

(No Model.)

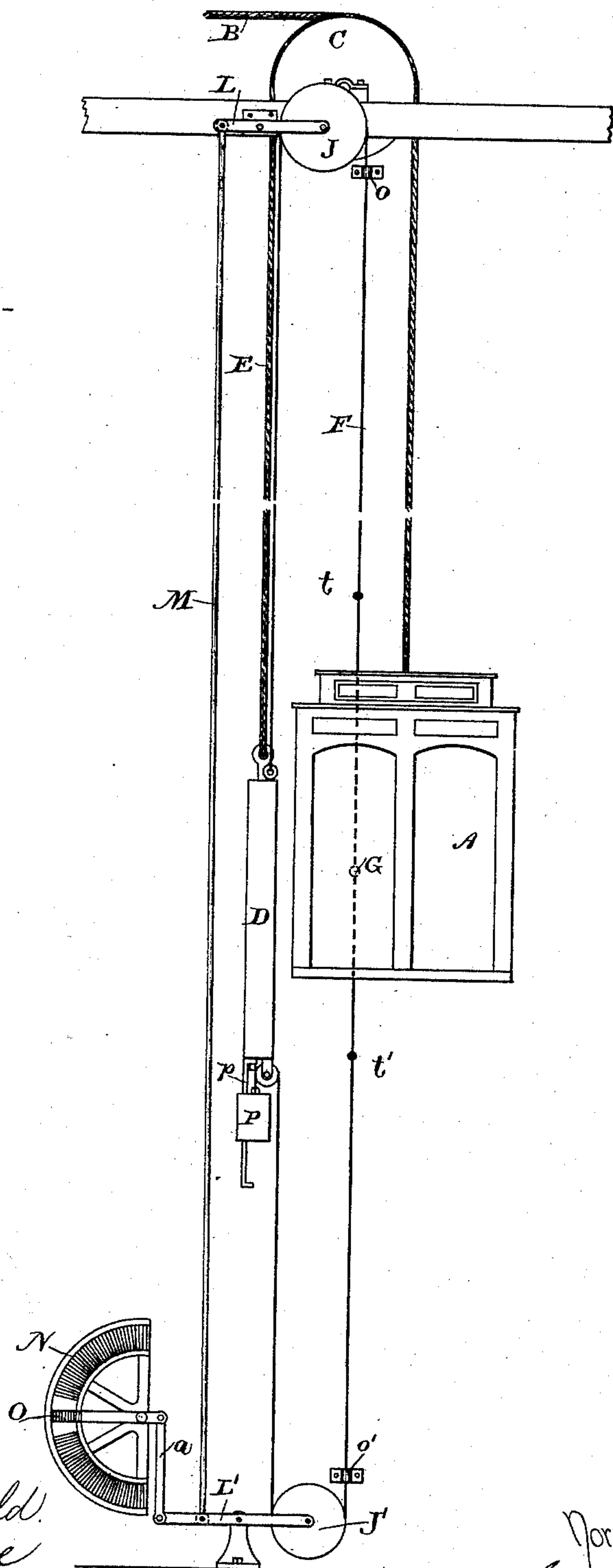
2 Sheets—Sheet 1.

N. C. BASSETT.
CONTROLLING DEVICE FOR ELEVATORS.

No. 482,495.

Patented Sept. 13, 1892.

FIG. 1.



WITNESSES.

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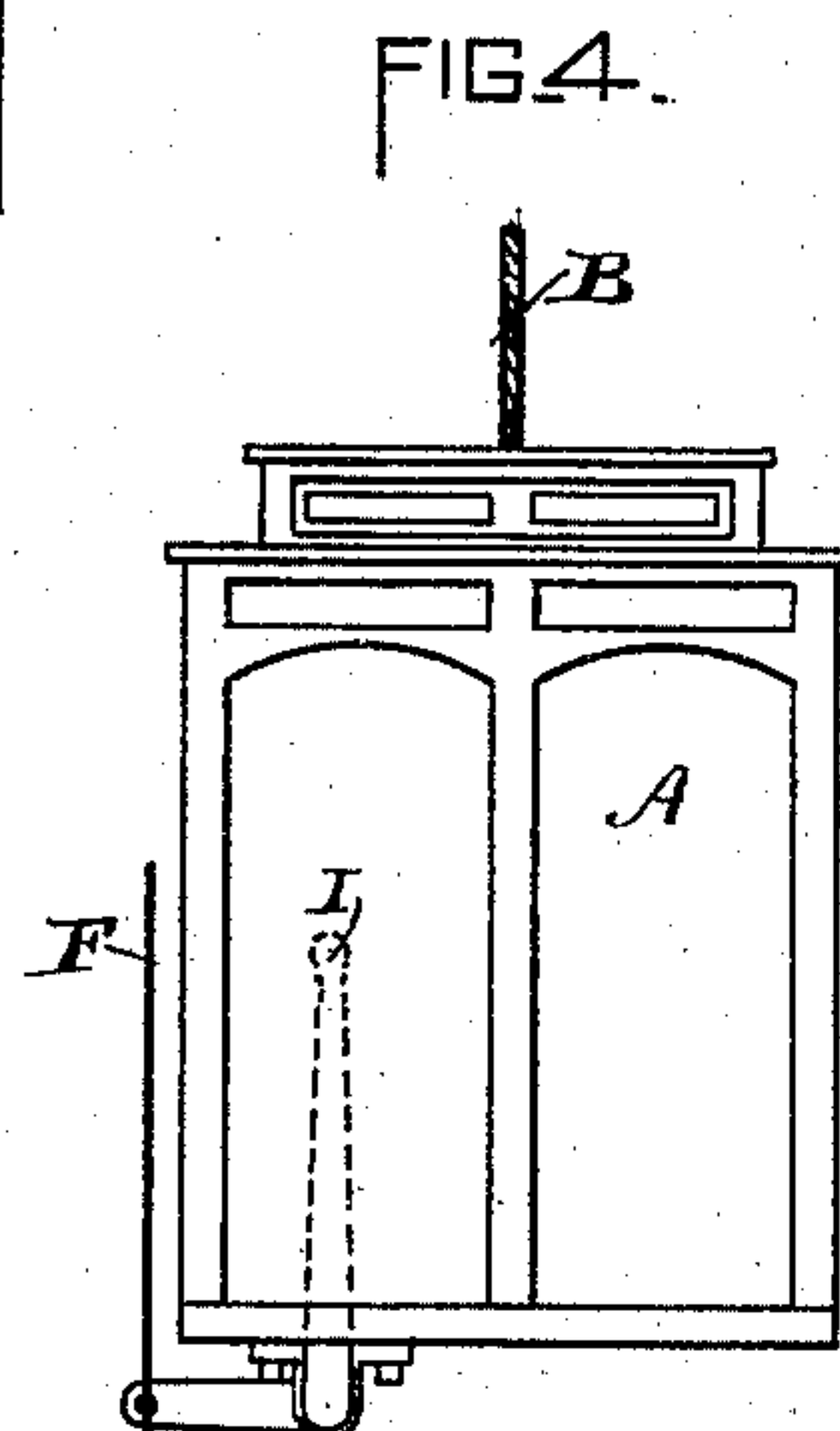
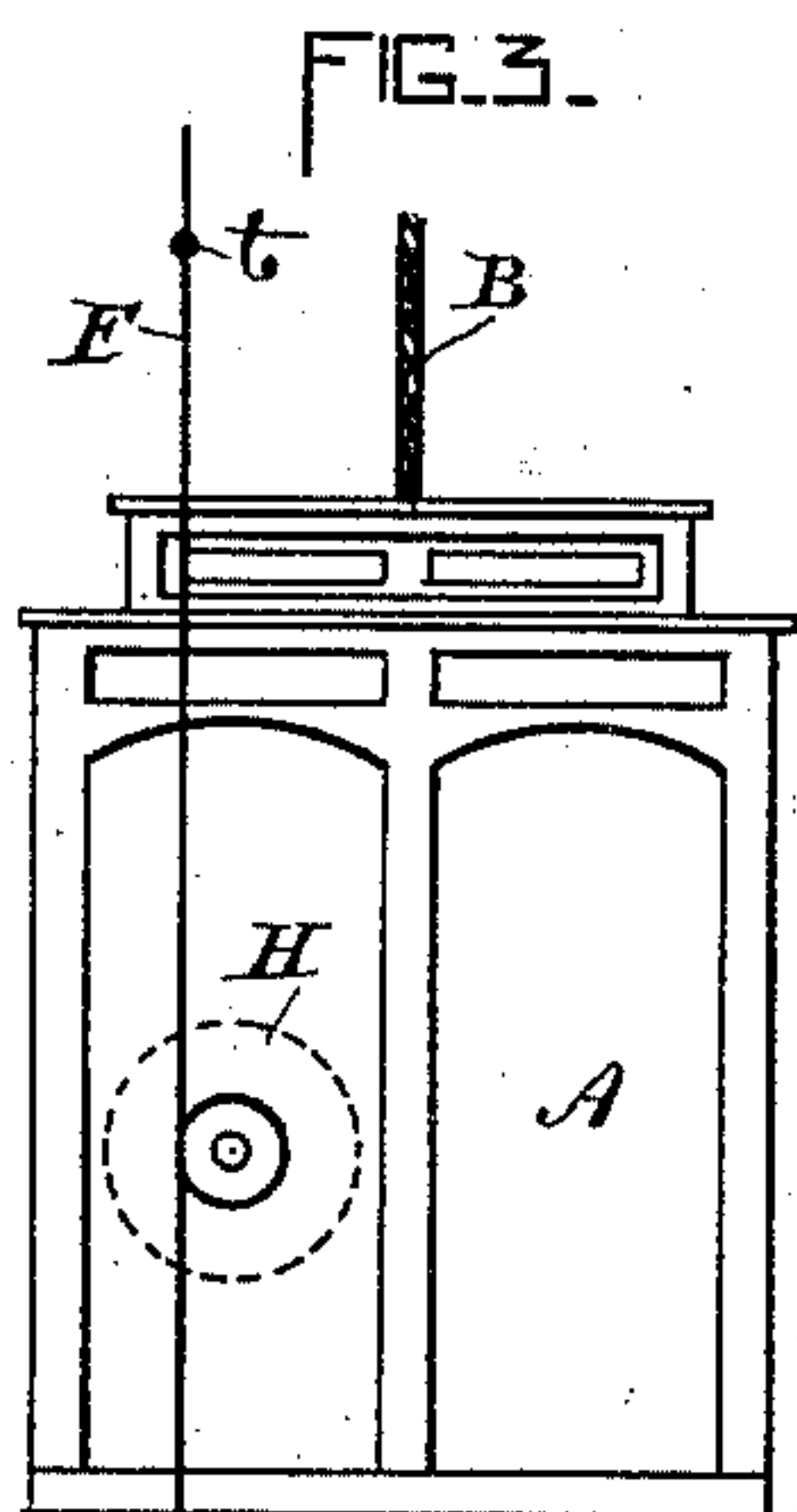
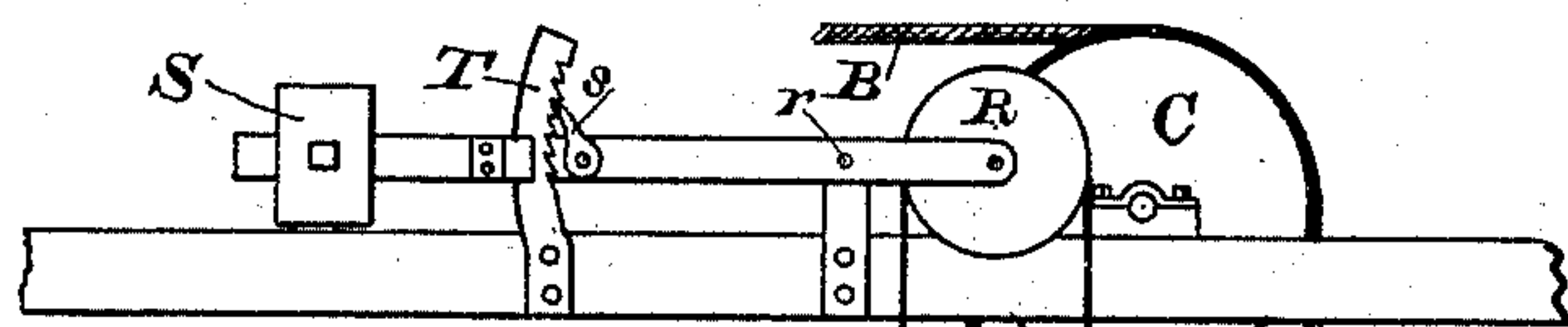
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INVENTOR-

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UNITED STATES PATENT OFFICE.

NORMAN C. BASSETT, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE
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CONTROLLING DEVICE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 482,495, dated September 13, 1892.

Application filed August 4, 1890. Serial No. 360,924. (No model.)

To all whom it may concern:

Be it known that I, NORMAN C. BASSETT, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented a certain new and useful Improvement in Controlling Devices for Elevators, of which the following is a specification.

My invention relates to devices for controlling the movement of elevators in which the ropes connected with the starting and stopping mechanism travel with the car around suitable pulleys at the top and bottom of the hatchway.

My object is to improve and simplify existing devices of this general character, and I have therefore devised an arrangement in which a single running rope furnishes means for positively operating the starting and stopping mechanism in both directions, this, together with certain other features, constituting my invention.

My improvements are illustrated in the accompanying drawings, wherein Figure 1 is a side view. Fig. 2 is a side view showing a modified form of device; and Figs. 3 and 4 are detailed views showing the running rope adapted to be operated by a hand-wheel and pivoted lever, respectively.

The elevator-car A travels up and down in the well or hatchway in the ordinary manner, the lifting-cable B, which passes over sheave C, being drawn in or paid out by any suitable motor. The counter-weight D is also attached to the car by cable E, likewise passing over sheave C.

A single running rope F is employed for operating the starting and stopping mechanism, suitable intermediate connections being provided for that purpose, as hereinafter described. This rope is shown in Figs. 1 and 2 provided with a button G within the car; but it may be connected with a hand-wheel, as at H, Fig. 3, or a pivoted lever I, Fig. 4, these all being different equivalent arrangements by which the attendant may operate the rope. The rope is passed around pulleys J J', thus forming a loop from top to bottom of the hatchway, and its ends are made fast to the counter-weight D. The rope therefore is driven around the pulleys at the same rate of

speed that the car moves, so that that portion of the rope adjacent to the attendant normally travels in the same direction as the car and at a like speed.

In the arrangement shown in Fig. 1 the pulleys J J' are journaled upon corresponding arms of the vibrating levers L L', whose other arms are connected together by a rod or rope M. Hence whenever one of the levers is vibrated by pulling upon the rope F the other lever will also be thrown into a corresponding position, and the controlling mechanism, which is connected to lever L', will be moved one way or the other, according as the rope is drawn up or down by the attendant.

The starting and stopping mechanism is herein shown as consisting of a resistance N, over which sweeps a pivoted contact-arm O, connected with the inner end of lever L' by a link a. As the contact-arm swings around the resistance it will control the movement of an electric motor actuating the lifting-cable B. This mechanism will of course be varied, however, according to the nature of the motor used in any particular plant.

A take-up device for taking the slack of the running rope is provided, and consists of a weight P, free to slide upon a bar p, attached to the counter-weight, in a downward direction only.

In Fig. 2 a somewhat modified arrangement is shown, growing out of the employment of a different form of take-up device. The upper pulley J, instead of being carried upon a vibrating lever, is suspended from a cord M, passing around the third pulley R and attached to lever L', as shown. The pulley R is mounted upon the outer end of a lever pivoted at r and having an adjustable counter-weight S upon its other arm. A pivoted pawl s upon the lever engages automatically with the teeth upon a curved ratchet-bar T, concentric with the pivot r. On the rope's stretching the lever will lift the pulley R sufficient to maintain the connections taut; but movement of the lever in the reverse direction is prevented by the pawl.

At predetermined points upon the running rope F are buttons or knots t t', which are adapted to engage stops o o' when the car reaches its highest or lowest normal position,

and thus automatically operate the controlling mechanism to stop the car.

In using the word "rope" in this specification I intend to include, also, a belt, chain, or
 5 other flexible power-transmitting connection which will pass freely around the pulleys as the car travels up and down. I am also aware that the arrangement of pulleys and of running the ropes around them may be varied in
 10 many ways, and therefore I do not intend to be limited to the precise construction shown.

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

1. The combination, with an elevator and
 15 counter-weight connected to the car, of a single running cable passing around pulleys located, respectively, at the top and bottom of the hatchway and attached to the counter-weight, so that the drag of the cable comes
 20 directly upon the said weight when moving in each direction, and a starting and stopping mechanism for the elevator, actuated by said cable, as set forth.

2. The combination of an elevator-car and
 25 counter-weight with the movable pulleys above and below the car, respectively, the running rope for operating the starting and stopping mechanism, passing around said pulleys, and an intermediate connection between
 30 the pulleys, whereby movement of the one causes a corresponding movement of the other.

3. The combination of an elevator-car, a counter-weight, and the pulleys above and

below the car, one at least carried upon a pivoted lever, with the rope running around said
 35 pulleys for operating the starting and stopping mechanism and having its ends attached to the counter-weight, as described.

4. The combination of the elevator-car, counter-weight, movable pulleys, and run-
 40 ning rope for operating the starting and stopping mechanism, passing around the pulleys and attached to the counter-weight, with the pivoted lever carrying upon one arm one of the said pulleys and having attached to the
 45 other arm a connection leading to the second pulley, for the purpose described.

5. The combination of the pivoted lever at the bottom of the hatchway, connected to the starting and stopping mechanism, and the
 50 running rope attached to the counter-weight, as described, and operating said lever with the return rope connected with the running rope at the upper end of the hatchway and to the said lever, for the purpose described. 55

6. The combination of the single running rope for operating the starting and stopping mechanism, passing around suitable pulleys and attached at both ends to the counter-weight, with a take-up device for taking the
 60 slack of the rope, as described.

NORMAN C. BASSETT.

Witnesses:

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 DUGALD MCKILLOP.