Brooklyn, State of New York, have invented a new and useful Improvement in Electric Safety Devices for Elevators, of which the following is a specification.

My invention relates to safety devices for passenger and freight elevators in buildings, so that the elevator cannot be started either way until all the doors or openings have been closed, and has for its object the provision of a device simple in construction, cheap in manufacture, and efficient in practical use.

To attain the desired end, my invention consists in the construction and arrangement of parts hereinafter fully set forth and described.

Accidents are of frequent occurrence in buildings, caused by elevator doors being left open, and people unconsciously walking through same, or the car being started either through inexperience, or carelessness catching people between the car and floor, or ceiling, causing severe injuries, and in most cases instant death.

Referring to the drawings which form part of this specification:—Figure 1, represents a complete view of my invention in elevation, showing all the doors B, closed and the armature-lever H, of magnet F, attracted and free from the clutch I, on check rope J. Fig. 2, is a detail view showing the armature-lever H, of magnet F, released preventing the check rope J, from being moved.

Referring again to the drawings:—A, represents an elevator shaft, B doors, C floors, D D' electric circuit, E projections on doors to open or close circuit, F magnet, G battery, H armature-lever, I clamp or tapered obstruction (for convenience shown on check rope), J check rope, K retractile spring. It is evident that when all the doors are closed as shown in Fig. 1, the armature-lever H, will be attracted leaving the check or controlling rope J, and the clamp, or tapered obstruction I, free for manipulation either way. For convenience a projecting tapered obstruction is shown. In both figures the check, or controlling rope J, is shown in its position when the

elevator car is at rest, and in which position the tapered stop is adapted to be engaged by the armature-lever H, when the magnet F, is de-energized as shown in Fig. 2 and thereby lock the check rope J. When the car is started by the operator the movement of the rope J carries the tapered stop above or below its normal position opposite the lever H, according to the direction in which the car is to be moved, and in either of which positions the lever H, cannot engage the tapered stop to lock the rope J. If the circuit D D' be broken by the door being opened, the spring K, will force the lever H, into the path of the stop, but the lever cannot engage the stop until the elevator is arrested. In stopping the car the movement of the rope J, causes the tapering obstruction I, to engage the lever H, and force it aside until the obstruction is in the position shown in Fig. 2, when the spring K, will cause the lever H, to positively engage the said obstruction and thereby lock the operating rope.

As it is evident that many slight changes in the construction and relative arrangement of parts might be resorted to, without departing from the spirit and scope of my invention, I would have it understood that I do not restrict myself to the particular construction and arrangement of parts shown and described, but that I reserve the right to make such changes, and that

What I claim as new, and desire to secure by Letters Patent, is—

1. In an elevator, the combination of an elevator door, and the valve rope provided with a tapered stop; an electro magnetic device adapted to engage said stop when the door is open, an electric circuit in which the magnet of said device is located, and a make and break contact for the electric circuit, controlled by the opening and closing of the door, substantially as shown and described.

2. In an elevator, the combination of the valve rope, provided with a tapered stop, the elevator door, an electro-magnetic device adapted to engage said stop on the valve rope, when the door is open, an electric circuit controlled by the opening and closing of the door, in which the magnet of said device is located, substantially as shown and described.

3. In an elevator, the combination of an elevator door, an electric circuit controlled by the opening and closing of the door; an electro-magnetic locking device with its actuating magnet located in said circuit, the valve rope provided with a tapered stop which is adapted to be engaged by the bolt or lever of said locking device when the circuit is opened by the door, arresting movement of valve rope to start elevator, and also permitting free movement of valve rope to its neutral position, when elevator is under headway, substantially as shown and described.

4. In an elevator, the combination, with an elevator door adapted to be operated by hand,

and a valve rope provided with a tapered stop, of a safety device and means whereby the safety device may be thrown into position to engage said tapered stop by the opening of the door, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 9th day of March, 1892.

ROBT. W. MAGRANE.

Witnesses:

JOHN P. REGAN,
JOSEPH WEBER.