

(No Model.)

F. C. ROBERTS.
ELEVATOR SAFETY STOP.

No. 360,483.

Patented Apr. 5, 1887.

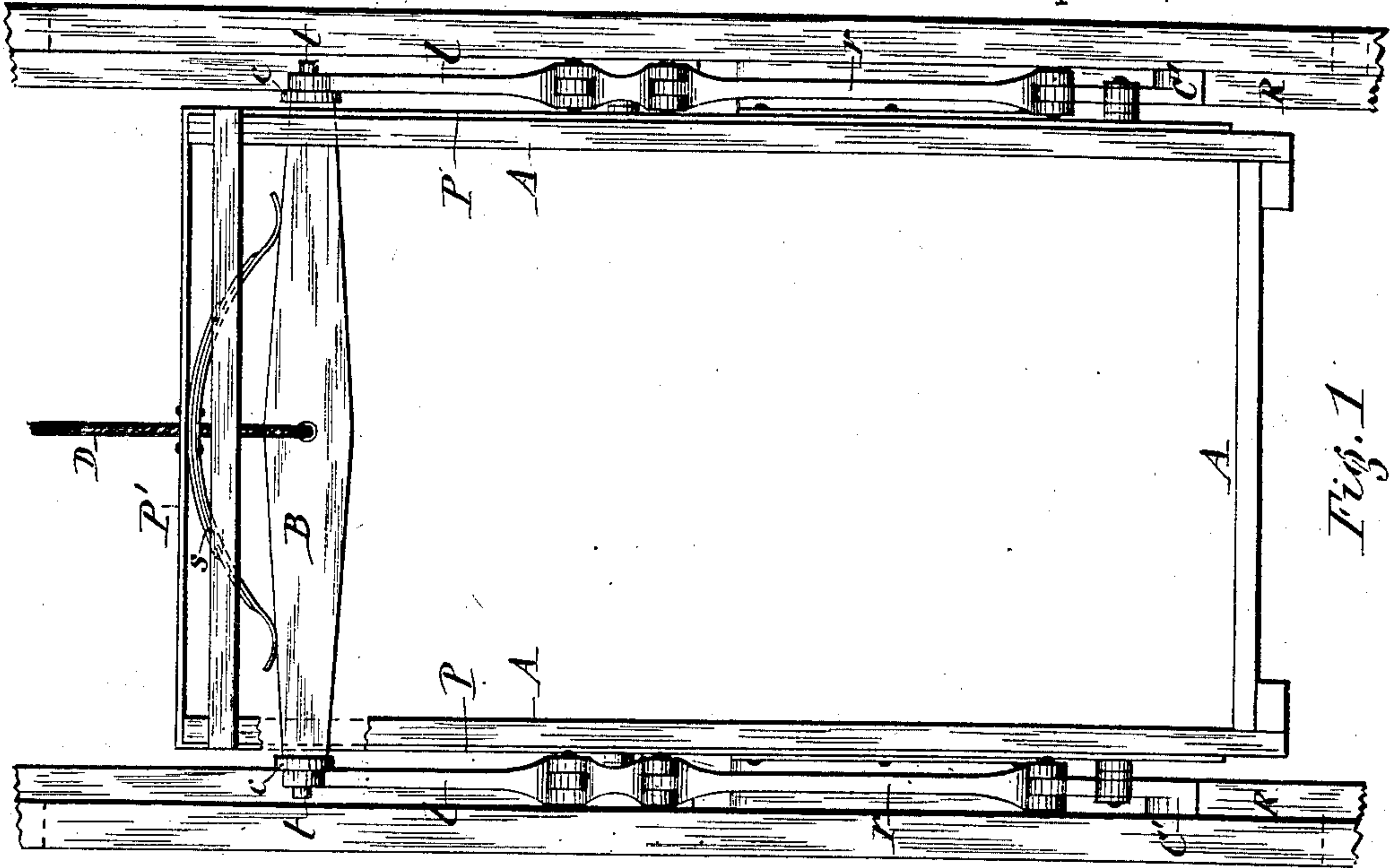


Fig. 1

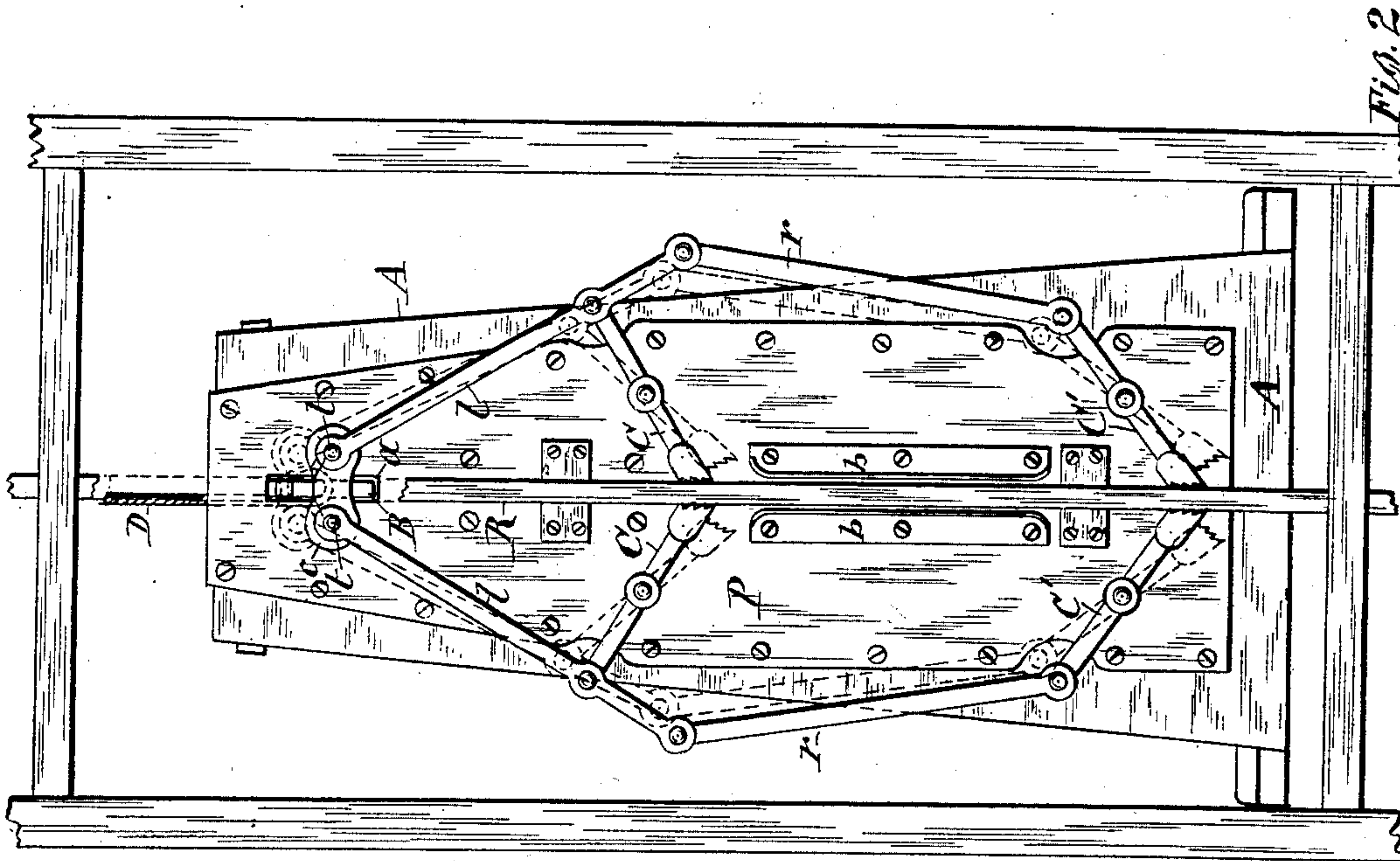


Fig. 2

WITNESSES:

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BY

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UNITED STATES PATENT OFFICE.

FREDERICK C. ROBERTS, OF MOHAWK, NEW YORK, ASSIGNOR OF ONE-HALF
TO DANIEL P. VAN COURT, OF SAME PLACE.

ELEVATOR SAFETY-STOP.

SPECIFICATION forming part of Letters Patent No. 360,483, dated April 5, 1887.

Application filed January 10, 1887. Serial No. 223,976. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK C. ROBERTS, of Mohawk, in the county of Herkimer, in the State of New York, have invented new and useful Improvements in Elevator Safety-Stops, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to safety-stops designed to arrest the descent of the elevator-car in case of accidental disrapture of the elevating-cable or breakage of the elevating mechanism.

The invention consists in an improved and a more secure attachment of the safety-stop to the elevator-car, as hereinafter more fully explained, and specifically set forth in the claim.

In the annexed drawings, Figures 1 and 2 are respectively front and side elevations of an elevator-car and adjacent portions of the guide-rails embodying my invention.

A represents the wooden car-frame, which may be of any suitable construction. To the exterior of the sides of said frame I rigidly secure metallic plates P P, which are united or formed in one piece with a plate, P', extended across the top of the car-frame, as shown in Fig. 1 of the drawings, said plates serving to impart the requisite stability to the car-frame.

Underneath the top plate, P', is the lift-beam B, extended across the car and projecting with its ends through the frame and through vertical slots *a a* in the metallic plates P P.

D denotes the lifting-cable, by which the car is suspended, and *s* is a spring interposed between the top plate, P', and lift-beam B, to relieve the cable and car from jars when starting and stopping the car.

R R represent the stationary vertical guide-rails at opposite sides of the car, and *b b* are guides secured to the metallic plates P P at the front and rear of the guide-rails R R, the car being thereby guided in its movements.

C C and C' C' represent two sets of clutch-arms, pivoted intermediate their length on the outer sides of the plates P P, and arranged with the clutch-arms of each set at opposite sides of the guide-rails R R, one of said sets of clutch-arms being connected to the plate P some distance above the center of the height of the car and constituting the main clutch-arms, and the other set being connected to the lower part of the plate P, and serving as aux-

iliary or supplemental safety-clutch arms, the inner ends of said arms being provided with serrated faces, by which they are adapted to grip between them the guide rail R, as illustrated by full lines in Fig. 2 of the drawings.

To each of the protruding ends of the lift-beam B is firmly secured a plate, *c*, from which project trunnions *t t*, and on these trunnions are hung the levers *l l*, which are pivoted to the outer ends of the main clutch-arms C C, some distance from the lower extremities of the said levers. To the said extremities of the levers *l l* are connected the upper ends of rods *r r*, the lower ends of which are connected to the outer ends of the auxiliary or supplemental safety-clutch arms C' C'.

The effect of the described clutch-arms and their connection with the lift-beam B is that in case of accidental disrapture of the cable D the lift-beam, with the levers *l l* and rods *r r*, drops and throws the clutch-arms into engagement with the guide-rails R R, and thereby arrests the descent of the car, thus preventing serious results from such accidents.

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

In combination with the guide-rails R R and car-frame A, the metallic plates P P, secured to opposite sides of the car-frame and united with the cross-plate P' at the top and provided with the slots *a* in the sides, the lift-beam B, projecting through said slots, the spring *s*, interposed between the lift-beam and cross-plate P', the clutch-arms C C and C' C', pivoted intermediate their lengths on the plates P P at opposite sides of the guide-rails R, the levers *l l*, hung on the ends of the lift-beam and connected to the outer ends of the clutch-arms C C, and the rods *r r*, connecting the lower ends of the levers *l l* with the outer ends of the clutch-arms C' C', all constructed and combined substantially in the manner specified and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Herkimer, in the county of Herkimer, in the State of New York, this 13th day of December, 1886.

FREDERICK C. ROBERTS. [L. S.]

Witnesses.

FRANCIS E. EASTON,
GEO. F. SMALL.