

(No Model.)

G. A. WELD.  
ELEVATOR.

No. 355,427.

Patented Jan. 4, 1887.

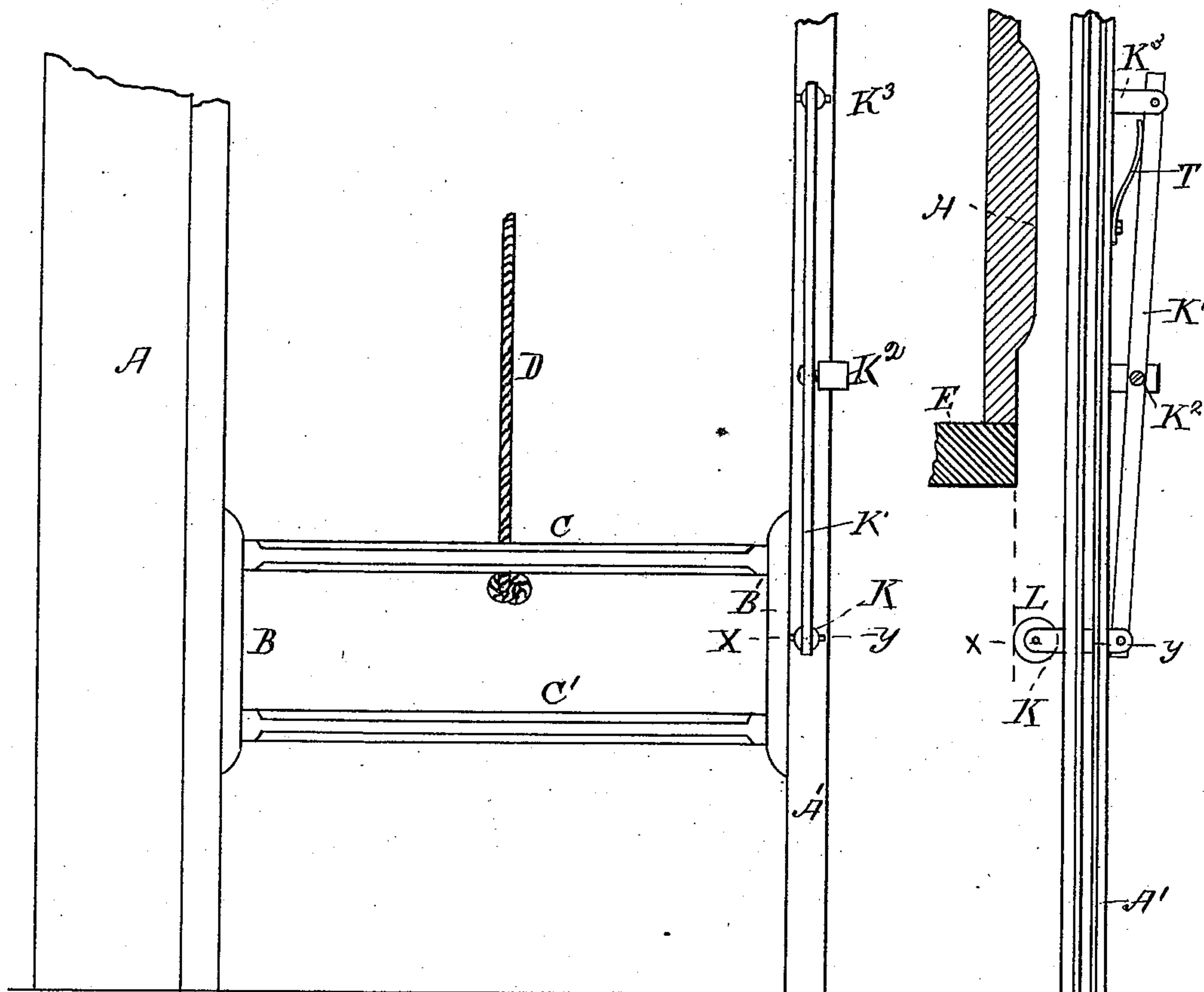


FIG. 1.

FIG. 2.

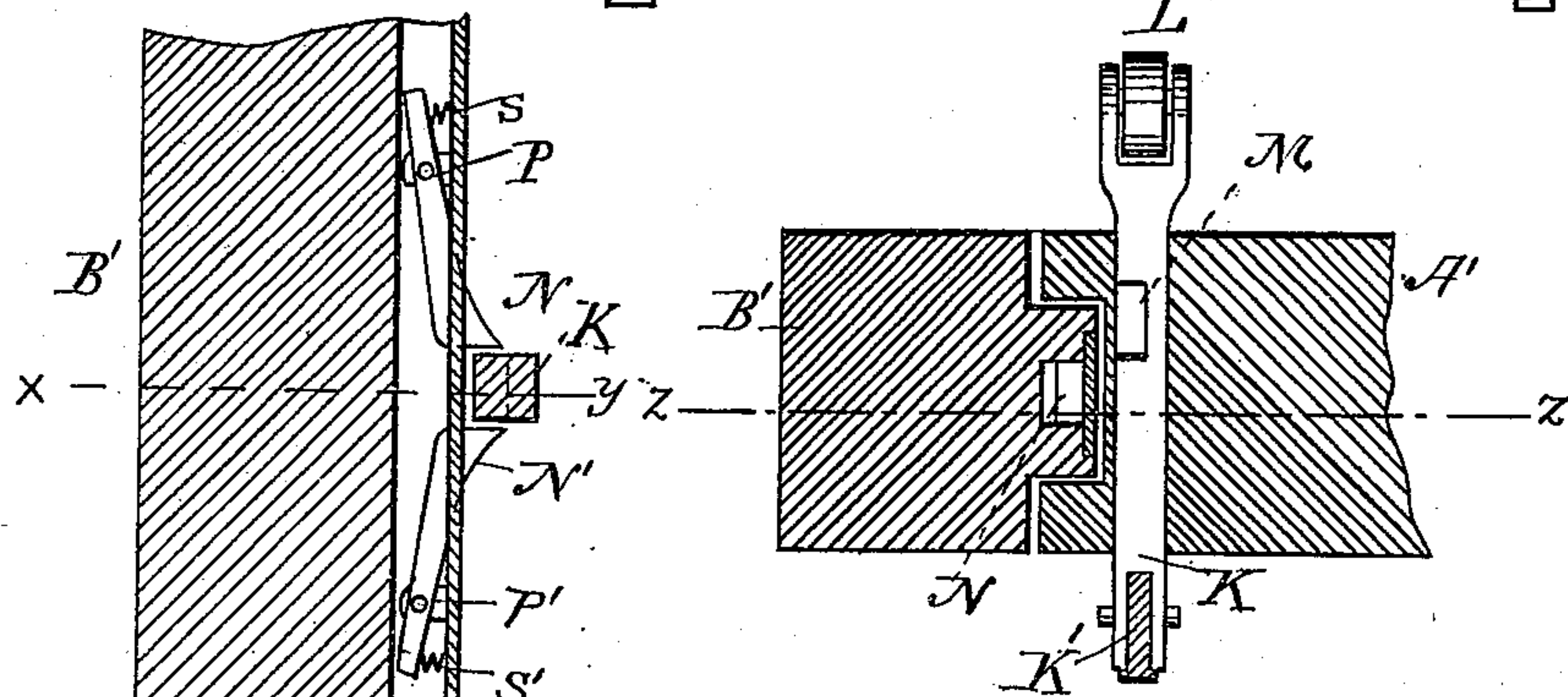


FIG. 3.

INVENTOR

*George A. Weld*

WITNESSES.

*Frankly. Parker, FIG. 4.*  
*Matthew M. Blunt.*



# UNITED STATES PATENT OFFICE.

GEORGE A. WELD, OF WINCHESTER, MASSACHUSETTS.

## ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 355,427, dated January 4, 1887.

Application filed March 27, 1886. Serial No. 196,791. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE A. WELD, of Winchester, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Elevators, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to a device for automatically locking and unlocking the gates of an elevator-well, the object being to construct the device, that is worked by the elevator-carriage itself, so that unless the elevator-carriage is at the floor guarded by the particular gate that gate cannot be opened, and so soon as the elevator-carriage leaves a floor then the gate, if not already closed, will close itself. This object I attain by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a front elevation showing the two sides of an elevator well and gate. Fig. 2 is a view, partly in elevation and partly in section, showing the inner side of the guide that the gate slides in and the locking and unlocking device, and, also in section, a part of the elevator-carriage. Fig. 3 is a horizontal section taken on line *xy* of Figs. 1 and 2, and Fig. 4 is a vertical section of the gate end piece, *B'*, taken on line *zz* of Fig. 3.

In the drawings, Fig. 1, *A* and *A'* represent the side of an elevator-well, and *A'*, in Figs. 1, 2, and 3, represents the side or way piece to which the gate-locking device is attached.

*B'*, in Figs. 1, 3, and 4, represents the end piece of the gate, to which parts of the locking device are attached.

The gate *C C' B B'*, Fig. 1, may be of any desired design, and is partly counterbalanced by a weight attached to the cord *D*, Fig. 1, said cord *D* passing over a pulley. (Not shown.) The weight attached to the cord *D* is not sufficiently heavy to completely balance the gate, but to make easier for the user to throw up the gate when it is unlocked, the gate being heavy enough to fall of its own weight when released from the upper lock or catch, as will be hereinafter explained.

*K* is a bolt passing through the slide-piece *A'*, as shown. (See Figs. 1 and 2.) This bolt *K* has on its inner end a roller, *L*, Figs. 2 and 3, so arranged, in connection with cam *H*, on the elevator-carriage *E*, Fig. 2, that when the said

cam *H* comes in contact with the roller *L*, it, (the roller *L*,) in connection with the rod *K*, will be pushed back, so as to bring the notch *M*, Fig. 3, in the line of the stop-latches *N N'*, Figs. 3 and 4, so that the stop-latches will no longer hold the gate locked.

The bolt *K* is made square, so that the stop-latches *N N'* are readily held by it when in the position shown in Figs. 2 and 3—that is, when the notch *M* is not in line with the ends of the stop-latches *N N'*.

The bolt *K*<sup>3</sup>, Fig. 2, is for holding the gate up when the elevator-carriage is in place, and is connected with the lower bolt, *K*, by means of the lever *K'*, being pivoted at *K*<sup>2</sup>, Fig. 2, and connected at its upper end to the bolt *K*<sup>3</sup>, Fig. 2.

*T*, Fig. 2, is a spring, which serves to throw the upper end of the lever out, thus keeping the lower end and the bolt *K* in the locking position for holding the gate in place when the elevator-carriage is at the gate. When the elevator-carriage is not in place there, the spring *T* acts and holds the bolt *K* in its locking position.

If the elevator-carriage is in place at a floor, then the cam *H*, Fig. 2, will push back the bolt *K*, and, operating through the lever *K'*, will push the bolt *K*<sup>3</sup>, Fig. 2, in, so that its inner end will form a stop for the stop-latches *N N'* when the gate is up; but as soon as the cam *H* on the carriage leaves the wheel *L* on the bolt *K*, then the bolt *K* will pass into place, allowing the lever *K'* to withdraw the upper bolt, *K*<sup>3</sup>, and thus allow the gate to fall down to its normal position by its own weight and then be locked, as has already been stated.

The stop-latches *N N'* (see Fig. 4) are pivoted at *P P'*, and are thrown out by the springs *S S'*. (See Fig. 4.)

I claim—

In an elevator, the combination of the elevator-carriage *E*, having a cam, *H*, the sliding rod *K*, lever *K'*, having a fulcrum at *K*<sup>2</sup>, and a locking-rod, *K*<sup>3</sup>, with the gate *C C' B B'*, having latches *N N'*, all operating together, substantially as described, and for the purpose set forth.

GEORGE A. WELD.

Witnesses:

FRANK G. PARKER,  
MATTHEW M. BLUNT.