(No Model.)

N. C. BASSETT.

CONTROLLING DEVICE FOR ELEVATORS.

No. 456,463. Patented July 21, 1891.

Fig. 1.

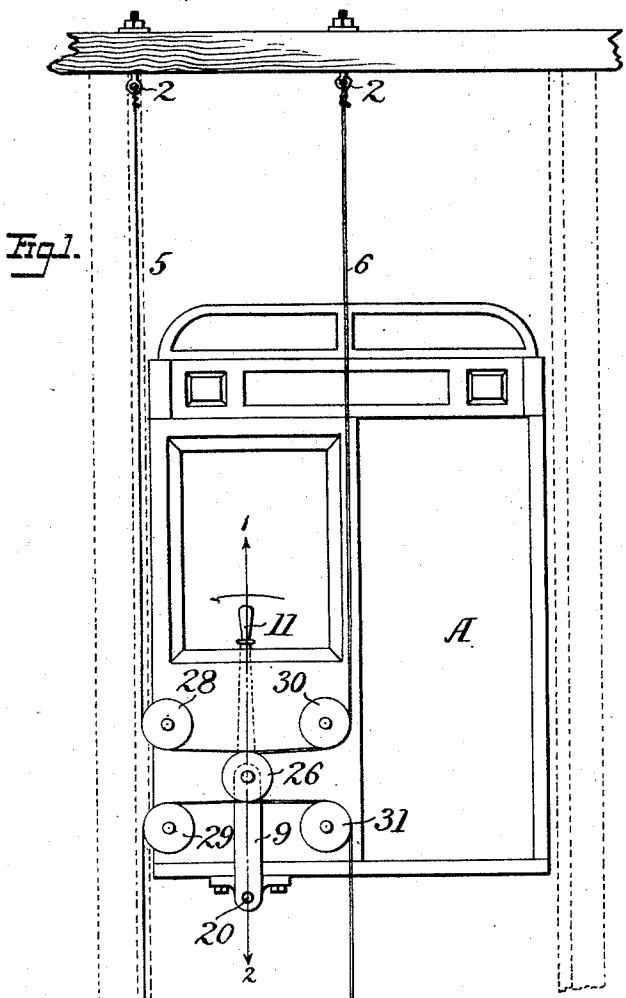


Fig. 2.

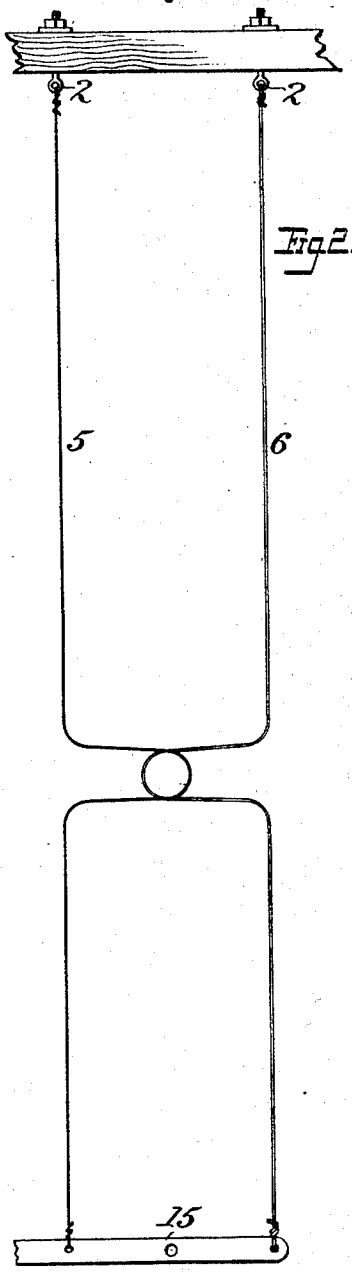
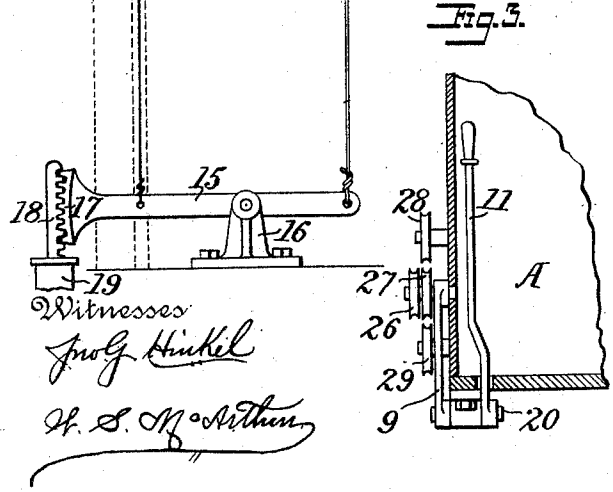


Fig. 3.



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UNITED STATES PATENT OFFICE.

NORMAN C. BASSETT, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE NATIONAL COMPANY, OF CHICAGO, ILLINOIS.

CONTROLLING DEVICE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 456,463, dated July 21, 1891.

Original application filed October 22, 1886, Serial No. 216,962. Divided and this application filed May 8, 1891. Serial No. 392,023. (No model.) Patented in France September 25, 1888, No. 193,182; in Belgium September 26, 1888, No. 83,380; in Canada February 16, 1889, No. 30,805; in Austria-Hungary July 4, 1889, No. 29,933, and in England August 3, 1889, No. 13,890.

To all whom it may concern:

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

My invention was patented in England August 3, 1889, No. 13,890; in France September 25, 1888, No. 193,182; in Belgium September 26, 1888, No. 83,380; in Austria-Hungary July 4, 1889, No. 29,933, and in Canada February 16, 1889, No. 30,805; and it relates to means for operating the valve, the shifting-bar, or other stopping or starting or controlling device of an elevator-engine, and more especially to that class of appliances in which said controlling devices are actuated through the medium of parallel cable-sections adjacent to the path of the elevator-cage, as shown in my application, Serial No. 216,962, filed October 22, 1886, of which this is a division.

My invention consists of the combination of such cable-sections and guide-pulleys and movable pulleys carried by the cage and arranged in respect to the cable-sections so as to draw upon one cable-section and relax the other simultaneously by the action of a single device within the cage, as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a side view showing the cage and appliances for moving the controlling device of the engine of an elevator; Fig. 2, a view illustrating the course of the cables; Fig. 3, a part section on the line 1 2, Fig. 1.

The cage A is connected and operated to move vertically within the well in the usual manner, and to eyebolts 2 2 or other fixed connections are secured the ends of two cable-sections 5 6, which may be the parts of a continuous cable, or, as shown, may be separate sections, and these cable-sections are connected in any suitable manner with the stopping, starting, and reversing mechanism of the engine. As shown, the sections are connected with such mechanism through the medium of a lever 15, pivoted to a bracket 16 and carrying a curved rack 17, gearing with a straight rack 18 upon the spindle of the controlling-valve in a case 19. Any other suitable stopping, starting, and reversing mechanism can, however, be employed—as a switch belt-shifter or steam or water valve of any suitable form, according to the character of the motor-engine.

In order to operate both cables from a single device within the cage—as, for instance, a hand-lever 11—to thereby draw upon one cable and relax the other by a single movement of said hand device, and thus shift the controlling device positively in either direction and to any required extent, I make use of guide-pulleys for guiding each cable-section and of movable pulleys shifted by the device 11, and which act to bend the cable-sections or draw them to a greater or less extent from the guide-pulleys.

As shown, guide-pulleys 28 29, arranged at different heights upon studs carried by the cage, serve to deflect the section 5, which is carried around a pulley 26, carried by an arm 9, connected with a rock-shaft 20, turning in bearings upon the cage, and to which is connected the lever of the hand device. The section 6 passes around guide-pulleys 30 31, turning upon studs carried by the cage and around a pulley 27, carried by the arm 9. Upon shifting the position of the hand device 11 the pulleys 26 27 are carried to one side or the other, thereby bending in one section of the cable to a greater extent than before and relaxing and decreasing the extent of the bend or loop of the other section. Thus one cable-section is drawn upon and the other is relaxed simultaneously, thereby shifting the position of the controlling mechanism to impart the desired movements to the elevator-engine.

While I have referred to the device within the cage as a "hand device," I have so designated it because this term is usually employed in this connection, but without intending to thereby limit myself to a device which must be moved by hand, as the device within the cage may be constructed to be operated by the foot, as is common in many elevators.

Without limiting myself to the precise arrangement of movable and guide pulleys

shown or to the construction shown of the hand-operating and cable-operating devices, I claim—

1. The combination of the two cable-sections hanging in a well and connected to fixed supports and with the stopping and starting mechanism of an elevating-engine, a cage provided with a single hand device, guide-pulleys carried by the cage, and shifting-pulleys connected to be shifted by the hand device, the cable-sections passing round the guide-pulleys and shifting-pulleys, and all arranged to draw upon one cable-section and relax the other by a single movement of the hand device, substantially as set forth.

2. The combination of a cable having two sections suspended within a well from fixed points and connected to operate the stopping and starting mechanism, a hand device, and two pairs of guide-pulleys carried by the cage, and a lever or arm carrying two pulleys and connected with the hand device within the cage, each cable-section passing over one pair of guide-pulleys and around one of the pulleys carried by said lever, substantially as described.

3. The combination, with the cage and stopping and starting device, of two standing cable-sections suspended in the well, an operating device upon the cage bearing on both cable-sections, and a lever connected with the cable-sections and with the stopping and starting device, substantially as set forth.

Signed at Lynn, in the county of Essex and State of Massachusetts, this 24th day of April, A. D. 1891.

NORMAN C. BASSETT.

Witnesses:
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