(No Model.)

C. G. OTIS.

ELECTRICAL DEVICE FOR OPERATING ELEVATOR VALVES.

No. 365,018. Patented June 14, 1887.

Fig. 1.

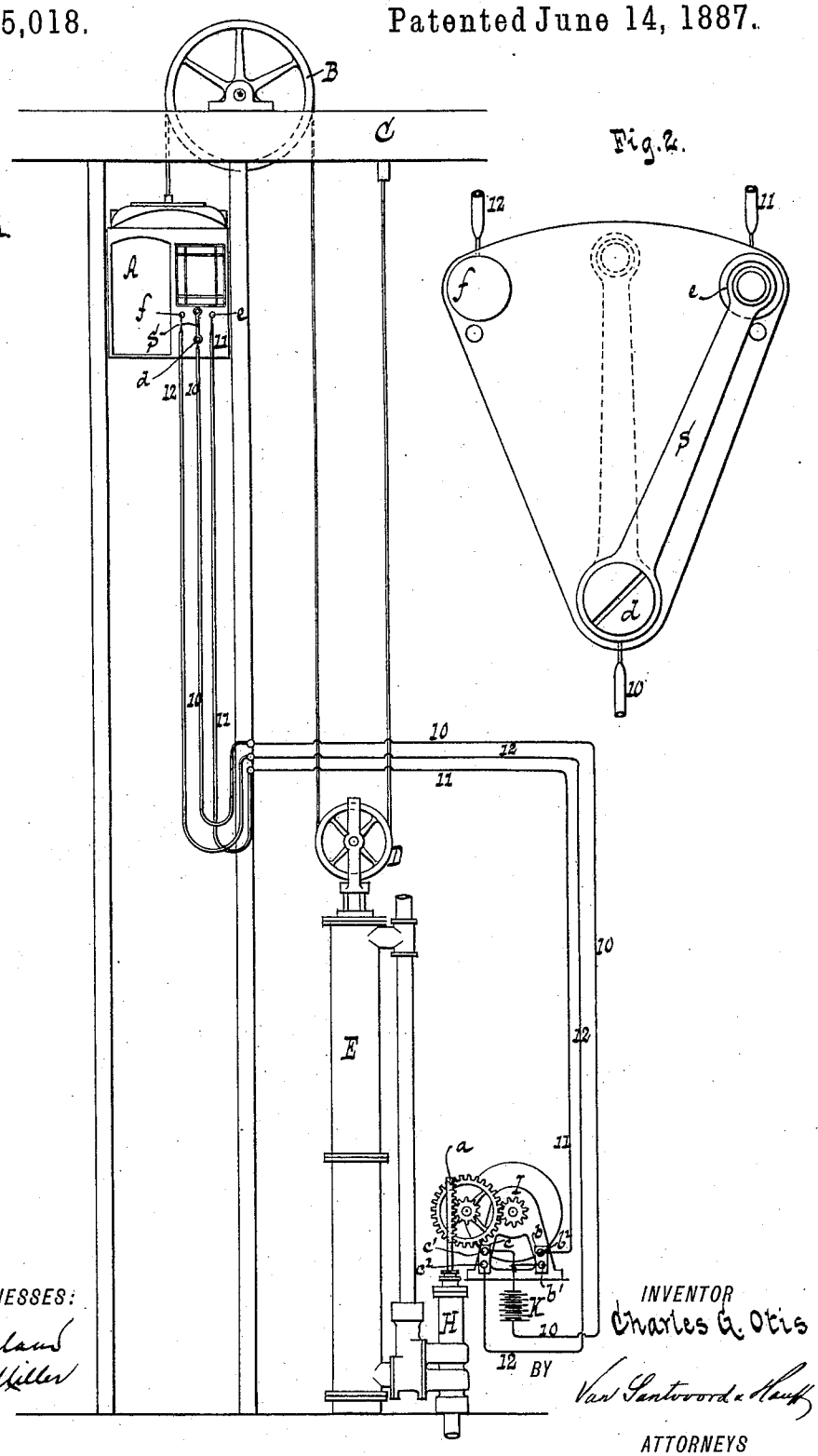


Fig. 2.

WITNESSES:

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ELECTRICAL DEVICE FOR OPERATING ELEVATOR-VALVES.

SPECIFICATION forming part of Letters Patent No. 365,018, dated June 14, 1887.

Application filed December 31, 1886. Serial No. 223,109. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. OTIS, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Devices for Operating Elevator-Valves, of which the following is a specification.

This invention relates to certain means for operating the valve of a hydraulic or pneumatic elevator by electricity, as fully pointed out in the following specification and claim, and illustrated in the accompanying drawings, in which—

Figure 1 represents a side view of an elevator constructed according to my invention. Fig. 2 is a detached elevation of the switch on a larger scale than the previous figure.

Similar letters indicate corresponding parts.

The elevator illustrated in the drawings is operated by hydraulic pressure in a manner well known to those skilled in the art; but my invention is also applicable to elevators which are operated by pneumatic or by steam pressure.

In the drawings, the letter A designates the elevator-car, from which extends a rope over a sheave, B, which turns on an axle having its bearings in boxes which are firmly secured to the beam C. From the sheave B the rope extends beneath a sheave, D, and thence up to the beam C, where it is firmly secured. The sheave D is mounted in a cage firmly secured to the rod of the main piston, which moves in the cylinder E, and to which motion is imparted by hydraulic or pneumatic pressure, its motion being controlled by a valve, H, in a manner well known to those skilled in the art. The stem *a* of this valve connects by suitable gearing with an electromotor, I, of such a construction that the direction in which the same revolves can be changed by changing the connection of its helix with the poles of the battery K.

For the purpose of changing the motion of the electromotor the following connections may be used: One end of the helix of the electromotor connects to a plate, *b*, from which rise two clamping-screws, b' b^2, while the other end of said helix connects to a plate, *c*, from which rise two clamping-screws, c' c^2. Both the clamping-screws b' and c' connect with one, say the positive, pole of the battery K. From the negative pole of the battery extends a wire, 10, to a screw, *d*, which is secured on the elevator-car A, and which forms the fulcrum for the switch-lever S. On the elevator-car are also secured two clamping-screws, *e f*, in such positions that the switch-lever can be brought to bear upon either of them. The clamping-screw *e* connects by a wire, 11, with the clamping-screw b^2 on the electromotor, and the clamping-screw *f* connects by a wire, 12, with the clamping-screw c^2. If the switch-lever S is turned upon the clamping-screw *e*, Fig. 2, the current from the battery K passes into the electromotor at the clamping-screw c', thence through the helix of the electromotor to the clamping-screw b^2, thence through the wire 11, clamping-screw *e*, switch-lever S, and wire 10, back to the battery; but if the switch-lever S is turned to bear upon the clamping-screw *f*, the current from the battery passes to the clamping-screw b', thence through the helix of the electromotor to the clamping-screw c^2, thence through wire 12, clamping-screw *f*, switch-lever S, and wire 10, back to the battery.

From this description it will be seen that by adjusting the switch-lever the current of electricity from the battery can be made to pass through the helix of the electromotor either in one or in the opposite direction, and consequently the direction in which the electromotor revolves can be reversed at will by the attendant of the elevator, and the elevator-car can be raised or lowered or stopped simply by manipulating the switch-lever S.

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

The combination, with an elevator-car, and with the valve H, for controlling the motion of said car, of a reversible electromotor, a suitable source of electricity connected to said electromotor, a switch connected to the elevator-car, and suitable connections between the switch, the electromotor, and the source of electricity, substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

CHARLES G. OTIS. [L. S.]

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.