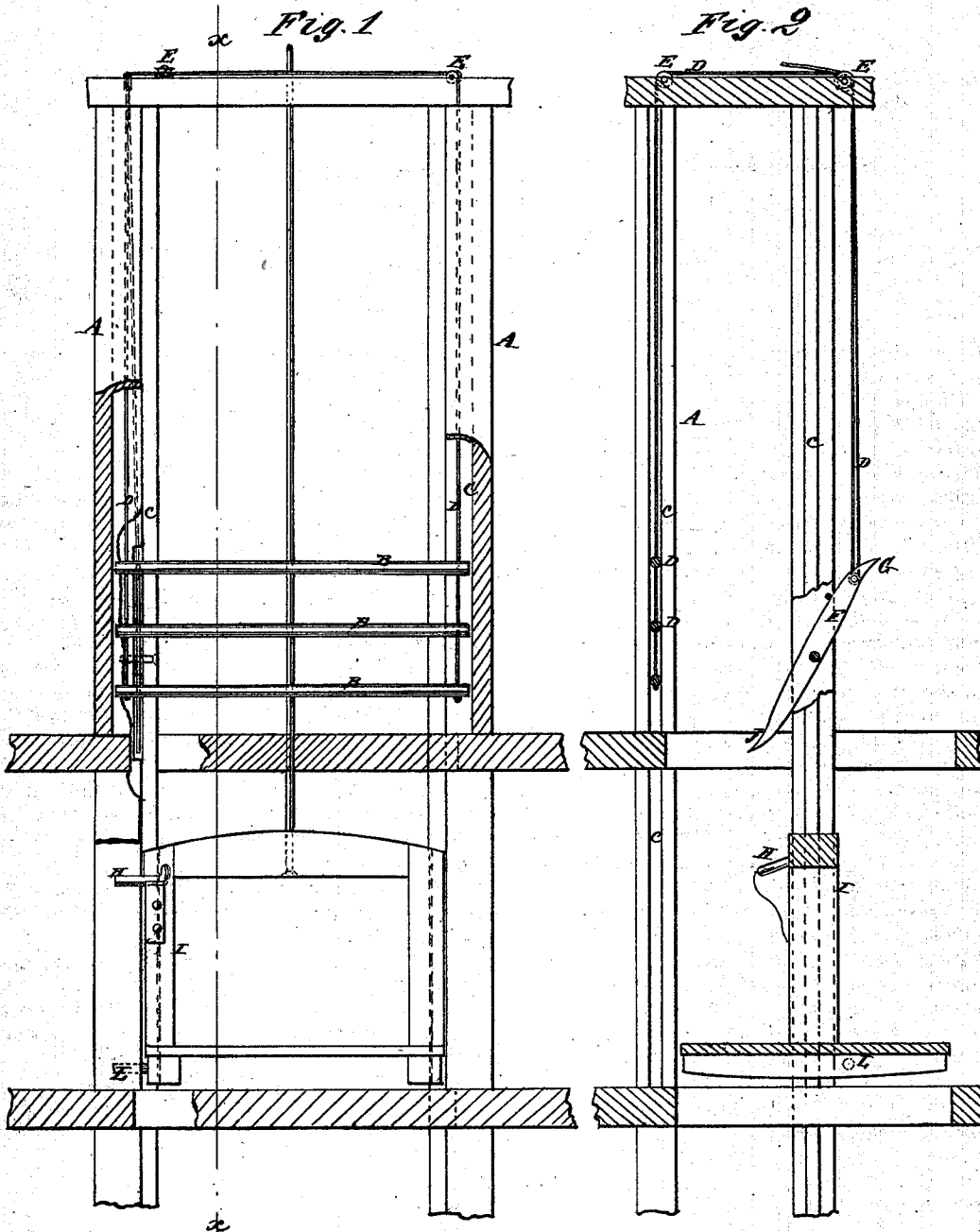


G. E. BERRY & F. C. PINGREE.

Automatic Hatchway-Guards.

No. 144,432.

Patented Nov. 11, 1873.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE E. BERRY AND FRANK C. PINGREE, OF DETROIT, MICHIGAN.

IMPROVEMENT IN AUTOMATIC HATCHWAY-GUARDS:

Specification forming part of Letters Patent No. **144,432**, dated November 11, 1873; application filed September 27, 1873.

To all whom it may concern:

Be it known that we, GEORGE E. BERRY and FRANK C. PINGREE, of Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Automatic Hatchway-Guard, of which the following is a specification:

Our invention consists of a gate arranged to slide up and down in the posts or doorway of the elevator, and connected by cords running over guide-pulleys with a tilting lever, which is moved by a pin on the upper end of the elevator-carriage, and caused to raise the gate out of the way when the carriage comes up to the place for unloading and loading, and when, by the passage of the carriage to a higher floor, the gate is allowed to fall, the descent is regulated by a pin on the lower end of the carriage, which passes above the lower end of the lever just before the upper pin escapes from the upper end. If the carriage descends without the upper pin passing above the lever, said pin regulates the descent. The gates closed below the carriage are opened by the lower pin on the carriage, and their closing is regulated by the upper pin.

Figure 1 is partly a side elevation and partly a sectional elevation of an elevator with a guard arranged according to our invention. Fig. 2 is a section taken on the line *x x* of Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the posts of the carriage-way, or the door leading to it. B represents the cross-bars of a gate extending from post to

post, and suspended in grooves C by cords D, which extend up over suitable guide-pulleys E, and down to the end G of a tilting lever, F, pivoted to the frame, so that when the pin H on the carriage I comes against the end J of said lever it will swing the end G down and raise the gate out of the way. If the elevator-carriage then goes down, the pin H remaining under the lever will regulate the descent of the gate by the descent of the carriage, letting the gate fall again gradually; but if the carriage goes onto a higher floor, the pin L on the lower end of the carriage will pass above the end G of the lever before the pin H escapes from the upper end, and regulate the descent by the upward movement. When the carriage goes down, the closed gates below will be opened by the pin L and regulated in their descent by the upper pin, which comes under the end J before the pin L escapes from the end G of the lever. Such a gate will be arranged at every upper floor.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The vertically-sliding gate B, ropes D, and tilting lever F, combined and arranged with the carriage I, the latter having pins H and L, arranged to actuate said lever, in the manner described.

GEORGE E. BERRY.
FRANK C. PINGREE.

Witnesses:

JOHN J. BULKLEY,
HENRY Z. POTTER.