

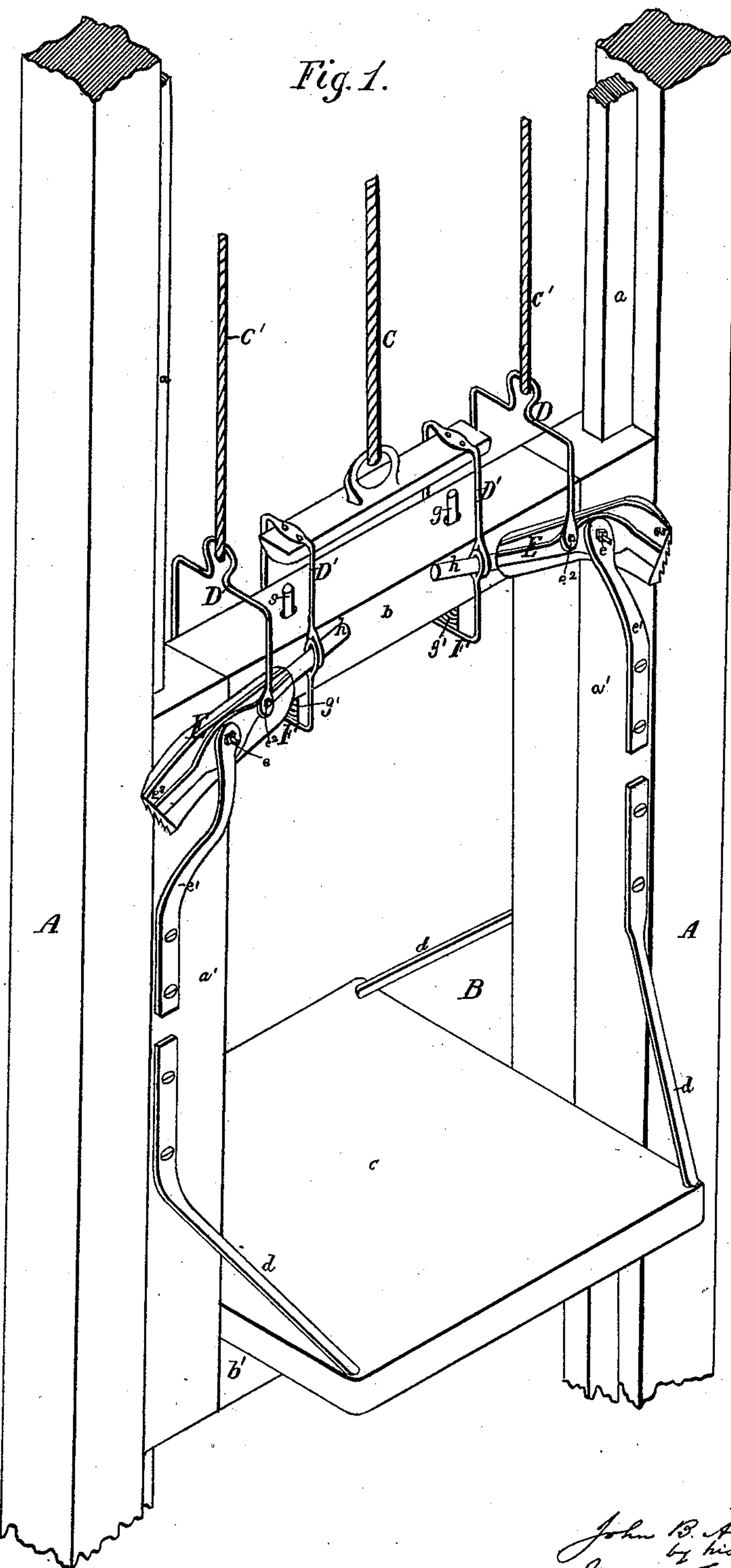
(No Model.)

2 Sheets—Sheet 1.

J. B. ATWATER.
ELEVATOR.

No. 256,111.

Patented Apr. 11, 1882.



Witnesses:

Robt L. Fenwick

Charlyle Fennick.

Inventor:

John B. Swater
by his Atty
Marion Fenwick Lawrence

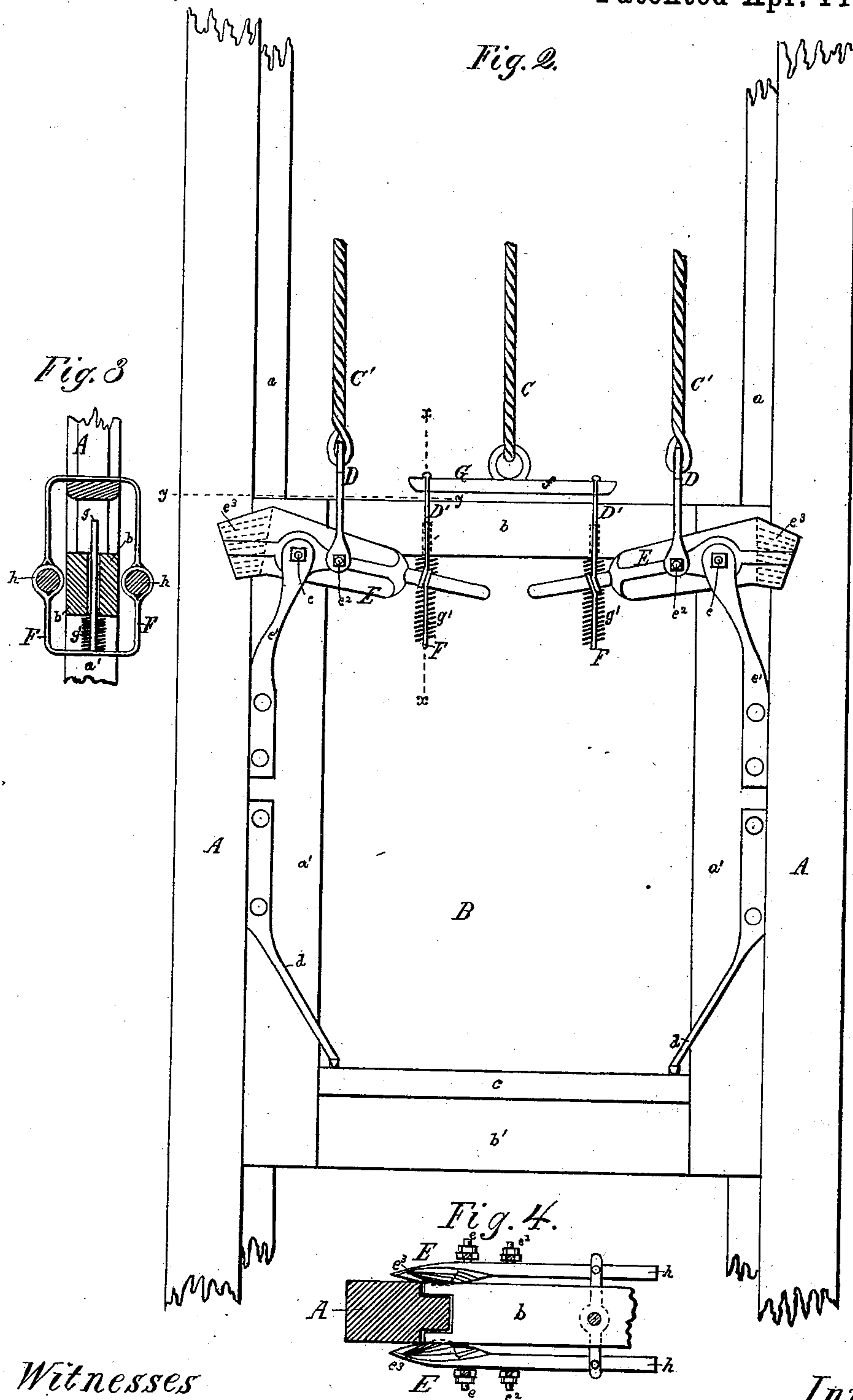
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UNITED STATES PATENT OFFICE.

JOHN B. ATWATER, OF CHICAGO, ILLINOIS, ASSIGNOR TO PETER J. SINGER,
OF SAME PLACE.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 256,111, dated April 11, 1882.

Application filed February 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. ATWATER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Elevators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings and letters of reference marked thereon, like letters indicating the same parts throughout the figures.

Figure 1 is a perspective view of my improved elevator, the same being represented with the several parts in the position they will maintain while the cab is in the act of ascending. In this view the main elevator-posts are broken away above and below the cab, as shown. Fig. 2 is a front elevation, showing the locking mechanism in action for the purpose of arresting the descent of the cab. Fig. 3 is a detail section through the cross-head of the cab or cage in the line *xx* of Fig. 2. Fig. 4 is a detail horizontal section in the line *yy* of Fig. 2, looking downward.

The object of my invention is to provide an elevator which can be worked either with one cable or with two cables at option, and in which broad-jawed lever-stops are employed to arrest the descent of the cab in case the cable or cables should become broken.

In the drawings, *A A* are the main posts, between which the cab or cage moves up and down, when in operation, upon ways *a a*, projecting from the posts, which ways enter grooves cut in the side pieces, *a' a'*, of the cab *B*, as shown. The side pieces, *a' a'*, are framed together by a cross-head, *b*, at top and a cross-beam, *b'*, at bottom, upon which the floor *c* of the cab rests, and is held in position by braces *d*, applied to the floor *c*, and side pieces, *a' a'*, as indicated in Figs. 1 and 2.

E E are metal lever-jaw stops applied upon opposite sides of the cross-head *b*, and held in position by bolts *e*, upon which they articulate, which bolts pass through the cross-head *b*, and are secured to metal supports *e'* upon the side pieces, *a' a'*, of the cab, as shown. The stops *E* are provided with pintles, as at *e²*, around which the lower ends of draw-bars,

as at *D*, are applied, and secured by screw-nuts, as indicated in Figs. 1, 2, and 4.

F F are spring-bars, the upper limbs of which extend up on either side of the cross-head *b* and terminate in eye portions, through which the handles *h* of the stops *E* pass, as represented in Figs. 1, 2, and 3. Connected with these bars, and projecting upwardly therefrom, are draw-pins *g*, which pass freely through the draw-head *b*, as clearly shown in Figs. 1 and 3, and around these pins powerful coil-springs *g'* are confined by having their upper ends abut against the under side of the cross-head *b*, while their lower ends abut against the lower portion of the spring-bars *F*.

G represents a lifting-frame for a center cable, *C*, and is composed of an upper portion, as at *f*, having a ring therein, to which the lower end of the cable is fastened, and near its ends is provided with draw-bars *D'*, which, like the spring-bars *F*, have eye portions at their lower ends, through which the handles *h* of the jawed levers *E* pass, as shown. The levers *E*, from the point where the bolt *e* passes through them to their outward extremities, are made of tapering or wedge-like form longitudinally, and also of tapering or wedge-like form in cross-section, this latter beveled or tapered portion having its diameter constantly increasing from the top to the bottom portion of the jaws *e³*. The inner or working face of the jaws *e³* is constructed with downwardly-projecting teeth (indicated in dotted lines in Fig. 2,) which teeth engage with the posts *A* when the lever-jaws *E* are thrown from their position shown in Fig. 1 to their position shown in Fig. 2, while the wedge-formed portion of the jaws *e³* at the same time jams against the posts.

By the construction shown it will be seen that my improved elevator may be worked either by a single cable, *C*, or by the two cables *C' C'* at option. If it is preferred to work with a single cable, *C*, the cables *C' C'* and draw-bars *D* may be dispensed with, and if it is preferred to work with the two cables *C' C'* the cable *C* and the frame *G*, with draw-bars *D'*, may be dispensed with.

In Fig. 1 the cab *B* is represented as in the

act of being elevated—say by the cable C. In this act the cable, drawing upon the frame G, causes its draw-bars D' to in turn draw upon the handles *h* of the jawed levers E, which handles in turn draw upon the spring-bars F F, thereby compressing the springs *g'* against the under side of the cross-head *b*, and thus lifting the cab. This act of lifting the cab causes the outer extremities of the levers E to assume their positions shown, and with the lower edge of the jaw portions *e*³ brought between the posts A A, as in Fig. 1, while their tapered ends will be free from contact with said posts, as signified in Fig. 4. If, while being so elevated, the cable C should break in twain, the springs *g'* will instantly expand from their compressed position shown in Fig. 1 to their normal expanded condition shown in Fig. 2, thereby depressing the spring-bars F F and handles *h* of the levers E from their positions shown in Fig. 1 to their positions shown in Fig. 2. This act causes the wedge-shaped or tapered jaws *e*³ to swing outwardly from their positions shown in Fig. 1 to their positions shown in Fig. 2, thereby jamming and gripping against the posts A A, the weight of the cab assisting to force the jaws *e*³ firmly against the posts and seat the teeth of the jaws therein, thus arresting the descent of the cab.

It is manifest that if the elevator should be worked by the cables C' C' instead of the cable C, and either one or both of the cables should part, the action of the jawed levers affected by such parting would be the same as above described.

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

1. An elevator having mechanism, as described, for arresting the sudden descent of its cab, constructed to work in connection either with one cable or with two cables, substantially as described.

2. In combination with the power-spring mechanism, as at *g'*, the jawed levers E, provided with a handle, *h*, extended beyond their axis of articulation, whereby either two cables or a single cable can be used, substantially as described.

3. The jawed lever E, applied to the cab B, and having longitudinal and transverse wedging or tapered bearing-surfaces, in combination with one or more cables and a power-spring mechanism, substantially as and for the purpose set forth.

JOHN B. ATWATER.

Witnesses:

R. W. HOLTON,
CHAS. S. READ.