

(No Model.)

2 Sheets—Sheet 1.

A. R. HOLDER.
ELEVATOR.

No. 486,161.

Patented Nov. 15, 1892.

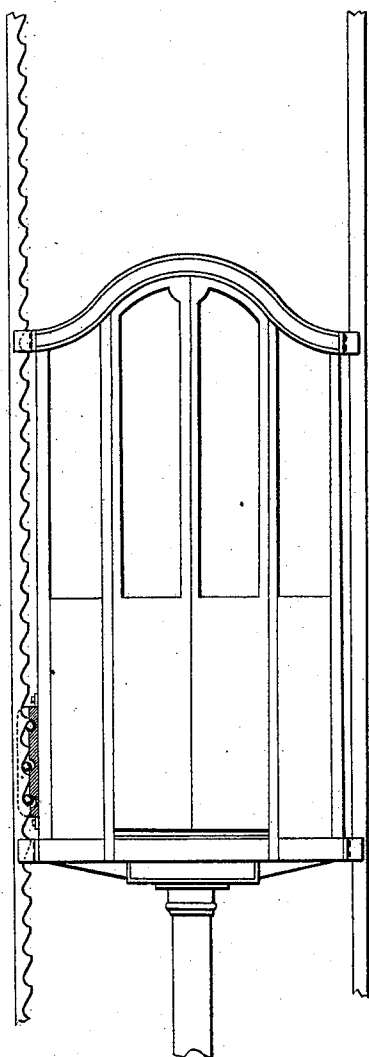


Fig. 1.

Witnesses:

Gales P. Moore
Edwin C. C.

Inventor

Alfredo Ramoneda Holder

by

Richards & Co.
attys

(No Model.)

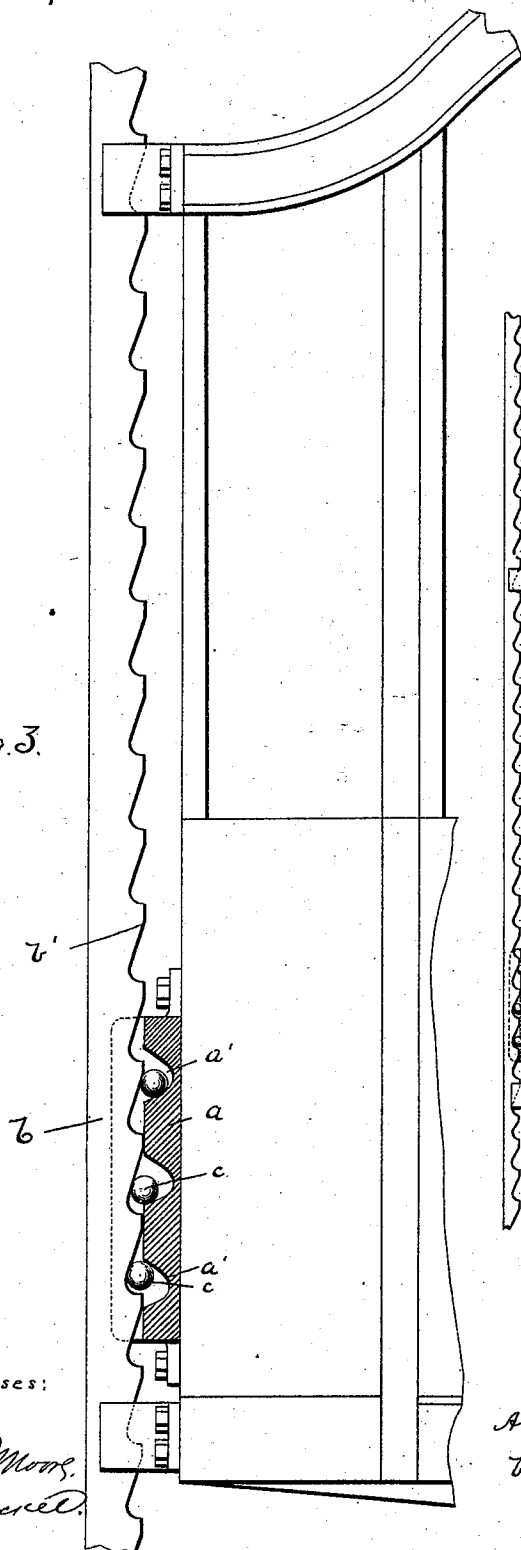
2 Sheets—Sheet 2.

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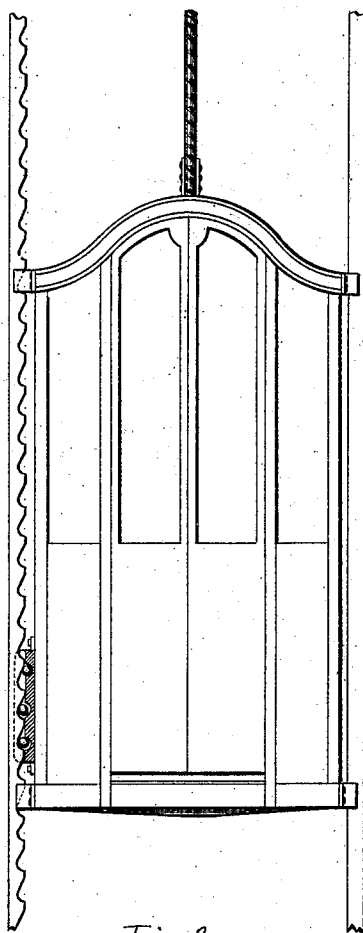
Fig. 3.



Witnesses:

Gallo P. Moore.
E. A. Finckel.

Fig. 2.



Inventor:

Alfredo Ramoneda Holder.

by

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UNITED STATES PATENT OFFICE.

ALFREDO RAMONEDA HOLDER, OF BARCELONA, SPAIN, ASSIGNOR TO THE
SOCIETY EDOUX ET CIE., OF PARIS, FRANCE.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 486,161, dated November 15, 1892.

Application filed September 4, 1891. Serial No. 404,703. (No model.) Patented in Spain February 14, 1891, No. 11,688.

To all whom it may concern:

Be it known that I, ALFREDO RAMONEDA HOLDER, a subject of the King of Spain, and a resident of Barcelona, in the Kingdom of Spain, have invented certain new and useful Improvements in Elevator-Brakes, (patented in Spain, February 14, 1891, No. 11,688,) of which the following is a full, clear, and exact description.

This invention relates to elevator-brakes, and has for its object a simple and efficient brake device, dispensing with the lever and pawl appliances heretofore employed.

In the accompanying drawings, forming part of this specification, Figure 1 is a detailed elevation of an elevator car and guides, a portion being shown in section to more clearly illustrate my invention. Fig. 2 is a like view, the parts being represented in a slightly-different position; and Fig. 3 is an enlarged detail view more clearly showing my improvements.

My improved elevator-brake is composed of two parts: a movable part *a*, fixed to the car and moving with the same, and a stationary part *b*, secured on one of the guides or rails in the elevator-shaft. The movable part *a* consists of a box-like casting provided with a series of cavities or recesses *a'*, in each of which is a sphere or ball *c*. The diameter of each sphere is substantially equal to the area of the cavity in which it is located. The stationary part *b* is provided on its inner side with a series of rack-teeth *b'*, extending through its length, and the recesses or notches presented by these teeth are of a depth equal to or about the diameter of each of the spheres. The walls of said notches or recesses are inclined, the inclination, like those of the recesses of the movable piece, being determined by previous calculation, so as to control or regulate in advance the degree of speed at which the car will be normally capable of. For instance, the parts being in the position shown, it is obvious that as long as the car

descends at a speed not exceeding a determined degree of velocity each sphere will by its own weight follow the movement of the car and pass alternately from the recess in the movable part with the corresponding recess in the rack, and vice versa, thereby in no way interfering or obstructing the descent of the car. Should, however, the degree of descent exceed the determined limit, each sphere would not have sufficient time to pass from one recess into the other, and hence would become wedged between the upper wall of the cavity of the movable part and the lower wall of one of the notches in the rack. It is quite apparent, therefore, that such a safety device can always be relied upon and is of very simple character. Furthermore, it does not have the objections incident to those arrangements wherein the rupture of the suspending-cable is relied upon to throw the brake appliance into operation, for in the latter class of devices the too-free unwinding of the drum at the time when the car is rapidly descending would prevent the safety appliances from being actuated.

I claim—

In a safety device for elevators, the combination of a fixed rack provided with recesses, a recessed casting secured to the side of the car, and a loose sphere located in the recess of said casting and adapted when the elevator descends at a normal degree of speed to alternately pass from the recess in the casting to those in the rack, and vice versa, but to become wedged between the walls of the casting and rack when the descent of the car becomes excessive, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALFREDO RAMONEDA HOLDER.

Witnesses:

JOSÉ PLAYÁ SUÑÉ;

HERBERT W. BOWEN,

U. S. Consul.