

(No Model.)

N. C. BASSETT.
CONTROLLING DEVICE FOR ELEVATORS.

No. 451,231.

Patented Apr. 28, 1891.

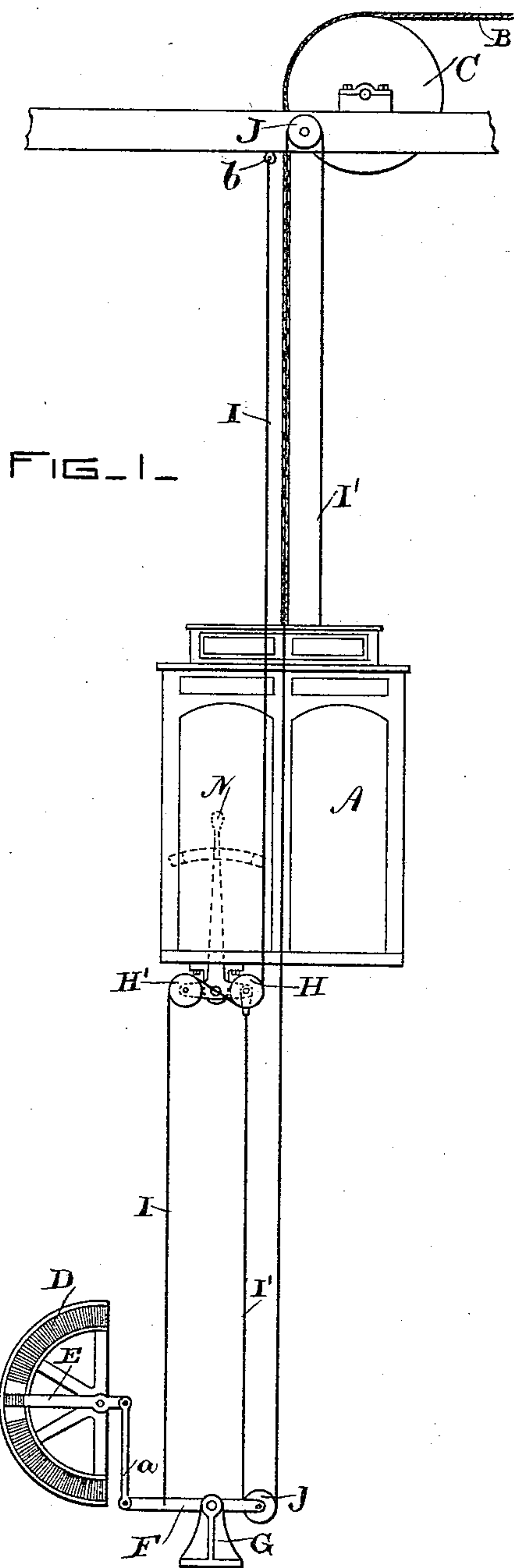


FIG. 1.

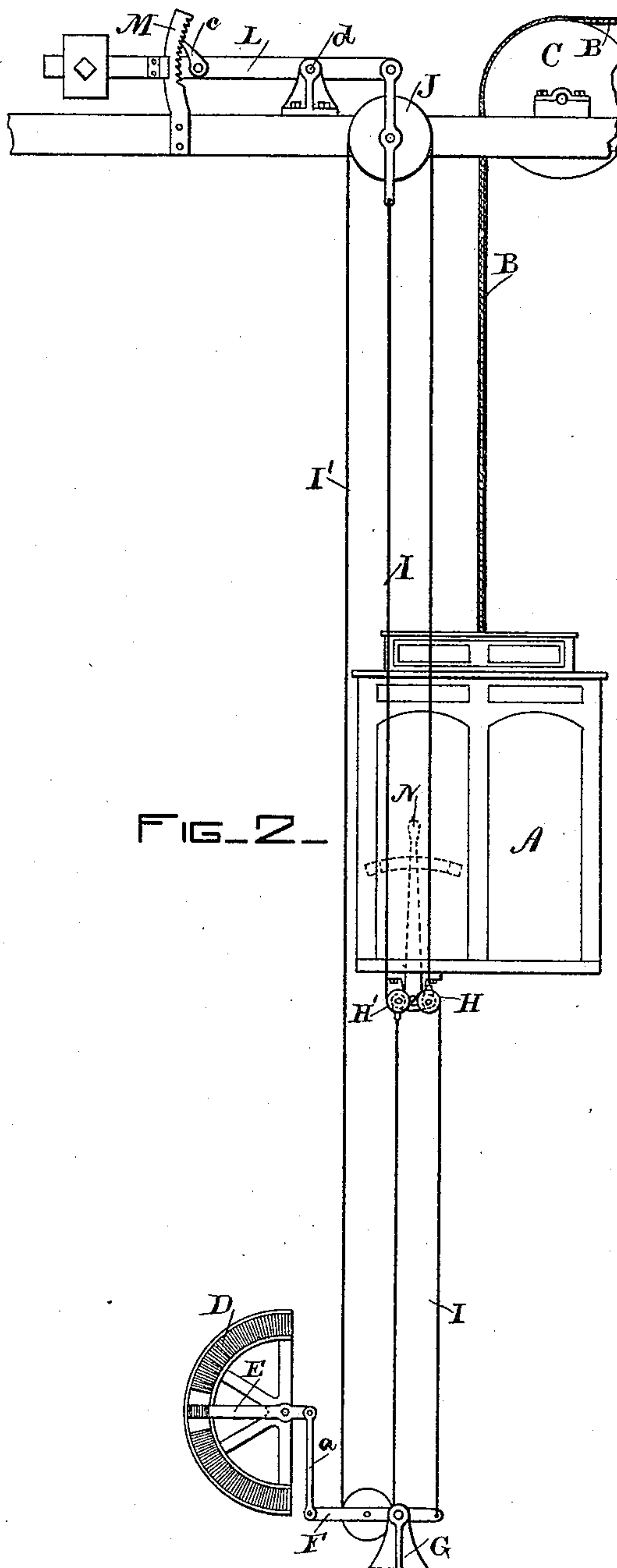


FIG. 2.

WITNESSES:

A. C. Stone
H. F. Hayes

INVENTOR:

Norman C. Bassett
by Bentley & Knight
ATTYS.

UNITED STATES PATENT OFFICE.

NORMAN C. BASSETT, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE
THOMSON-HOUSTON ELECTRIC COMPANY, OF CONNECTICUT.

CONTROLLING DEVICE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 451,231, dated April 28, 1891.

Application filed August 4, 1890. Serial No. 360,925. (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 that general class of devices in which the starting and stopping mechanism of an elevator is controlled by a lever or like operating device within the car, which is connected to suitable ropes attached to and operating the said mechanism.

The distinguishing feature of the improvements set forth in this specification consists in the use of one fixed rope passing around pulleys upon the car and operating the starting and stopping mechanism in one direction and a second rope which passes around pulleys at the top and bottom of the hatchway and operates the said mechanism in the other direction, all as more fully described hereinafter.

My improvements are illustrated in the accompanying drawings, wherein—

Figure 1 is a side view showing the fixed and running ropes, the latter having one end only attached directly to the attendant's lever; and Fig. 2 is a similar view showing a like arrangement in which both ends of the running rope are attached to the lever.

The elevator-car A is designed to travel up and down in the well or hatchway in the ordinary manner. There is connected to it a lifting-cable B, which passes over a sheave C at the top of the hatchway and is drawn in and paid out by any suitable form of motor.

The starting and stopping mechanism of the elevator may be varied according to the nature of the motor used; but it is herein shown as consisting of a resistance D for an electric motor, over which sweeps a pivoted contact-arm E, connected by a link to a vibrating lever F, which is journaled in the hatchway upon a standard G.

To control the movement of the contact-arm E and through it the action of the motor, it is necessary to provide means by which the attendant in the car can positively vibrate

the lever F one way or the other. A power-transmitting connection by which this can be done consists, first, of a fixed rope I, fastened at one end at *h*, and thence passing down around two pulleys H H' upon the car to the lever F, where its other end is made fast, and, second, of a running rope I', which is caused to travel at the same rate of speed as the car and is likewise connected with the starting and stopping mechanism. This last rope has both its ends attached to the car and passes around one pulley J at the top of the hatchway and another movable pulley J', mounted upon one arm of the vibrating lever F.

In Fig. 1 only one end of this rope is secured directly to the attendant's lever, the other being connected to a fixed point on the car, while in Fig. 2 both ends are attached directly to the opposite arms of the lever. The mode of operation is, however, the same, for in each arrangement the ends of the running rope are attached to the car and travel therewith, as will be understood.

In order to provide means for taking up the slack of the ropes and keeping the connections taut, a take-up device is used, such as shown in Fig. 2, where pulley J is suspended from one arm of a pivoted lever L. Upon the other end of this lever is an adjustable counter-weight, and a pawl engages the teeth of a curved ratchet-bar M, concentric with the pivot *d* of lever L. Should the operating-ropes stretch, the pulley J will be automatically raised, thus taking up the slack; but all movement in the reverse direction is prevented by the pawl.

The power-transmitting connections described between the attendant's lever N and the vibrating lever F are such as do not interfere with the normal travel of the car; but when the former lever is thrown either to the right or left it will also cause the lever F to swing into a corresponding position, and thus by moving the contact-arm E effect the desired control of the motor.

I am of course aware that different arrangements of the ropes and different means for connecting them with the starting and stopping mechanism of the car may be used, and hence I do not intend to be limited to the pre-

eise construction shown. Also, in using the word "ropes" in this specification I intend to include such mechanical equivalents as a belt, chain, or other flexible transmitting power connection which will pass over the pulleys freely and not interfere with the movement of the car.

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

10 1. The combination of the fixed rope passing around pulleys on the car and allowing the latter to travel freely in the hatchway with the running rope caused to travel at the same rate of speed as the car and the starting and stopping mechanism operated by said ropes, as described.

20 2. The combination of the fixed rope passing around pulleys on the car and the running rope passing around pulleys in the hatchway above and below the car, both connected with a single operating-lever on the car, with the starting and stopping mechanism controlled by said ropes, as described.

25 3. The combination of the vibrating lever connected to the starting and stopping mechanism of an elevator with the fixed rope attached to one arm of the said lever and passing around pulleys on the car and the run-

ning rope passing around a pulley on the other arm of the said lever, as described.

4. The combination of the fixed rope passing around pulleys on the car and having one end connected to the starting and stopping mechanism with the running rope also connected with said mechanism and having its ends passed over suitable pulleys at the top and bottom of the hatchway and attached to the car, as described.

5. The combination of the two-armed lever upon the car, having a pulley upon each arm, with the fixed rope passing around said pulleys, the running rope having one end at least attached to said lever, and the starting and stopping mechanism operated by said ropes, as described.

6. The combination of the car, the fixed and running ropes passing, respectively, around pulleys on the car and in the hatchway, and the starting and stopping mechanism operated thereby with a take-up device arranged to take the slack of both ropes, as described.

. NORMAN C. BASSETT.

Witnesses:

JOHN W. GIBBONEY,
DUGALD MCKILLOP.