(No Model.)

A. GALLINANT.

REGULATOR FOR CONTROLLING THE DESCENT OF ELEVATOR CARS.

No. 287,922. Patented Nov. 6, 1883.

Fig: 1.

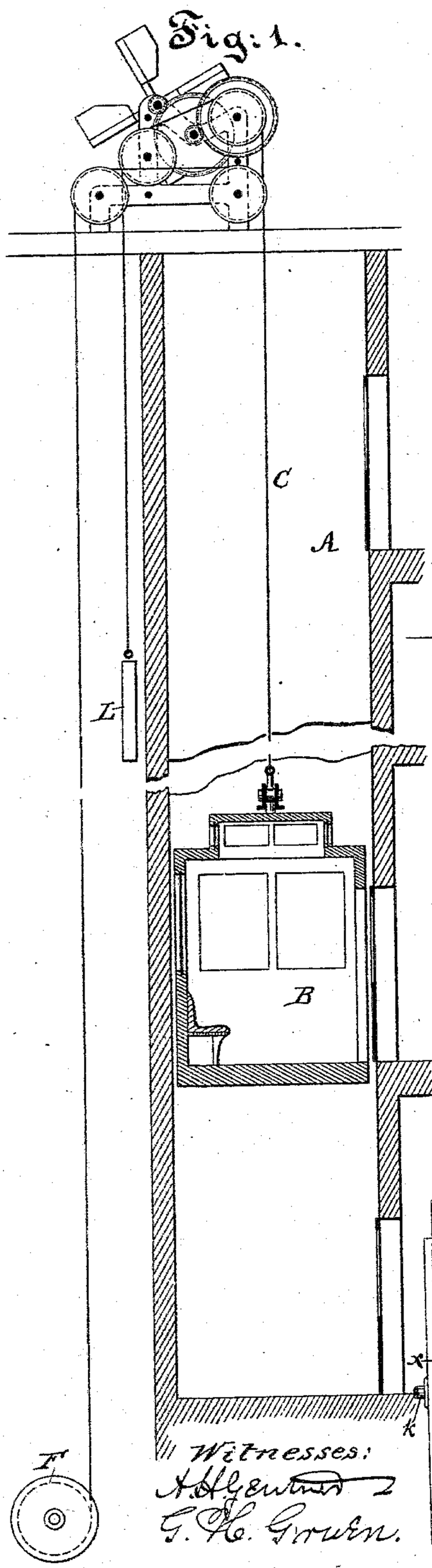


Fig: 2.

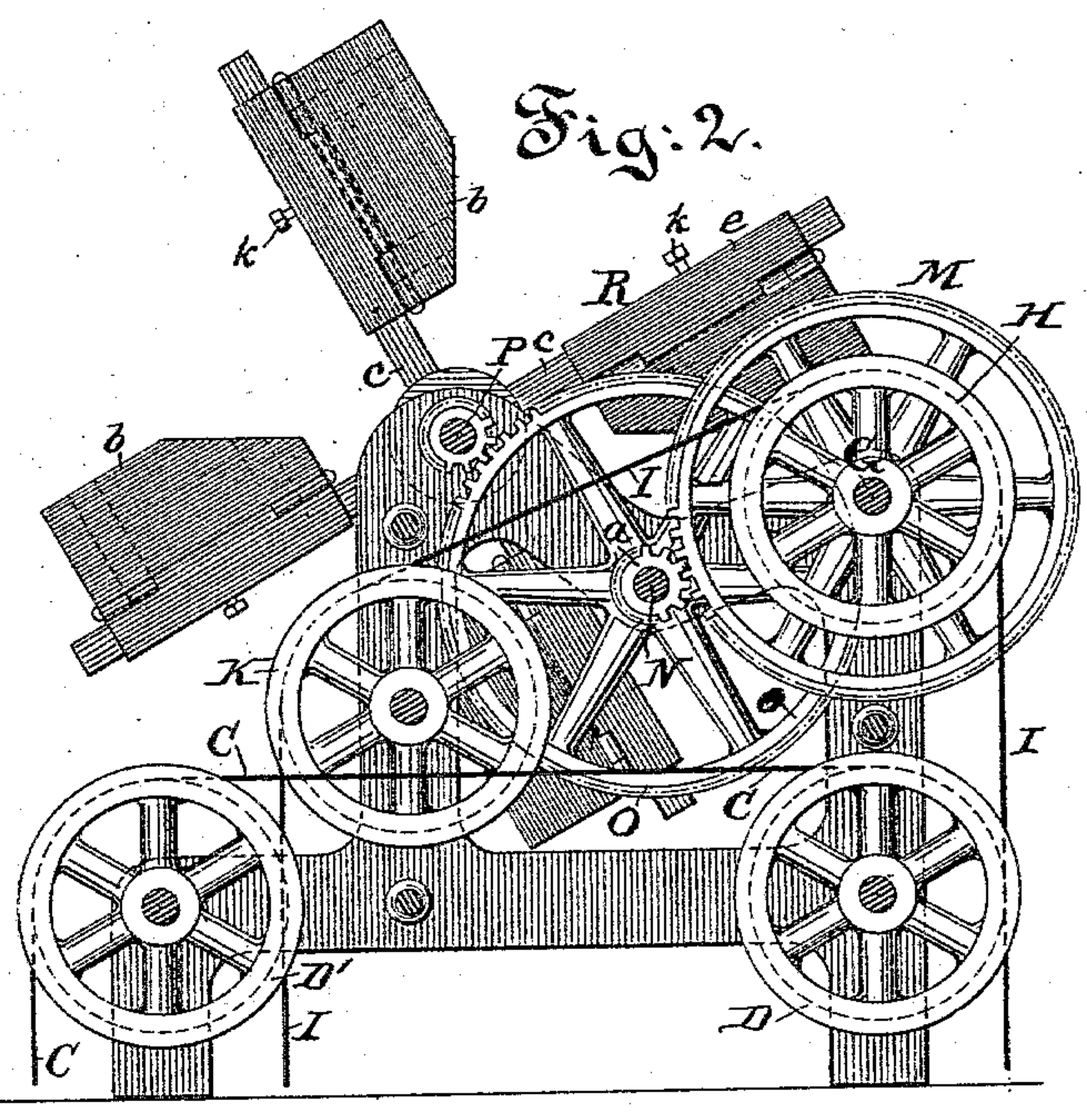


Fig: 3.

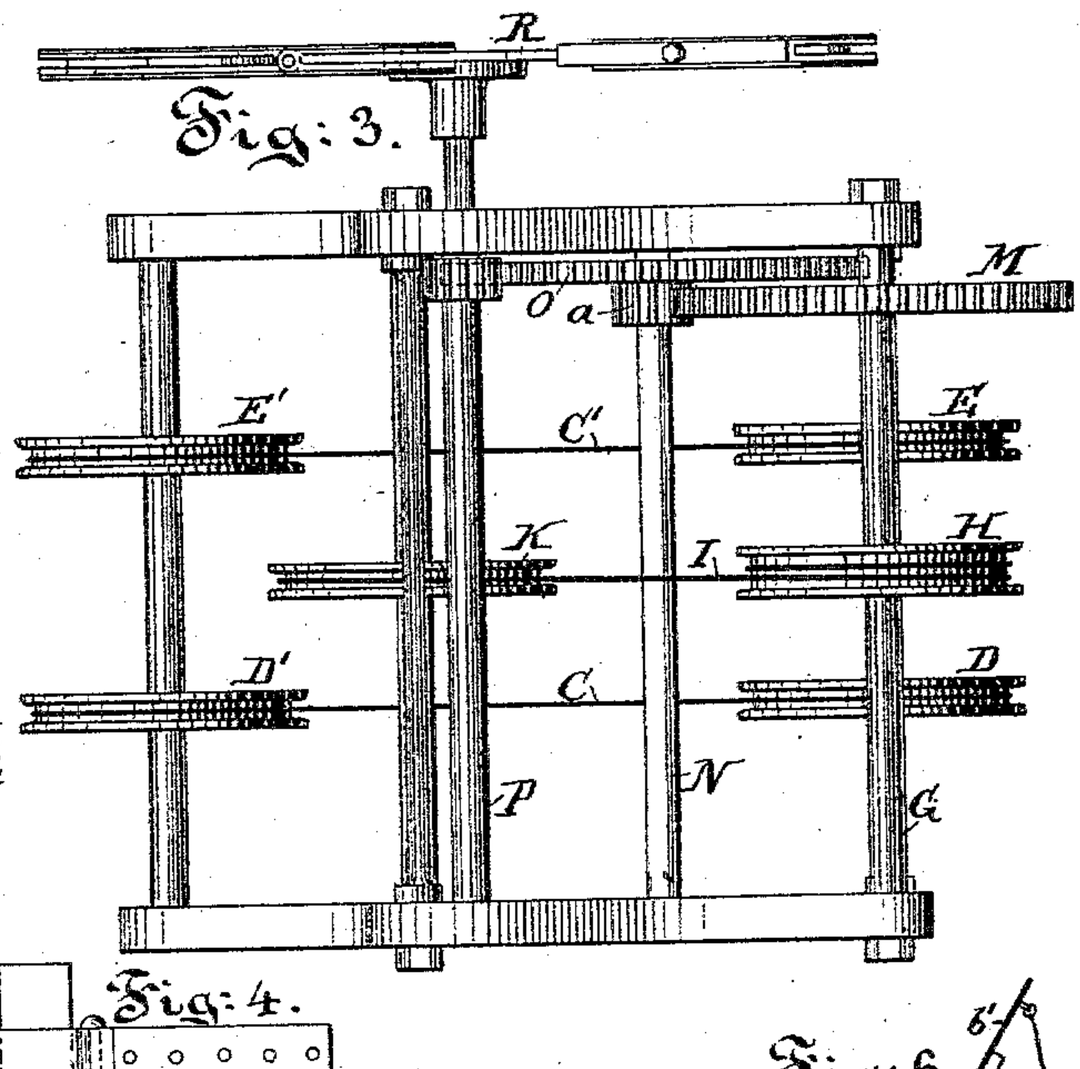


Fig: 4.

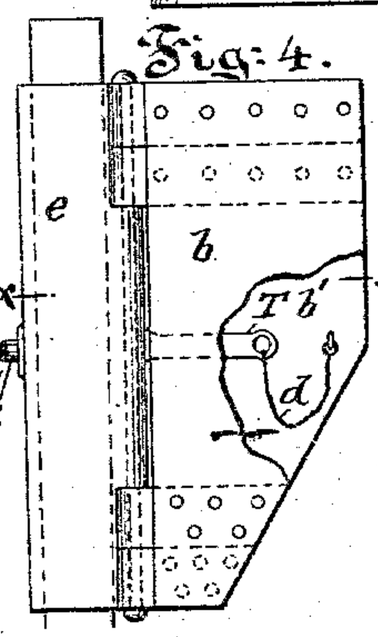
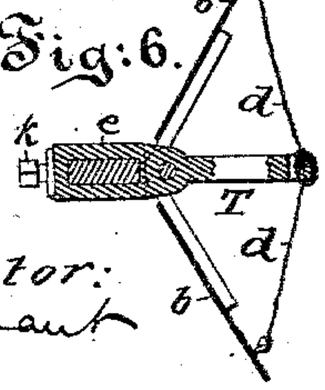


Fig: 5.

Fig: 6.



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UNITED STATES PATENT OFFICE.

ADOLPHE GALLINANT, OF ROSLYN, NEW YORK.

REGULATOR FOR CONTROLLING THE DESCENT OF ELEVATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 287,922, dated November 6, 1883.

Application filed August 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, ADOLPHE GALLINANT, a citizen of the Republic of France, but for past nine years a resident of the United States, and now residing at Roslyn, in the county of Queens and State of New York, have invented a new and useful Regulator for Controlling the Descent of Elevator-Cars, of which the following is a specification, reference being had to the accompanying drawings and the letters and figures marked thereon.

My invention relates to a mechanism for controlling the velocity of the descent of elevator-cars; and it consists, essentially, of a fan-like regulator mounted on a shaft which is geared in train with a drum, over and around which one of the car-supporting ropes is made to pass.

Prior to my invention it has been customary to provide some mechanical means for stopping the car at once in case of the breaking of the ropes; but this sudden stoppage of the car is decidedly objectionable, in that the mechanism employed for that purpose is subjected to a sudden and violent strain, and is liable to break and the car fall; but with my improved regulator this objection is avoided, and in case of the breakage of the hoisting-ropes or its operating mechanism the car would drop to the bottom of the hoistway at a safe and easy rate of speed, and all danger of breakage would be avoided.

In the accompanying drawings, Figure 1 is a view, partly in section, of an elevator-car arranged to be operated by my improved hoisting and regulating mechanism. Fig. 2 is a side view, on an enlarged scale, of the mechanism located at the top of the hoistway. In this view the side frame has been removed. Fig. 3 is a plan view of the same. Fig. 4 is a side view, partly in section, of one arm of my regulator. Fig. 5 is a sectional view taken on line *x x*, Fig. 4, showing the leaves of the fan closed; and Fig. 6 is a similar view, showing the leaves of the fan open.

Similar letters refer to similar parts throughout the several views.

A represents the hoistway in which the car B rides, said car being guided in any of the well-known ways.

C C′ are the hoisting or lifting ropes, which are secured to cross-head of the car, and pass over the pulleys D and D′, and E and E′, respectively, and thence down to the drum F, which drum, it will be understood, is so arranged as to be actuated by the power employed for raising the car.

The engine or power employed for driving the drum F is controlled, in the ordinary manner, by a rope which is always within reach of the elevator attendant; but as such controlling mechanism forms no part of my invention, I have not thought it necessary to illustrate the same in my drawings.

In order to prevent the drop of the car to the bottom of the hoistway in case of breakage of the hoisting-ropes C C′ or of any part of the hoisting apparatus, I employ the following-described mechanism:

A shaft, G, which is journaled in the frame supporting the rollers D D′ and E E′ in a plane above that in which the shafts of said pulleys are mounted, carries a drum or pulley, H, around which a rope or cable, I, is passed two or more times. One end of this rope or cable I is secured to the cross-head or any other part of the car B, which is separate from the other two cables, and from that point the rope passes up and around the pulley H, as described, and thence to and over a pulley, K, and carries a weight, L, on what might be termed its "free" end. This weight L is not intended for a counter-balance, and simply acts to maintain the frictional contact between the rope I and the drum or pulley H.

A large gear-wheel, M, which is carried by the shaft G, meshes with a pinion, *a*, on a shaft, as N. This shaft N in turn carries a large gear-wheel, O, which meshes with a second pinion on a shaft, P, upon which shaft there is mounted a fan, as R. This fan R is preferably constructed with four arms, as shown in the drawings, although the number of arms may be changed should it be deemed desirable. Each arm of this fan is provided with two wings, as *b b′*, which are so hinged or secured to the arms *c c* that when the elevator-car is descending they will spread out, as shown in Fig. 6, and by their impact against the surrounding atmosphere regulate the velocity of the descent of said car, while when the car is being raised they occupy the position shown

in Fig. 5, in which position they offer no resistance to the raising of the car.

In order to prevent too great a spread of the wings *b b'*, I attach to each wing a chain, as *d*, the other end of which chain is secured to an arm, as T, (see Fig. 6,) and by this arrangement I not only obtain a uniformity of spread, but am enabled to regulate said spread by changing the length of the chains *d*.

In order to regulate the effect produced by the revolution of the fan R, I have so arranged the leaves *b b'* that they can be moved upon the arms *c c* to or from the shaft P. This adjustment of the arms is accomplished by means of sleeves, as *e e*, to which the leaves or wings *b b'* of the fan are hinged, said sleeves being arranged to pass over and be carried by the arms *c c*, to which arms the sleeves *e e* are secured, in such position as may be desired, by means of the set-screws *k k*. By this means the descent of the car is regulated to such speed as may be desired.

I claim as my invention—

1. The combination of an elevator-car, a rope or ropes, as *c c*, for raising and lowering the same, a rope, as I, actuating a set of accelerating gear-wheels, and a fan provided with folding wings driven by said gear-wheels, substantially as described, and for the purpose specified.

2. The fan R, actuated by the movement of an elevator-car, having wings *b b'* capable of adjustment upon the arms *c c*, substantially as and for the purposes herein specified.

3. The fan R, receiving its motion from the elevator-car by means of suitable connections and gearing, said fan being composed of the wings *b b'*, hinged to sleeves *e*, which are adjustable upon the arms *c*, in combination with chains *d*, connecting said wings *b b'* to the rigid arm T, all substantially as and for the purposes herein specified.

Witness my hand this 13th day of August, 1883.

ADOLPHE GALLINANT.

In presence of—

CHARLES F. BLISS,

ACHILLE GALLINANT.