

(Model.)

2 Sheets—Sheet 1.

J. C. SOULEYRET.

SAFETY ELEVATOR.

No. 369,748.

Patented Sept. 13, 1887.

Fig. 1.

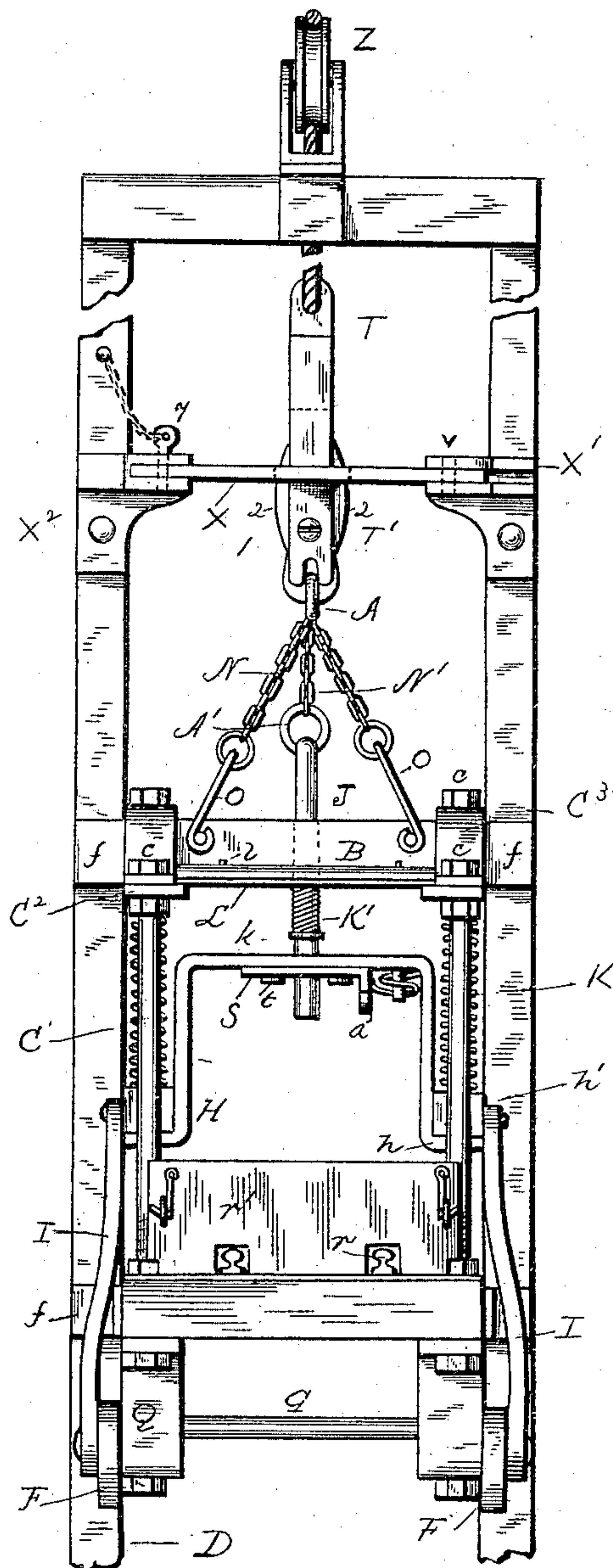
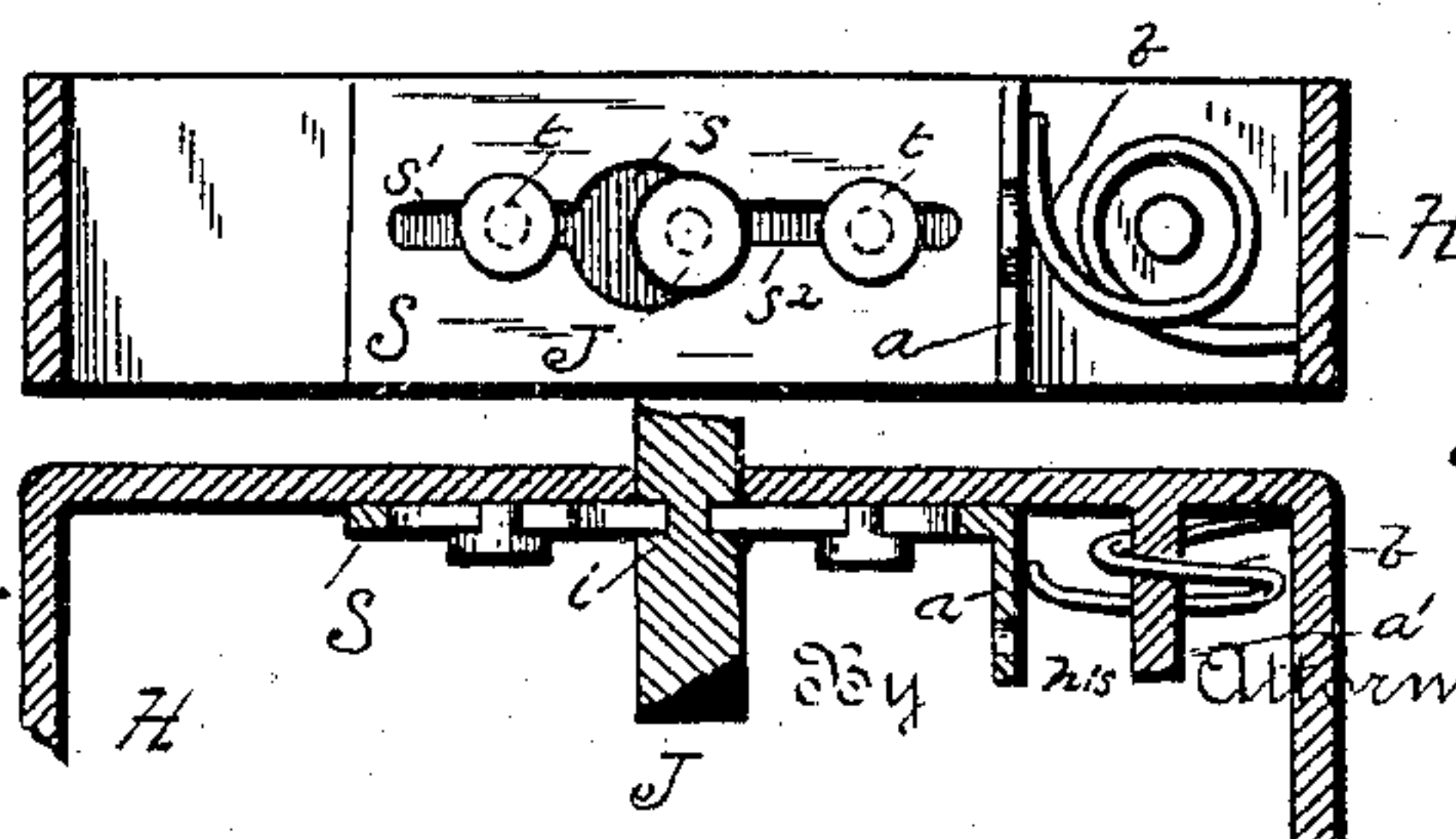


Fig. 2.



Witnesses
H. A. Smith
H. Rickford

Inventor
George C. Souleyret.

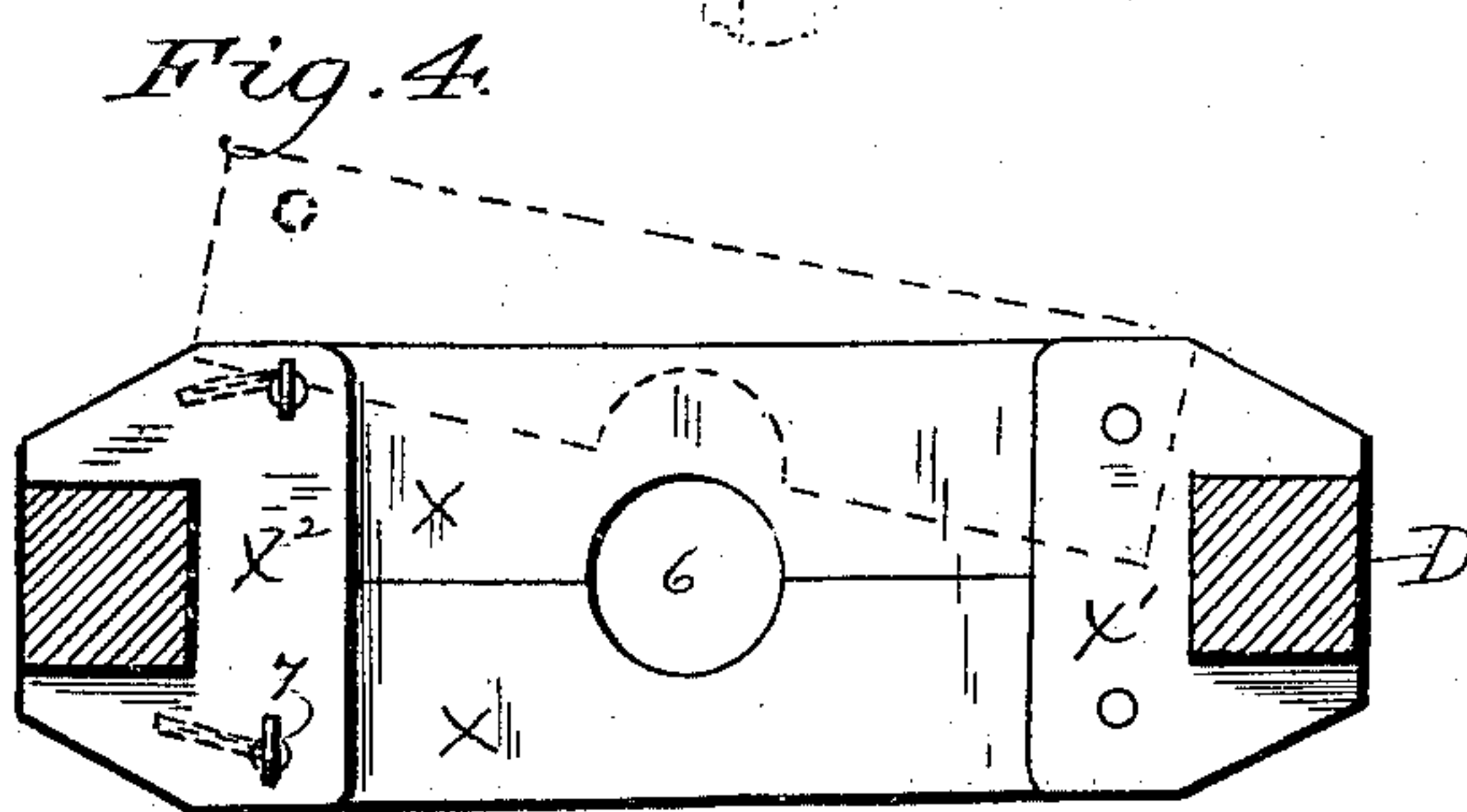
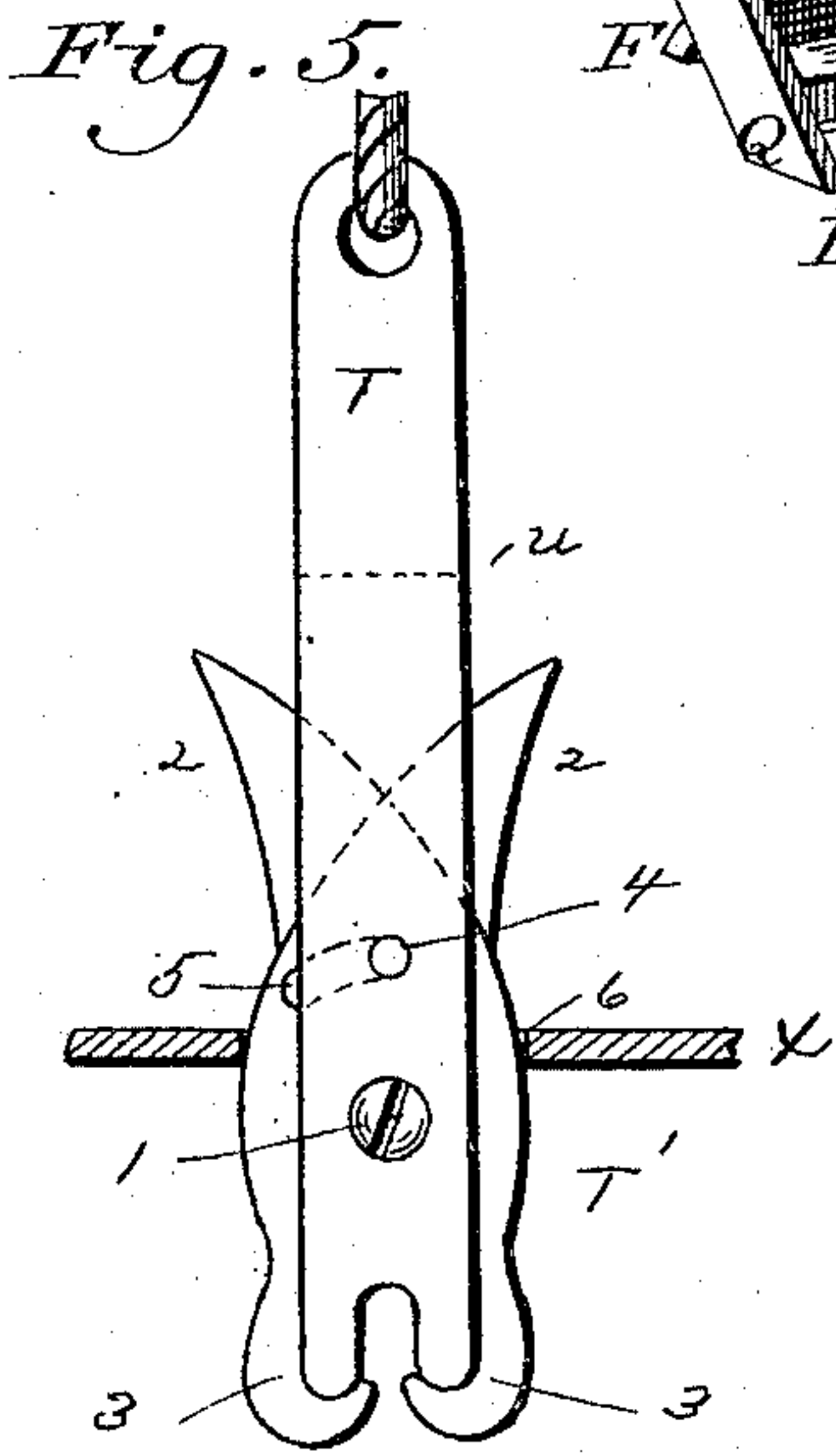
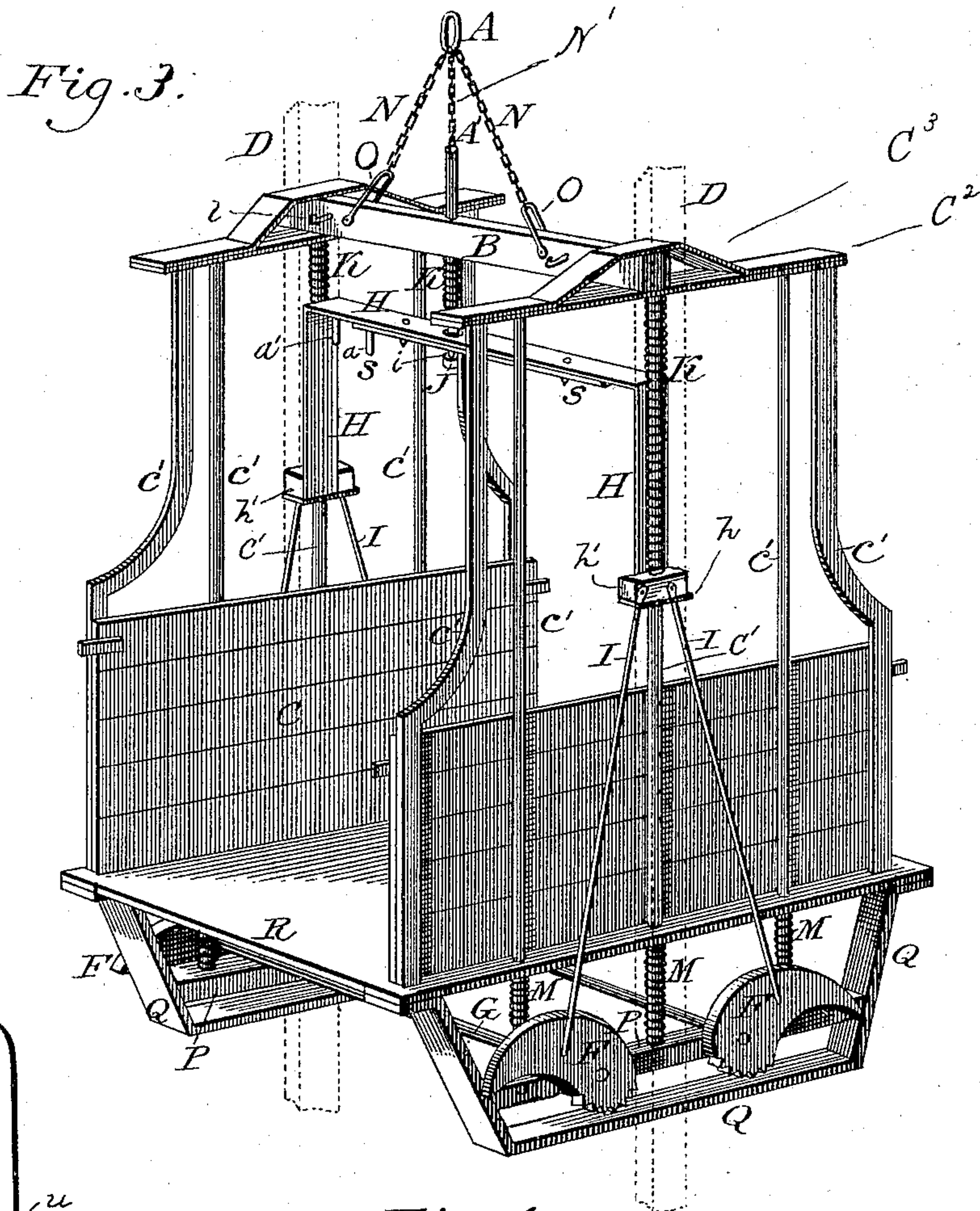
Attorney
W. C. Morgan.

J. C. SOULEYRET.

SAFETY ELEVATOR.

No. 369,748.

Patented Sept. 13, 1887.



Witnesses:
J. L. Ferrier
Barth Morham

Inventor:
Jerome C. Souleyret
per W. C. Craig

UNITED STATES PATENT OFFICE.

JEROME CASMIR SOULEYRET, OF JELICO MINES, (NEAR NEWCOMB,) TENNESSEE.

SAFETY ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 369,748, dated September 13, 1887.

Application filed June 5, 1885. Serial No. 167,776. (Model.)

To all whom it may concern:

Be it known that I, JEROME CASMIR SOULEYRET, a native of France, with declared intention of becoming a citizen of the United States, residing at Jellico Mines, near Newcomb, county of Campbell, State of Tennessee, have invented certain new and useful Improvements in Elevators; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide devices for stopping the descent of the car when the rope breaks, or whenever desired by those in the car; also, to prevent the ascent of the car to the pulley whenever the engine gets beyond control.

The nature of my invention will be described below, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation, the guide-posts broken away to shorten the distance. Fig. 2 is a plan view of the under side of the sliding frame-top, and also a vertical section showing the manner of operating the slide in connection with the spring-pin. Fig. 3 is a perspective view of the car, some parts removed. Fig. 4 is a detached plan view of the safety-hook opener. Fig. 5 is a side elevation of the safety-hook open to release the car from the rope.

Like letters refer to like parts.

C is the car. Beneath the floor R, which may have rails and end guards, r r' , is a rigid framing, P Q. From the bars P and the floor R extend up side rods, C', terminating in top pieces, C² C³, and said rods may be fastened by nuts c.

B is the top cross-beam held firmly between parts C² C³, and is provided with staples O, from which chains N extend to a ring, A, which attaches to the safety-hook. To prevent broken rope, &c., from falling upon the occupants of the car, top guards or roof-plates, L, of metal, may be attached to hooks l on beam B. To deaden the fall when the car stops suddenly, cushion-springs M are arranged about the bot-

tom of rods C', said springs extending from the floor R to bars P.

H represents the sliding frame within the car proper. The lower terminations, h, form a shelf upon which rest metal blocks h', and from the latter operating-rods I extend down to toothed cam-clutches F, which engage with the guide-posts D in the shaft when properly operated. Said clutches are affixed to axles G, journaled in bars P. I prefer to have the clutches cam-shaped, as the greater the pressure on them the harder will be the grip, and by attaching them to axles the action of each will be positive and uniform, insuring safety.

Surrounding the central rods, C', and extending from blocks h' to the top pieces, C², are strong spiral springs K, whose obvious purpose is to operate clutches F when allowed to expand. From ring A depends a shorter chain, N', connecting with ring A' in pin J. The latter extends through beam B and the top of frame H, and between them is encircled by a spiral spring, K', the bottom of which rests on a washer, k. (See Fig. 1.)

It is obvious that the force of the compressed side springs and some of the weight of the car comes upon frame H, and there must be a secure method of holding the latter up. To this end the pin J has a circular groove, i, (see Fig. 2,) and on the under side of the frame-top is a slide, S. This has a central port or opening, s, from which extend lateral slots s' s², guide-pins t, passing through them, and also fastening the slide to the frame-top, as they have disk-heads wider than slots s' s². One end of the slide depends to form a hand-piece, a, which is perforated for the attachment of a handle, if desirable. Between piece a and one side of frame H is arranged, about a spindle, a', a spring, b. The normal action of this is to hold the slide in such a position that the port s will not register with the pin J. Therefore the frame will be held up and the strain of the pin and the downward pressure of the frame will come upon the groove i and the slide. If the rope breaks, of course the frame is released and the clutches operate instantly; but there are times when it is desirable to stop the descent of the car when the rope is intact. To do this it is only necessary to push the

slide against the spring until the port *s* registers with the pin, after which the frame will be released and pushed down by the side springs. The falling frame will leave pin-groove *i* somewhat above it; but as the rope slackens spring *K'* pushes down pin *J* until groove *i* comes in line with slot *s*², when spring *b* will push the slide back to the place it formerly held. However, when the rope breaks, there is no longer any pull on the pin, and spring *K'* would push the groove *i* below the frame-top, and when the rope again lifted the car the pin would draw up until the slide-slot *s*² sprung into groove *i*, and locked the pin to the slide again. The car is guided and kept from swaying by clips *f*, which extend on either side of the guide-posts.

To the lower end of the hoisting-rope is attached a bar, *T*, vertically chambered or slot-
 20 ted up to the dotted line *u*. In this chamber, fastened by pivot 1, are two elliptical wings, 2, one back of the other, which together form the safety-hook *T'*. The lower ends of the wings have a semicircular cut-away, 3. When these
 25 are closed, a circular seat is formed, securely holding ring *A*, but when open the ring is free to drop. (See Fig. 5.) To prevent the wings from opening entirely out of the bar, there is a transverse pin, 4, and each wing has a guide-
 30 slot, 5, only one of which can be shown in Fig. 5. To prevent the car from striking the pulley *Z*, if the engine should get beyond control, I place between the posts *D*, at any desired loca-
 35 tion, shelves *X*, hinged at *v* between bracket-plates *X'*, the other end fastened between opposite and corresponding plates, *X*², by removable pins 7. Each shelf has a semicircular cut at its inner side, and when brought together a circular opening, 6, is formed.

40 In Fig. 1, if the bar *T* were drawn any higher the sides of the wings would impinge on the opening 6 and open, as in Fig. 5, instantly releasing ring *A*. To recover the hook, it is only necessary to open one of the shelves and
 45 let it descend, when it may be fastened to the ring by bringing the wings together. In

regard to chain *N'*, it is desirable that its length should be regulated to the proper working of the springs *K K'*, which can be ascertained by trial.

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

1. The combination, with the car, of the sliding frame, the side springs arranged on the independent side rods, the blocks at the base of the springs, the operating-rods attached to said blocks and to the clutches, the said clutches, whose axles extend across the car below the floor, and the guide-posts, as set forth.

2. The combination, with the car, of the sliding frame and the spring-actuated clutches, substantially as shown, the slide, constructed substantially as described, the grooved spring-pin, and its attaching-chain, as set forth.

3. The combination, with the car, of the sliding frame operating the clutches and having depending pins *t*, substantially as shown, the slide *S*, having port *s*, slots *s'* *s*², hand-piece *a*, and spring *b*, the spring-pin *J*, and the chain *N'*, as set forth.

4. The combination, with the attaching-chains, of the car, the sliding frame, and the clutches, operating substantially as shown, the safety-hook *T'*, composed of wings 2, pivoted at 1 and having circular cut-aways 3, the chambered bar *T*, the hoisting-rope, and the shelves *X*, having opening 6, as set forth.

5. The combination, with the guide-posts, of the hinged shelves *X*, having opening 6, the chambered bar *T'*, attached to hoisting-rope and having transverse pin 4, the slotted wings 2, pivoted to said bar and having circular cut-aways 3, the ring *A*, the chains *N N'*, connecting with the car and spring-pin, the said car, and the sliding frame operating the clutches, substantially as shown, as and for the purpose set forth.

J. CASMIR SOULEYRET.

Witnesses:

JOSEPH L. FERRIER,
 EDGAR C. MOXHAM.