(No Model.) 2 Sheets—Sheet 1.

N. C. BASSETT.

ELEVATOR OPERATING DEVICE.

No. 453,955. Patented June 9, 1891.

Fig. 1.

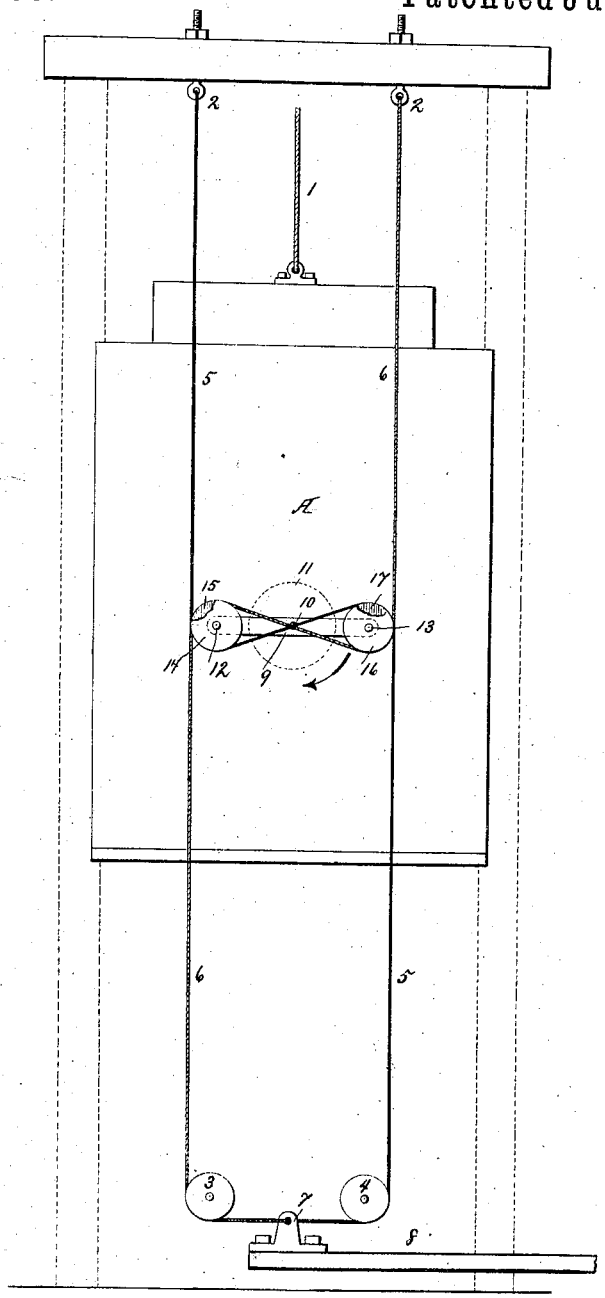
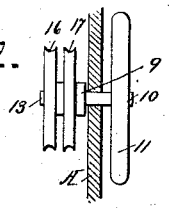


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

N. C. BASSETT.

ELEVATOR OPERATING DEVICE.

No. 453,955. Patented June 9, 1891.

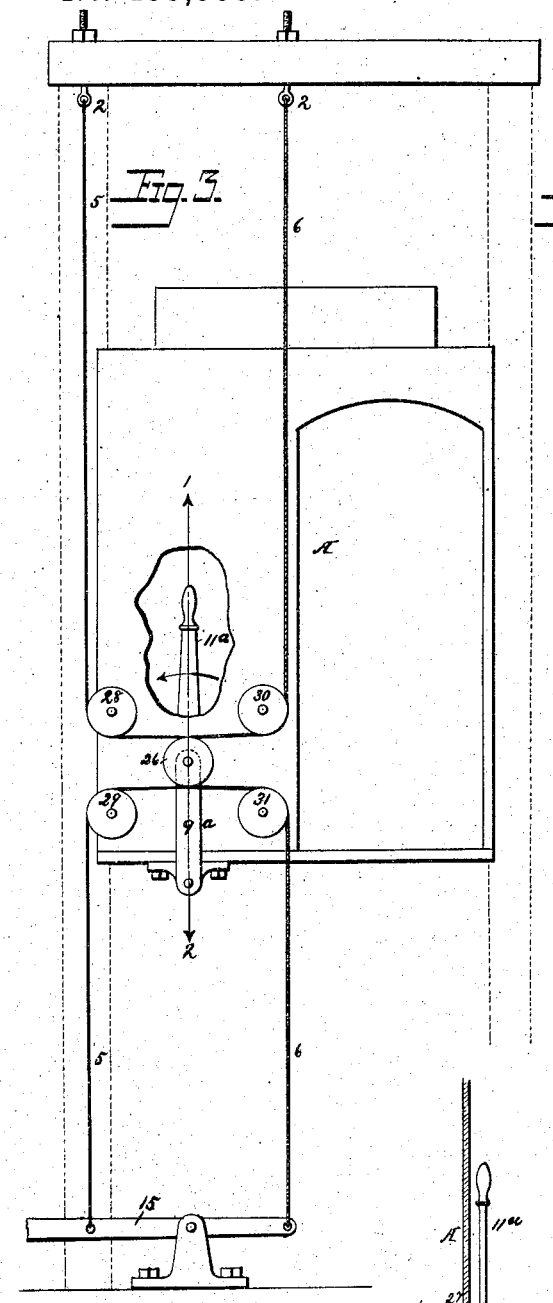

Fig. 3.

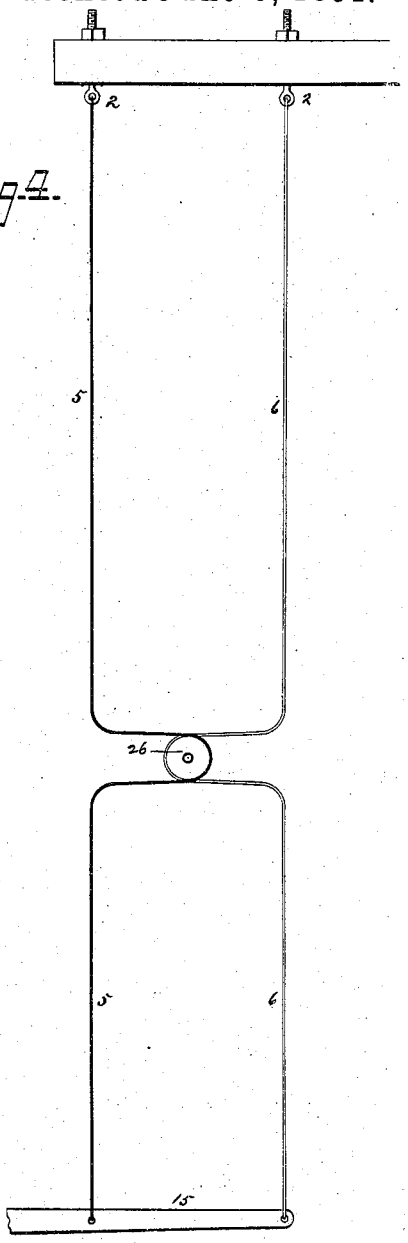

Fig. 4.

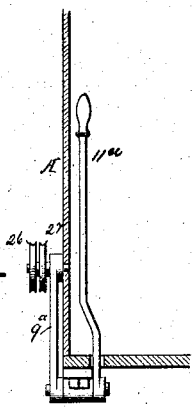

Fig. 5.

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UNITED STATES PATENT OFFICE.

NORMAN C. BASSETT, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE HYDRAULIC ELEVATOR COMPANY, OF SAME PLACE.

ELEVATOR-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 453,955, dated June 9, 1891.

Application filed October 22, 1886. Serial No. 216,962. (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 Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Operating Devices for Elevators, of which the following is a specification.

This 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 relates to means for actuating the stopping and starting or controlling mechanism of an elevator from the traveling cage; and said means consists of a cable suspended from fixed points and connected with the controlling device, and a single hand device carried by the cage and constructed to operate the cable to impart the required movements to the controlling device, as fully set forth hereinafter, and as illustrated in the accompanying drawings, in which—

Figure 1 is a side view of sufficient of an elevator to illustrate my improvement. Fig. 2 is an enlarged edge view in section through the cage, showing the cable-operating device and hand device illustrated in Fig. 1. Fig. 3 is a side elevation of sufficient of an elevator to illustrate a modification of my improvement. Fig. 4 is a diagram showing the position of the cables in Fig. 3; and Fig. 5 is a part section on the line 1 2, Fig. 3.

In that class of elevators in which the stopping and starting mechanism, including a belt-shifter, valve, or other device, is operated from the cage through the medium of suspended ropes or cables, whether two separate sections or the two sections of a single cable hanging parallel within the well, each section has been acted on by means of a separate operating device, so that the stopping and starting of the cage can only be effected by manipulating both or one of two devices. The necessity of distinguishing between two independent devices sometimes leads to mistakes and accidents and involves an expensive construction of the apparatus. To avoid these objections I combine with the two suspended cable-sections a single operating device, carried by the cage and so constructed that either one or the other part of the cable may be contracted by the operator within the cage by varying the movements of the said device.

In carrying out my invention I may use operating devices of different constructions, and may employ the same in connection with elevating engines of different kinds and provided with different kinds of stopping and starting devices, as valves, belt-shifting bars, electric switches, &c., according to the character of the engine.

In Fig. 1 the cage A is shown as supported by a flexible suspensory or cable 1, and adjacent to the path of the cage within the well is suspended the shifting cable, which may be in one continuous piece with the ends of the vertical sections or parts attached to eyebolts 2 2 at the top of the well, as in Fig. 1, or it may consist of two separate pieces, as in Fig. 3, there being in each case practically two parallel cable-sections 5 6 hanging from the eyebolts 2 within the well.

The cable is connected through any suitable means with the stopping and starting device—as, for instance, when the stopping and starting device is a belt-shifter—by passing the cable around two guide-pulleys 3 4 at the bottom of the well and attaching the central portion to a lug or bracket 7, extending from a shifting-bar 8, as in Fig. 1, or by connecting the ends of the separated cable-sections to a lever 15, to which the stopping and starting device of any character may be connected, as in other elevators.

The cable operating device shown in Fig. 1 consists of a bar or frame 9, carried by a shaft 10, extending through the side of the cage and provided with a hand-wheel 11 at the inner end and also with studs 12 13, the former carrying two grooved pulleys 14 and 15, arranged side by side, and the latter carrying two grooved pulleys 16 and 17, similarly arranged. The section 5 of the cable is passed beneath the pulley 14 and over the pulley 16 and hangs downward from the latter, while the section 6 passes beneath the

pulley 17 and over the pulley 15, and thence downward, so that the tilting of the bar or frame 9 in the direction of the arrow, Fig. 1, will draw upon the section 6 of the cable and relax the section 5, thereby moving the stopping and starting device in one direction, while a reverse movement of the bar or frame will kink or draw upon the section 5 and relax the section 6 and reverse the position of the stopping and starting device, while the vertical movement of the cage does not operate or change the position of either cable-section. The cage therefore may be started and stopped at any point by the use of a single hand device within the cage, although two suspended cable-sections are employed, thereby securing by the manipulation of a single device from within the cage a positive movement of the stopping and starting device in each direction, the operations upon the two cable-sections being effected with as much certainty and with as little liability to mistake as when a single hand-cable only is employed.

In the construction shown in Figs. 3 and 4 a lever 9^a, connected with a hand device 11^a within the cage, carries two grooved pulleys 26 27, and guide-pulleys 28 29 30 31 turn on studs projecting from the cage, the cable-section 5 passing around the pulleys 28 26 29 and downward to the lever 15, and the cable-section 6 passing around the pulleys 30 27 31 and downward to the said lever. When the lever 11^a is swung in the direction of the arrow, Fig. 3, the section 6 is drawn between the pulleys 30 31 and the other section is relaxed. When the movement of the lever 11^a is reversed, the section 6 is relaxed and the section 5 is drawn upon, thus vibrating the lever 15, according to the position it is desired to impart to the stopping and starting device.

I have shown different cable-operating devices, and I have termed the part of the cable-operating device within the cage a "hand device," as it is usually moved by the hand of the operator within the cage, although it is sometimes moved by the foot, and I do not limit myself to the employment of cable-operating and hand devices of the construction shown, as other different forms may be employed with like result.

I am aware of the construction shown in my Letters Patent No. 359,551, in which there is shown an operating device in which two double-grooved wheels are employed, the same being one species under the invention herein claimed and differing practically from the construction herein shown in the liability of the cables to slip on one or other of the double-grooved pulleys, thereby causing a wear that is avoided when each pulley can turn independently.

I do not here claim the special construction shown in Figs. 3, 4, and 5, as these form the subject of a separate application, Serial No. 392,023, filed May 8, 1891.

Without limiting myself to the precise construction and arrangement of parts shown and described, I claim—

1. A device for operating the stopping and starting mechanism of an elevator, consisting of two cables or cable-sections hanging in the well adjacent to the path of the cage from fixed supports at the upper ends and both connected with the stopping and starting mechanism, and a single cable-operating device carried by the cage and arranged to bear upon both cables or cable-sections to tighten or slacken the same alternately to shift said mechanism to its different positions, substantially as set forth.

2. In controlling devices for elevators, the combination of a car, two fixed or standing cable-sections, each connected with a fixed support at one end and at the other with the starting and stopping mechanism, a cable-operating device on the car bearing on both cables and over which said cables pass, and means for moving said device to alternately take up and pay out the cables to shift the operating mechanism, substantially as described.

3. The combination of a cage, a cable having two suspended sections, a shifting-bar connected with both parts of said cable-sections at the bottom of the well, and a cable-operating device carried by the cage bearing on both cable-sections and provided with a single hand device within the cage, substantially as described.

4. The combination, with the two cable-sections suspended within the well and with a stopping and starting mechanism connected with said cable-sections, of a cage, a single hand device carried thereby, and a cable-operating device connected with the said hand device and consisting of a lever carrying grooved pulleys at the opposite ends, each cable-section passing below one pulley and over the pulley at the opposite end of the lever, substantially as set forth.

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

NORMAN C. BASSETT.

Witnesses:
CHARLES E. FOSTER,
C. VALLETTE KASSON.