

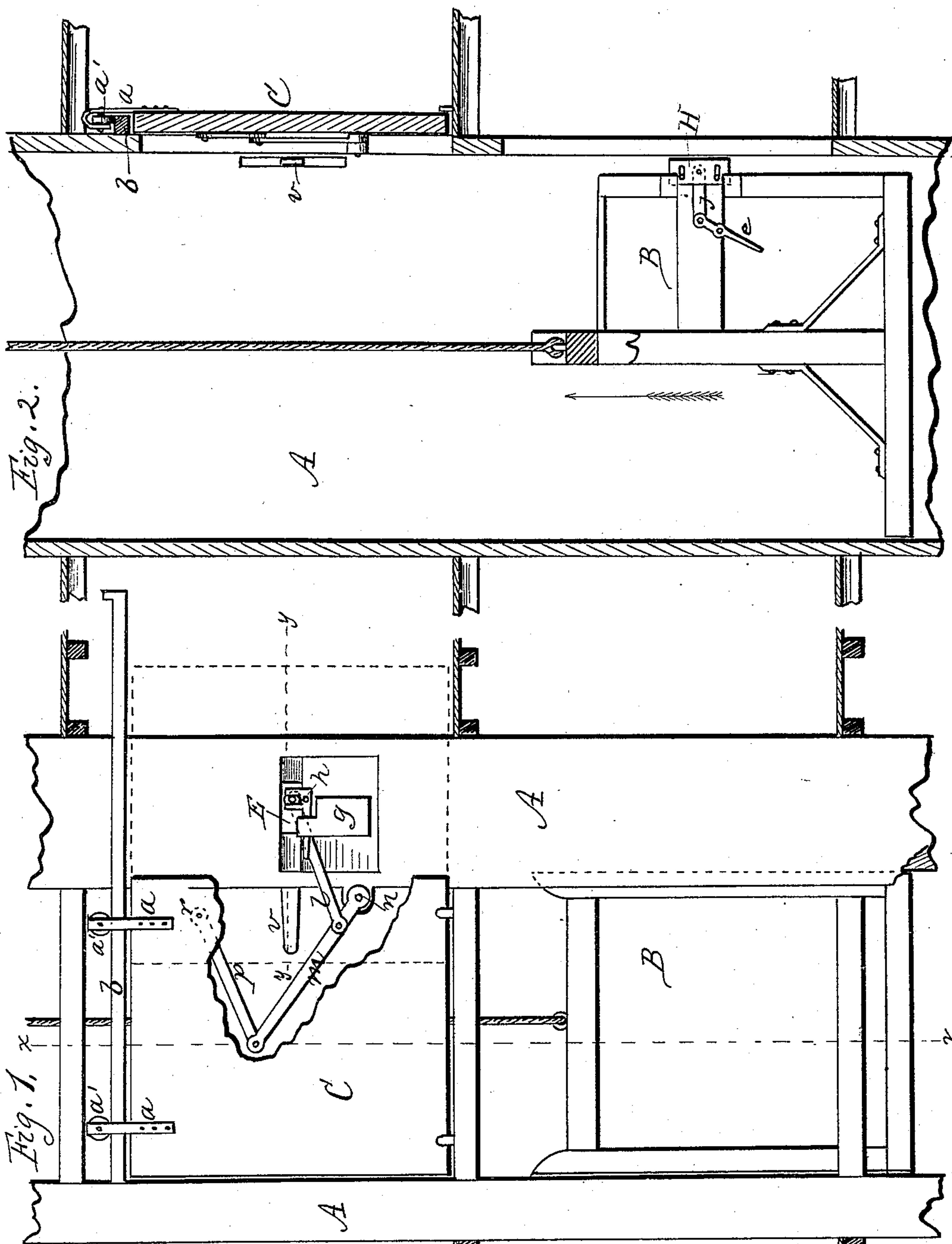
(No Model.)

2 Sheets—Sheet 1.

C. J. LATZ.  
GUARD FOR ELEVATORS.

No. 397,085.

Patented Jan. 29, 1889.



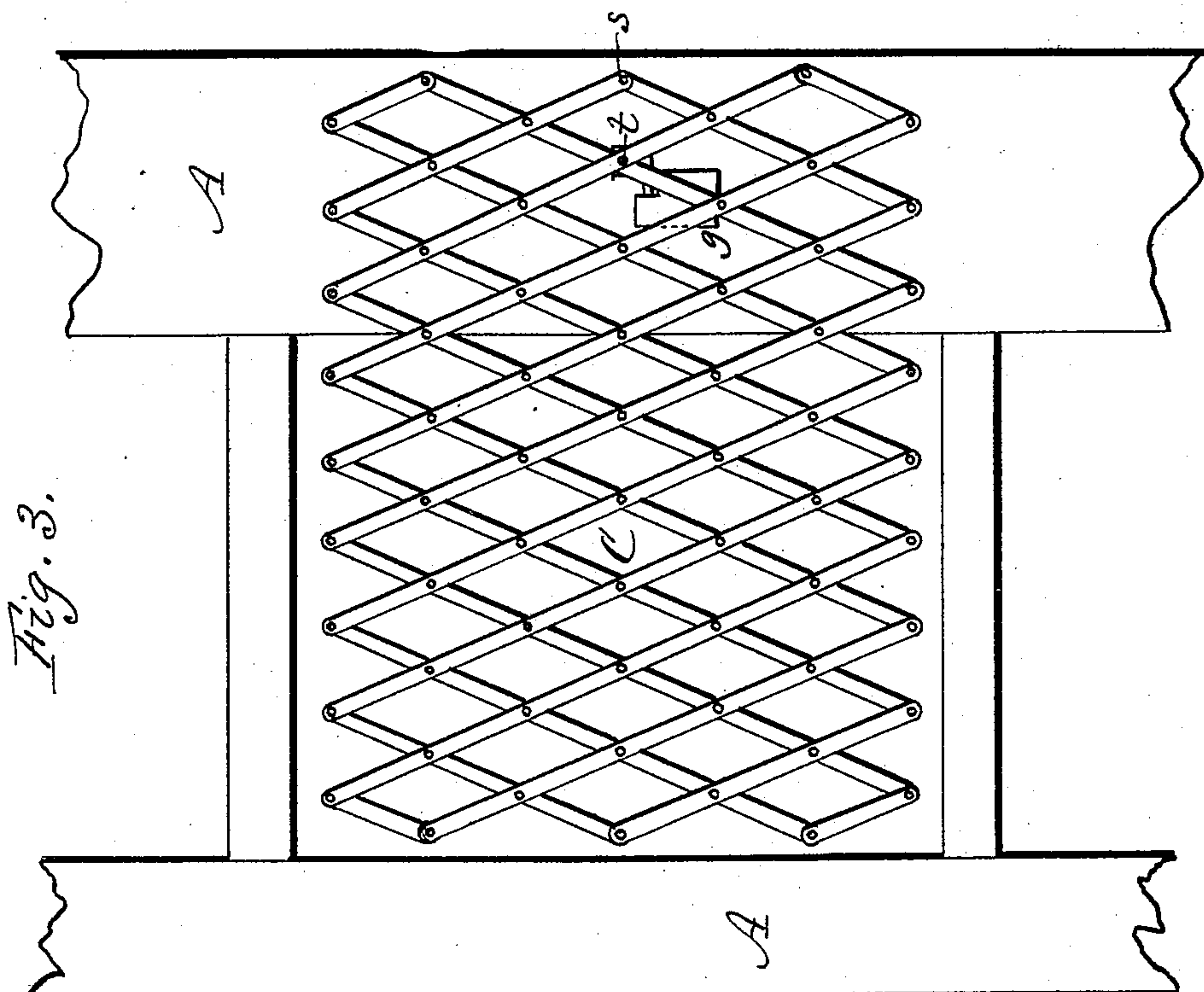
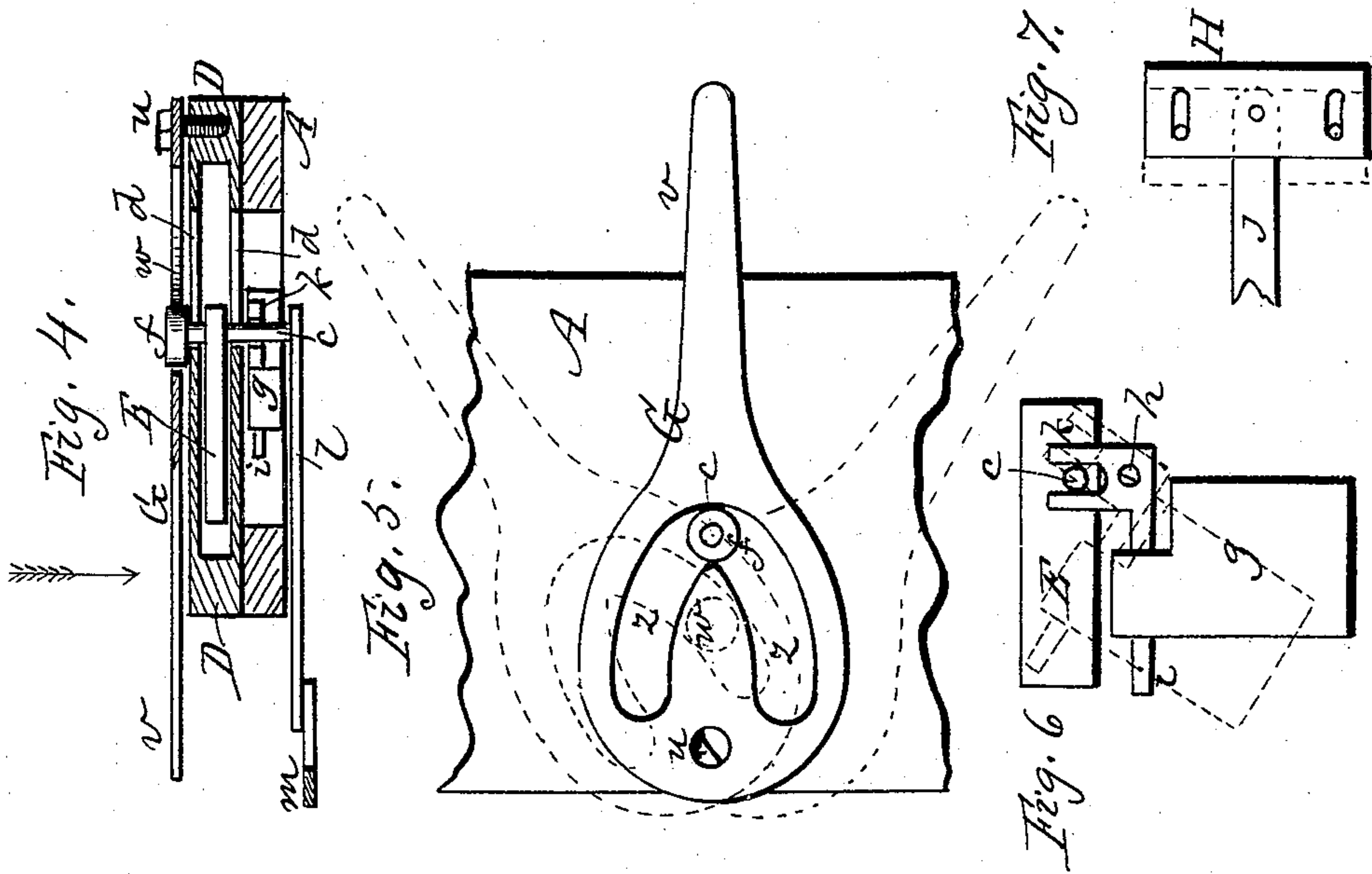
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# UNITED STATES PATENT OFFICE.

CHARLES J. LATZ, OF ROCHESTER, NEW YORK, ASSIGNOR OF THREE-FOURTHS  
TO HENRY L. BECKER AND ABRAHAM ELLIOTT, OF SAME PLACE, AND  
JOSEPH R. VAN MARTER, OF LYONS, NEW YORK.

## GUARD FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 397,085, dated January 29, 1889.

Application filed September 18, 1888. Serial No. 285,750. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES J. LATZ, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Door-Guards for Elevator-Wells; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this application.

My improvement relates to means for operating the doors of elevator-wells by the action of the elevator itself as it goes up and down.

The invention consists in the construction and arrangement of parts, hereinafter described and definitely claimed.

In the drawings, Figure 1 is a front elevation of a portion of an elevator-well, showing one of the doors closed and the elevator beneath it in condition for operating the door as it rises. Fig. 2 is a vertical section in line *x x* of Fig. 1. Fig. 3 is an elevation similar to Fig. 1, but showing a modification in the construction of the door. Fig. 4 is an enlarged cross-section in line *y y* of Fig. 1. Fig. 5 is an enlarged elevation of the cam-lever, looking on the inner side and in the direction indicated by the arrow at the top in Fig. 4. Fig. 6 is a diagram showing an elevation of the counter-weight and slide for holding the door closed. Fig. 7 is a side elevation of the tripping device on the elevator.

A indicates the well, and B the elevator-car, said parts being of ordinary construction.

C is the elevator-hatchway door. Figs. 1 and 2 show a solid door designed to close the opening and prevent the passage of fire. It moves forward and back, and, as shown in the drawings, is provided with hangers *a a*, having friction-rollers *a' a'*, that run on a rail, *b*. Fig. 3 shows a door made up of pivoted bars in the form of lazy-tongs, which open and close by a very small movement.

My improvement is as follows:

D is a case set into the wall of the elevator-well.

E is a slide that moves forward and back in said case.

*c* is a journal attached to said slide, pro-

jecting on both sides out through slots *d d* in the case.

*f* is a friction-roller on one end of the journal, and *g* is a counter-weight connected with the other end of the journal. Said counter-weight is pivoted at *h* to some stationary part, and it is adjustable out and in on an arm, *i*, to increase or lessen the leverage, and said arm has a forked upper end, *k*, that embraces the journal *c*, as shown in Fig. 6. The counter-weight has a tendency to throw the slide forward and close the door, and said slide is thrown back only when operated on by the passage of the elevator, as will presently be described, the weight in that case being thrown out of balance, as indicated by the dotted lines in Fig. 6.

*l* is a connecting-rod attached at one end to the outer end of the journal *c* and at the other end to a rock-lever, *m*. Lever *m* is pivoted at *n* to some stationary part of the well and extends inward alongside the inner face of the door C.

*p* is a link pivoted at one end to the top of the rock-lever *m* and at the other to the door, as shown at *r*. By this means as the slide E is moved forward and back the door will be correspondingly opened and closed. The rock-lever, connecting-rod, and link are used only with a sliding door. In case the pivoted bars are used, (shown in Fig. 3,) the outer ends, *s*, of the bars are pivoted to the side of the well, and the second joint, *t*, is connected with the journal *c* of the slide E, by which means the proper action is produced to open and close the door.

G is a cam-lever pivoted at *u* to the inner side of the well, the long arm *v* projecting inside the well and in such position as to be struck by the tripping device of the elevator as the latter goes up and down. The cam has a central tongue, *w*, and two curved slots, *z z*, in which the friction-roller *f* rests. When the cam-lever stands in the horizontal position shown in full lines, Fig. 5, the end of tongue *w* rests against the friction-roller *f*, and serves as a stop to same and holds the slide E forward, and consequently holds the door C closed. When the cam-lever is thrown



up or down, as indicated by the dotted lines, Fig. 5, the tongue releases from friction-roller *f*, and the latter, and with it the slide *E*, is drawn back by reason of the roller following back in one or the other of the curved slots *z z*. In such case the door is drawn open.

It is the tripping device on the elevator. It consists of a slide that is adjustable out and in. When it is thrown out, it stands in position to strike the end of the cam-lever *G* and trip the same either in going up or down. When it is drawn back, as indicated by dotted lines, Fig. 7, it runs clear of cam-lever *G*, and the elevator passes the door without operating it. The slide is operated by any suitable means, that shown in the drawings, Fig. 2, consisting of a hand-lever, *e*, and connecting-rod *j*.

It should be stated here that when the counter-weight *g* hangs free it holds the cam-lever *G* in the horizontal position, so that tongue *w* locks the slide *E*. The tripping device throws the cam-lever from the horizontal position up or down, and the counter-weight brings it back to place again and closes the door.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the elevator-car provided with a tripping device, of the sliding door, a slide provided with journals, a double-acting cam-lever connected with one of the journals and serving to operate the slide as the car goes up or down, a counter-weight connected with the other journal, serving to throw the slide forward, and connections between the slide and the hatchway-door, whereby the door is operated by the slide, as herein shown and described.

2. In a door-guard for elevator-wells, the combination, with the slide *E*, provided with a journal that extends out through a slot in its case, of the double-acting cam-lever *G*, provided with curved slots *z z*, which embrace the journal, and a central tongue, *w*, that holds against said journal when the parts are in their normal condition, as herein shown and described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHARLES J. LATZ.

Witnesses:

R. F. OSGOOD,  
M. D. PHILLIPS.