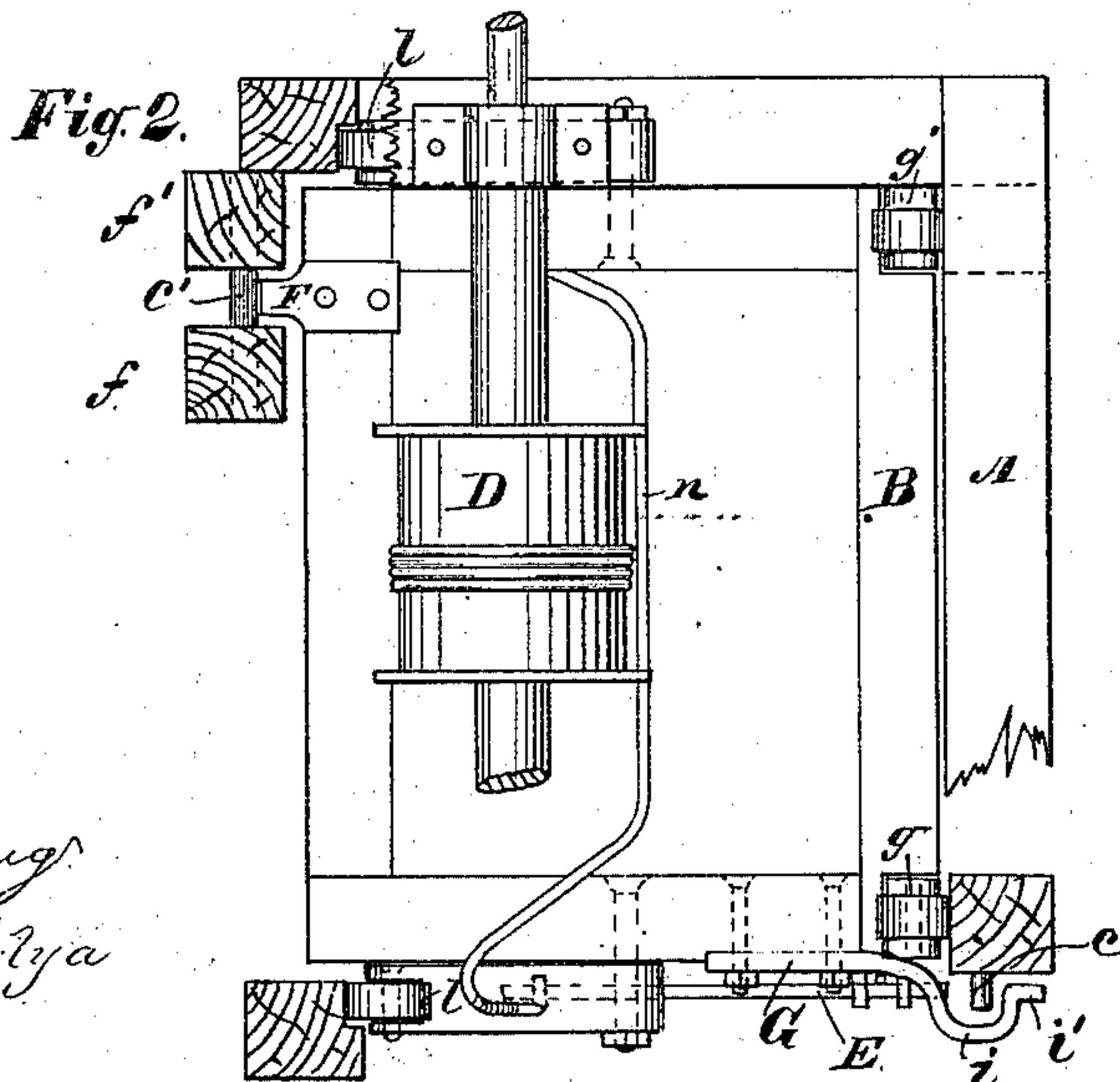
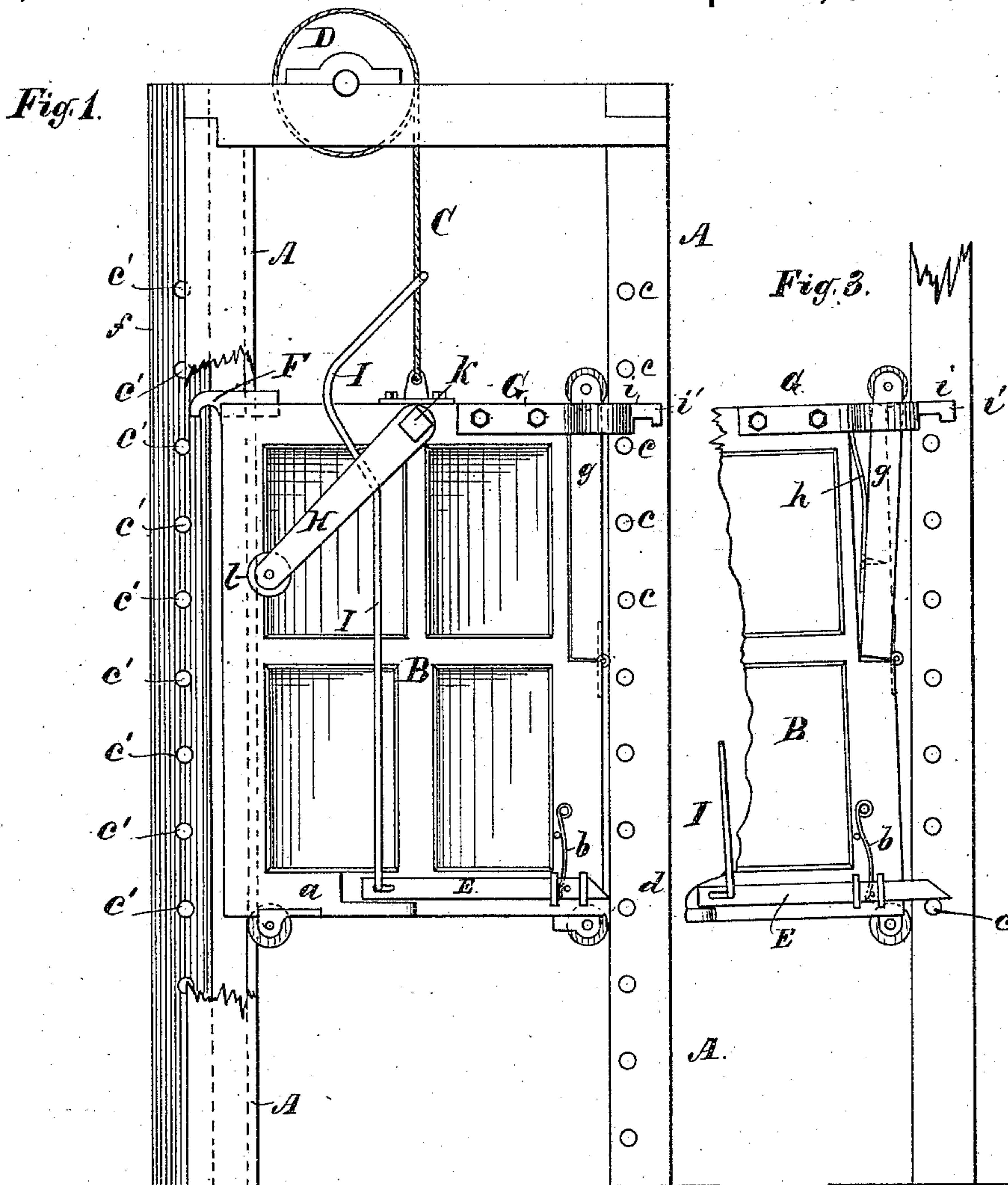


(No Model.)

F. STODDARD.  
Elevator.

No. 232,377.

Patented Sept. 21, 1880.



Witnesses:  
Henry Eichling  
Allen Vermilya

Inventor:  
Freeman Stoddard  
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his Atty



# UNITED STATES PATENT OFFICE.

FREEMAN STODDARD, OF BROOKLYN, NEW YORK.

## ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 232,377, dated September 21, 1880.

Application filed August 18, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, FREEMAN STODDARD, of Brooklyn, Kings county, in the State of New York, have invented a new and useful Improvement in Elevators for Buildings, of which the following is a specification, reference being had to the accompanying drawings, forming part of the same.

Figure 1 is a side elevation of an elevator embodying my invention. Fig. 2 is a plan or top view of same; and Fig. 3 is a view of a detached corner of the elevator-cage and one of the upright posts, particularly described hereinafter.

My invention relates to that class of elevators for buildings, for the lifting and lowering of persons and goods, in which the platform or cage is lifted and lowered by means of a rope or chain attached to the same, that runs over a drum or pulley at the top of the frame, to which power is applied in any of the usual modes, and particularly to the devices herein described, by which the descent of the platform is arrested upon the accidental breaking of the lifting rope or chain.

A represents the ordinary frame, within which the cage B moves, with proper rollers or guides running in suitable ways at the corners.

C is the hoist-rope, running over a pulley or drum, D, at the top of the frame, to which power is applied in the usual manner.

E is a catch-bar fitted to slide in suitable ways secured firmly on the outer face of the bottom rail, *a*, of the cage, as shown. *b* is a spring which acts to throw the said bar outward from the front of the cage, and *c* represents a series of pins that project from the corresponding outer face of the post *d* of frame A. When the bar E is thrown outward by the spring *b* it will engage with said pins and arrest the downward motion of the cage, and the cage, thus resting on one of the pins, will, it is obvious, have a tendency to tilt over toward the opposite side of the frame.

F is a strong hook or stud secured firmly to the upper end of the cage, so that it projects in the rear of the same between two posts, *f* and *f'*, that are arranged at the back of the elevator-frame. In these posts are a series of pins or bars, *c'*, that extend across between them from one to the other.

The arrangement of the parts is such that when the cage tilts back, as above described, the hook F will catch on one of the pins *c'*, and hold the cage suspended on said pin. In order to insure more certainly the said tilting of the cage I attach to each of the two front upper corners of said cage a block, *g g'*, hinged at the lower end to the cage, the upper ends being free to swing outward. In the upper ends are placed friction-rollers that run against ways on the corner posts of the frame A. Between these jointed blocks and the corners of the cage are arranged springs *h*, as seen in Fig. 3, which, by reacting against the cage, the blocks being in contact with the frame A, tend to press the top of the cage over back toward the rear of the said frame and cause the hook F to engage the pins *c'*, and whenever the weight of the cage is, by the breaking of the hoist-rope, thrown upon the pins *c* by means of the bar E, the blocks *g* and *g'* and springs *h* will act, in conjunction with gravity, to tilt the cage and cause the engagement of said hook F with pins *c'*, and thus furnish a double security against the fall of the cage.

I provide a still additional security against the falling of the cage, to act in connection with those already described. This consists of a bar, G, permanently secured to the side of the cage near the top, that extends outward in front beyond the lines of pins *c*. Near the outer end it is bowed outward, as shown plainly in Fig. 2, so that the bowed part *i* will pass over the pins when the cage rises or falls, so long as it remains upright, as in Fig. 1, but so that the straight portion *i'* of the extreme end will engage with the pin *c* when the cage is tilted over back, as seen in Fig. 3.

H is a swinging arm, pivoted at its upper end at *h* in the upper end of the cage. There is one of these arms on each side of the cage. Each carries in its lower end a friction-roller, *l*.

I is a lever fixed in the arm H, as shown in Fig. 1. At the lower end it connects with the bar E. There is one of these levers on each side of the elevator, and their upper ends are connected by a rod, *n*, that crosses the top of the cage. These levers and the rod are so formed and arranged that the hoist-rope C, when the cage is suspended to it, bears against the rod *n* and holds the lever I, the arm H,



and the catch-bar in the position shown in Fig. 1, with the said bar drawn back out of connection with the pins *c*, and the friction-rollers pressed against their ways on the rear of the frame A, leaving the cage free to rise and fall without obstruction.

If the rope should break, the levers I being thereby released, the spring *b* would instantly act to throw the catch-bar E into connection with one of the pins *c*, arresting the downward motion of the cage, causing it to tilt over back at the top, and bringing the hook F into engagement with one of the pins *c'*, and the end of the bar G into engagement with one of the pins *c*, the block *g g'* and spring *h* at the same time acting to insure the tilting of the cage, thus bringing into action three safety devices, and affording triple security against the falling of the cage.

I do not limit myself to the precise form of the several parts described and shown. Any equivalent of the several parts may be used, and if a cage open on two or more of its sides is employed the form and location of the levers I and arm H may be varied so as to adapt them to such open cage.

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

1. The combination, in an elevator, of the cage B, catch-bar E, pins *c*, spring *b*, levers I, arms H, hook F, pins *c'*, bar G, block *g g'*, spring *h*, and hoist-rope C, all as and for the purposes described.

2. The combination, in an elevator, of the cage B, the hoist-rope C, levers I, catch-bar E, and pins *c*, as and for the purpose described.

3. The combination, in an elevator, of the cage B, the hoist-rope C, block *g g'*, spring *h*, bar G, and pins *c*, as and for the purpose described.

4. The combination, in an elevator, of the cage B, hoist-rope C, hook F, pins *c'*, catch-bar E, pins *c*, spring *b*, and levers I, as and for the purpose described.

5. The combination, in an elevator, of the cage B, hoist-rope C, hook F, pins *c'*, block *g g'*, and spring *h*, as and for the purpose described.

6. The combination, in an elevator, of the cage B, hoist-rope C, bar G, pins *c*, block *g g'*, and spring *h*, as and for the purpose described.

FREEMAN STODDARD.

Witnesses:

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