

(No Model.)

2 Sheets--Sheet 1.

D. H. CHAMBERLAIN.
Safety Attachment of Elevators.

No. 232,455.

Patented Sept. 21, 1880.

Fig. 2-

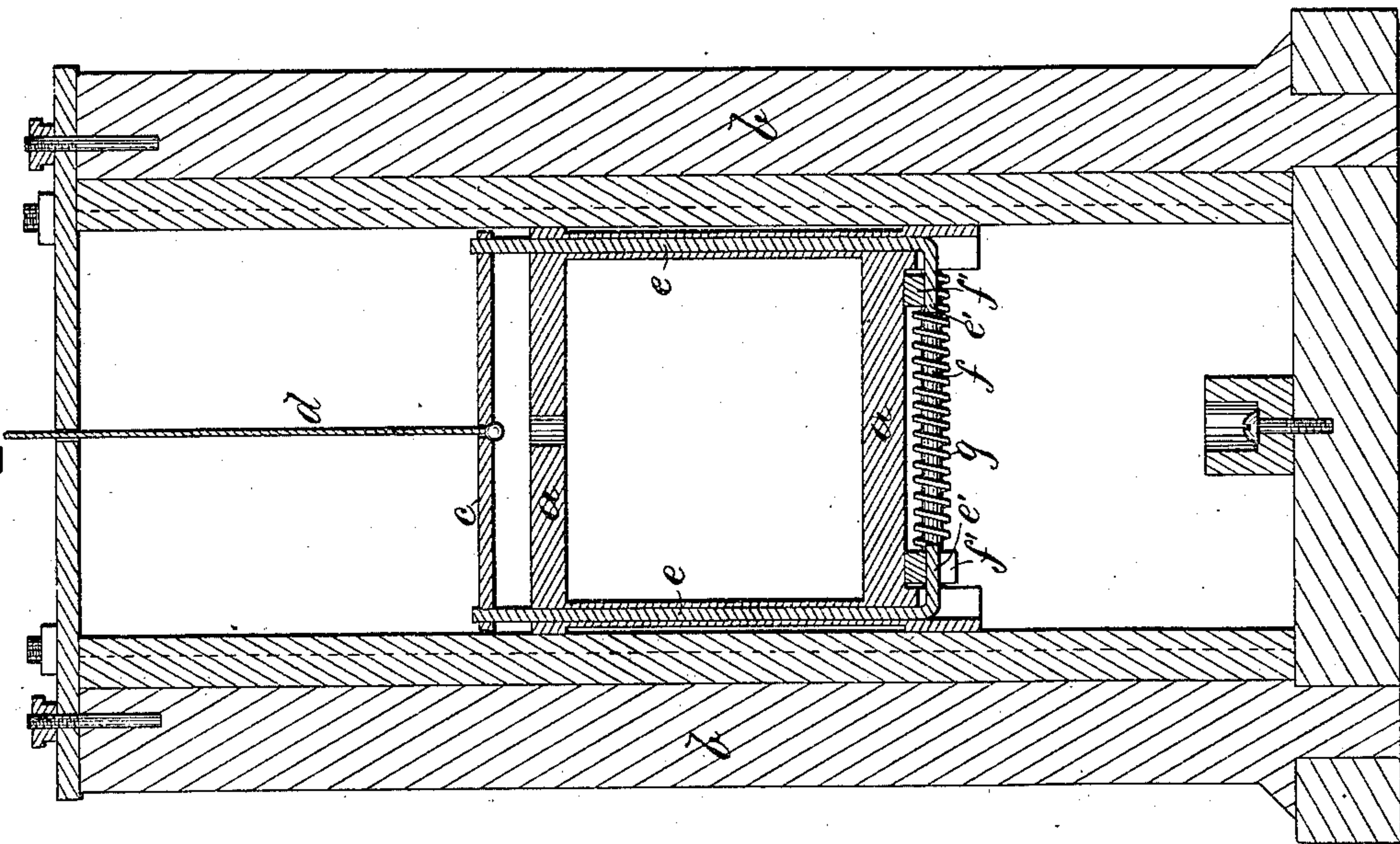
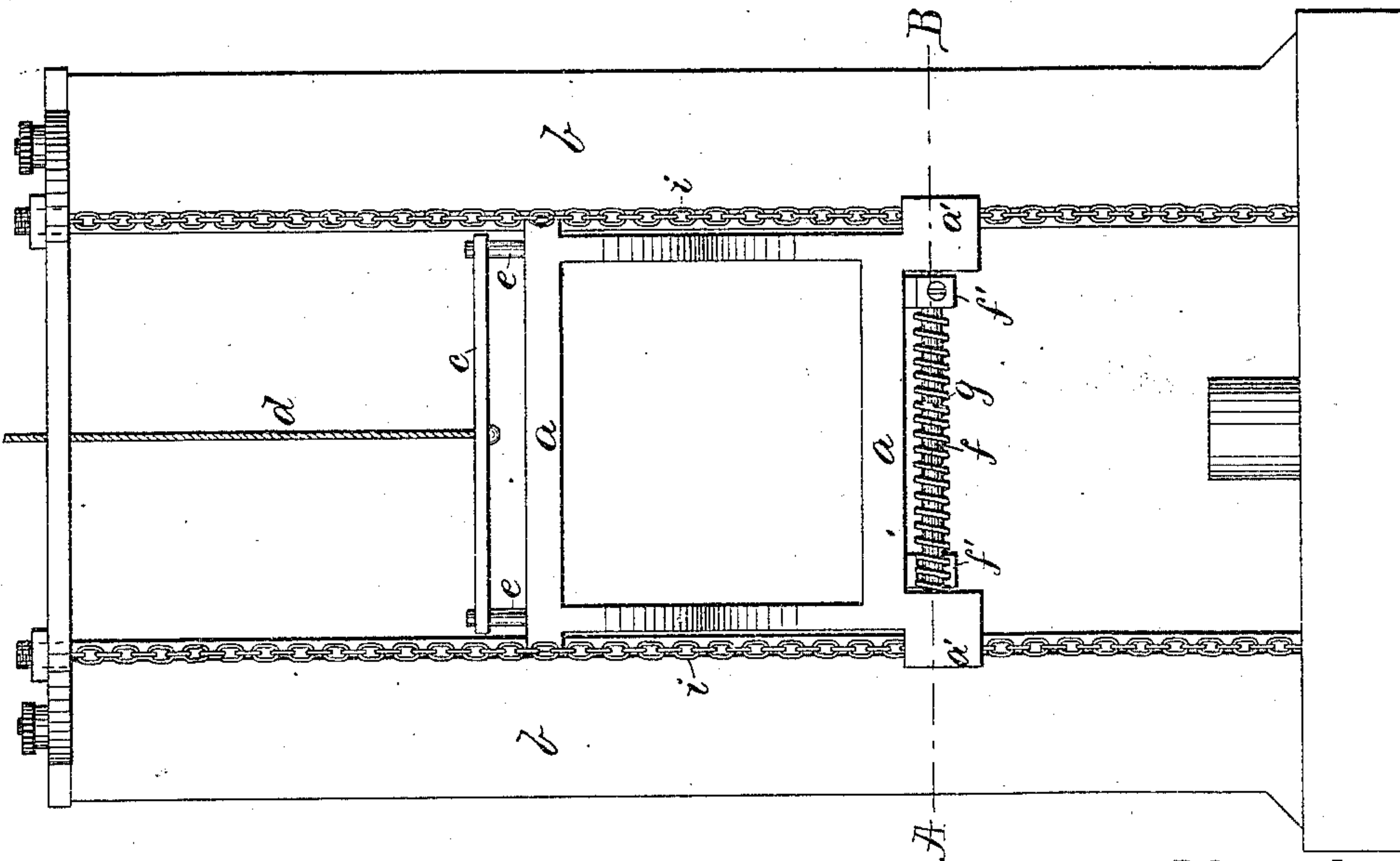


Fig. 1.



Witnesses:

Henry Chadbourne.
J. Allen.

Inventor:

Dexter H. Chamberlain
by
Alvan Judson
his atty.

(No Model.)

2 Sheets--Sheet 2.

D. H. CHAMBERLAIN.
Safety Attachment of Elevators.

No. 232,455.

Patented Sept. 21, 1880.

Fig. 4.

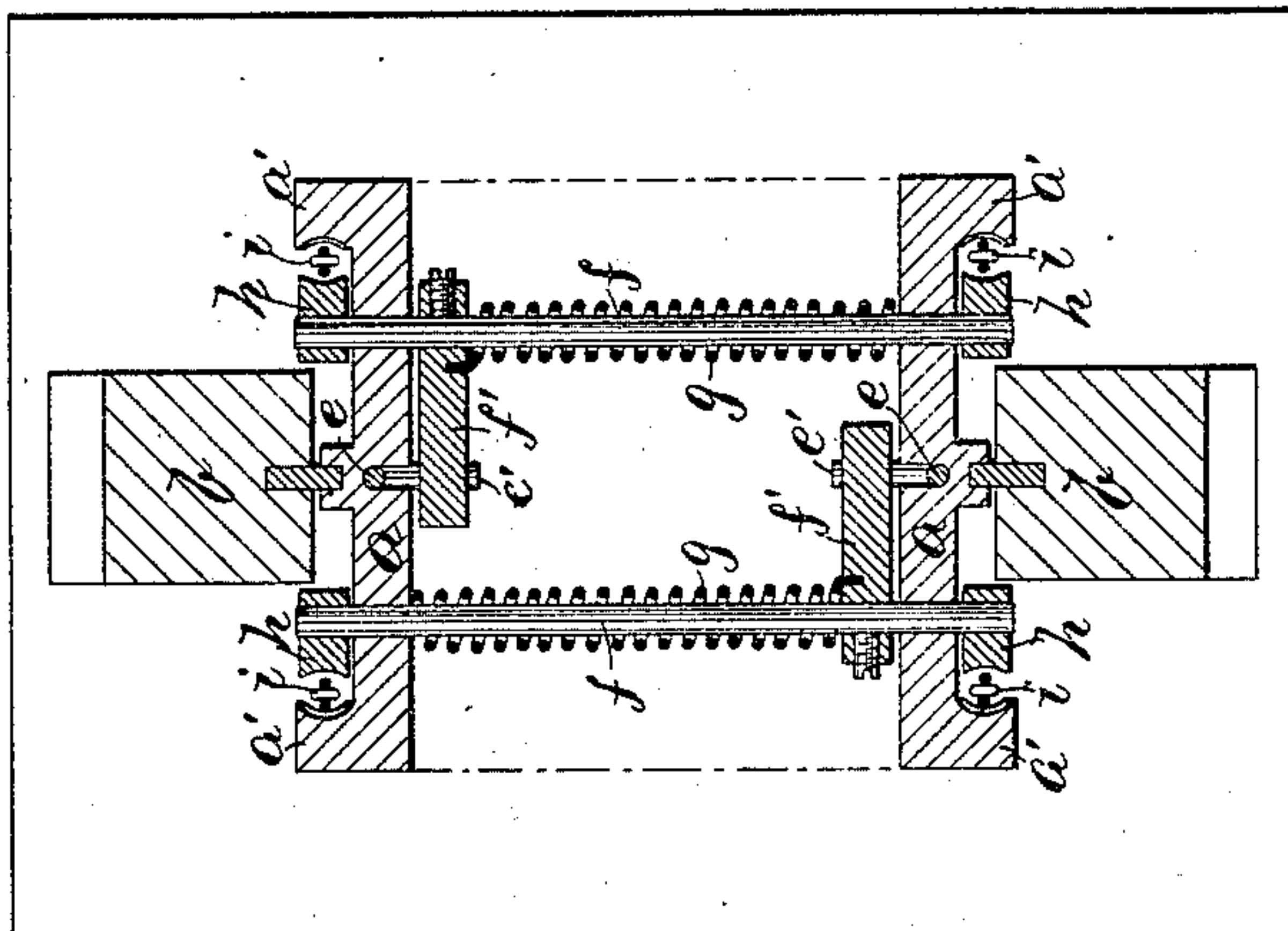
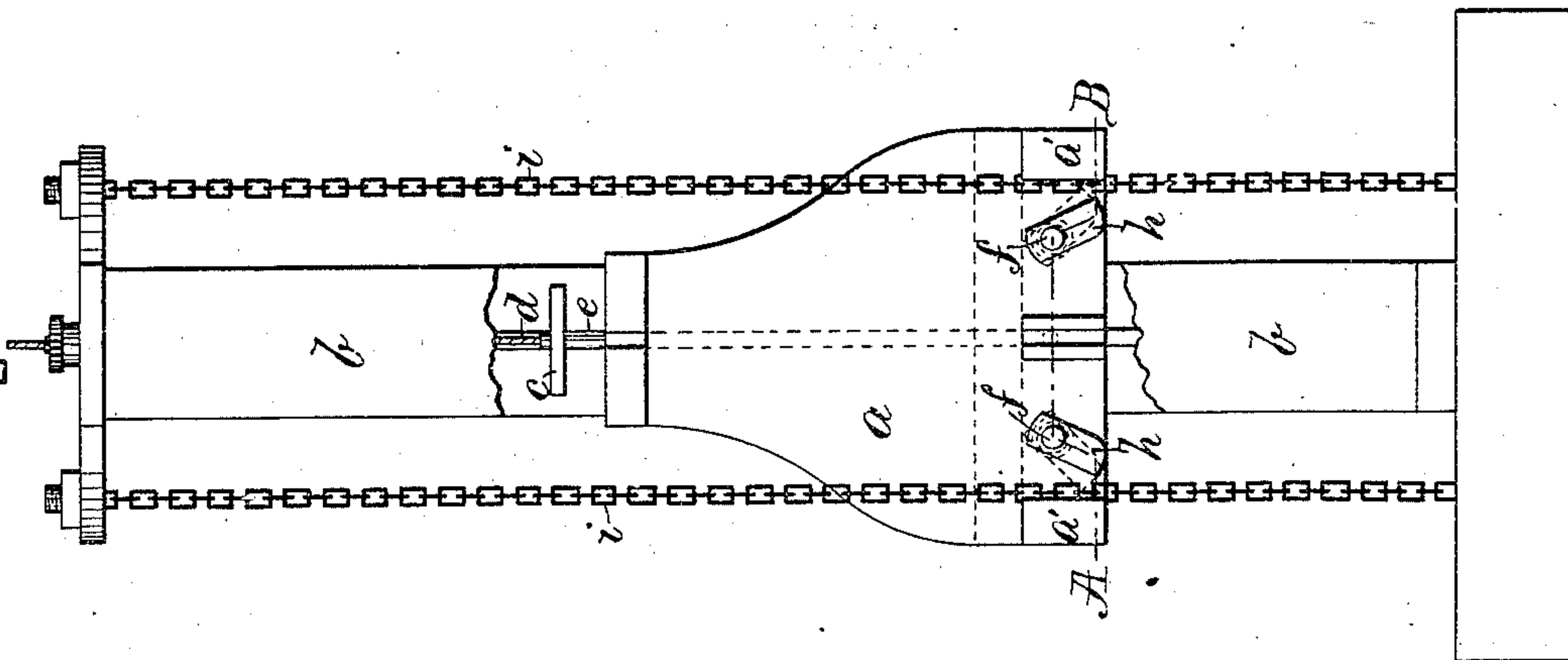


Fig. 3.



Witnesses:

Henry Chadbourne.
J. Allen

Inventor:

Dexter H. Chamberlain
by
Alban Andrieu
his atty.

UNITED STATES PATENT OFFICE.

DEXTER H. CHAMBERLAIN, OF WEST ROXBURY, ASSIGNOR TO WILLIAM H. IRELAND, OF BOSTON, MASSACHUSETTS.

SAFETY ATTACHMENT FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 232,455, dated September 21, 1880.

Application filed March 24, 1880. (No model.)

To all whom it may concern:

Be it known that I, DEXTER H. CHAMBERLAIN, a citizen of the United States, residing at West Roxbury, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Safety Attachments for Elevators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in safety attachments for elevators, for the purpose of instantly stopping the descent of an elevator car or cage in case the rope breaks without allowing the cage to acquire any momentum whatever, so that the resisting strain on the safety device shall not be greater than the weight of the car and its occupants. To accomplish this result, my invention is carried out as follows, reference being made to the annexed drawings, on which—

Figure 1 represents a front elevation of an elevator provided with my improved safety attachment. Fig. 2 represents a central longitudinal section thereof. Fig. 3 represents an end elevation; and Fig. 4 represents a cross-section on the line A B, shown in Fig. 3.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a a represent the car of an elevator, as usual, and *b b* represent the vertical guides, between which it is raised and lowered in the ordinary manner.

c is the yielding draw-bar or cross-bar, to which the hoisting-rope *d* is attached. From the yielding cross-bar *c* projects downward the links or rods *e e*, each of which is provided in its lower end with a projection, *e' e'*, as shown.

Below the car *a* are located, in suitable bearings, the rock-shafts *f f*, each of which is respectively provided with an arm or lever, *f' f'*, coiled spring *g g*, and pawls or locking-cams *h h h h*, as shown. The car *a a* is provided with grooved lips or locking-recesses *a' a' a' a'*, as shown.

i i i i are vertical chains or rods, firmly attached in their upper and lower ends to suitable stationary and rigid parts of the elevator-well.

The operation of the invention is as follows: During the ordinary use of the elevator the yielding draw-bar *c* is raised to its upper position, as shown in full lines on the drawings, in which position the rock-shafts *f f* are turned around their axis by the contact of the lower projections, *e' e'*, on the links *e e*, resting against the arms or levers *f' f'*, and thereby causing the locking-cams or pawls *h h h h* to remain turned down to their lower positions, as shown in full lines in Fig. 3, in which position of the said locking dogs or cams the car may be raised or lowered without binding on the vertical chains or rods *i i i i*, which, under ordinary circumstances, pass freely in the spaces left between the grooved lips *a' a'* and the outer ends of the locking-cams *h h*, as shown; but the very instant that the rope *d* breaks the springs *g g* act upon their respective rock-shafts *f f*, so as to turn their locking-cams *h h h h* to their upper positions, as shown in dotted lines in Fig. 3, in which position the chains or rods *i i i i* are immediately confined and locked between the outer ends of the said locking-cams and the inside of the grooved lips or locking-recesses *a' a' a' a'*, as represented in said dotted lines in Fig. 3, by which arrangement the further descent of the car is instantly checked without allowing the car to acquire any momentum whatever between the moment of the breaking of the cord and the suspension of the car, as these occurrences with the use of my invention, as above described, are simultaneous and instantaneous.

I desire to state that I do not wish to confine myself to the precise shape, form, and location of the various parts as shown in the drawings, as these may be slightly varied to suit special cases of construction; neither do I confine myself to the use of coiled springs to actuate the locking device, as equivalent self-acting springs of other constructions may be used to equal advantage; but

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

1. The combination, with the elevator-cage

having locking-recesses a' , and with the vertical chains or rods i , on which said recesses travel, of the rock-shaft $f f$, having the laterally-projecting arms or levers $f' f'$, connected
5 with the yielding cross-bar c by links $e e'$ and provided at their outer ends with pawls h , and the coiled springs g , connected at one end with the rock-shaft and at their other end to the
10 projecting arms or levers f' , for rotating the shaft and causing the pawls h to bind the chains or rods i in the locking-recesses of the cage or car, all substantially as and for the purpose described.

2. The combination of the elevator-car having
15 locking-recesses a' , the cross-bar c , the vertical links e , attached at their upper ends to said cross-bar, and having their lower ends

connected with the arms or levers f' , which are attached to the transverse rock-shafts f , said rock-shafts projecting through the car, 20 and their projecting ends provided with attached pawls h , and the springs g coiled around the rock-shafts and having one end attached to the arms or levers f' , for the purpose of rotating the rock-shafts and causing the lock- 25 ing-pawls to engage the vertical chains or rods i , all substantially in the manner herein shown and described.

In testimony whereof I have affixed my signature in presence of two witnesses.

DEXTER H. CHAMBERLAIN.

Witnesses:

ALBAN ANDRÉN,

HENRY CHADBURN.