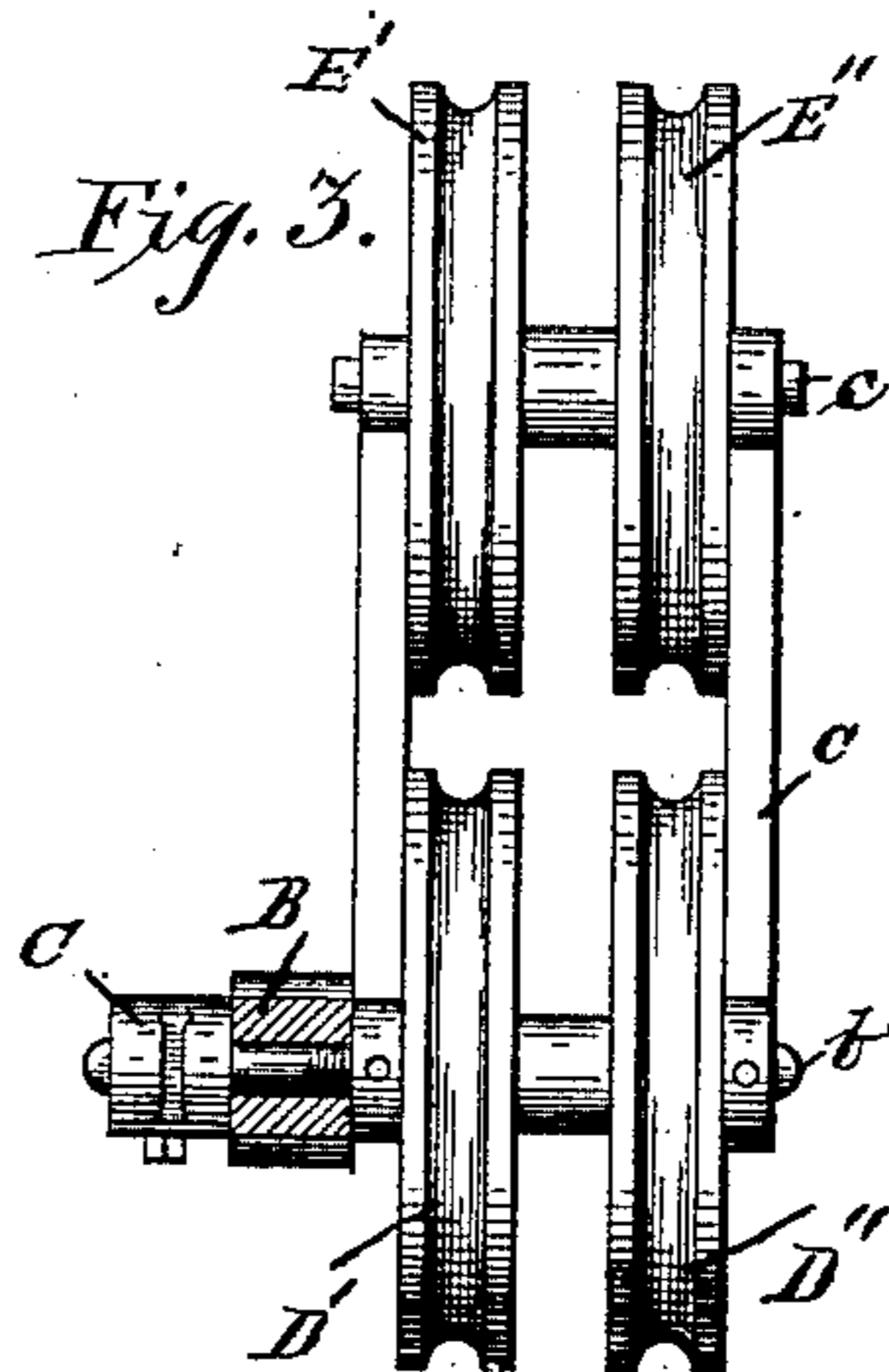
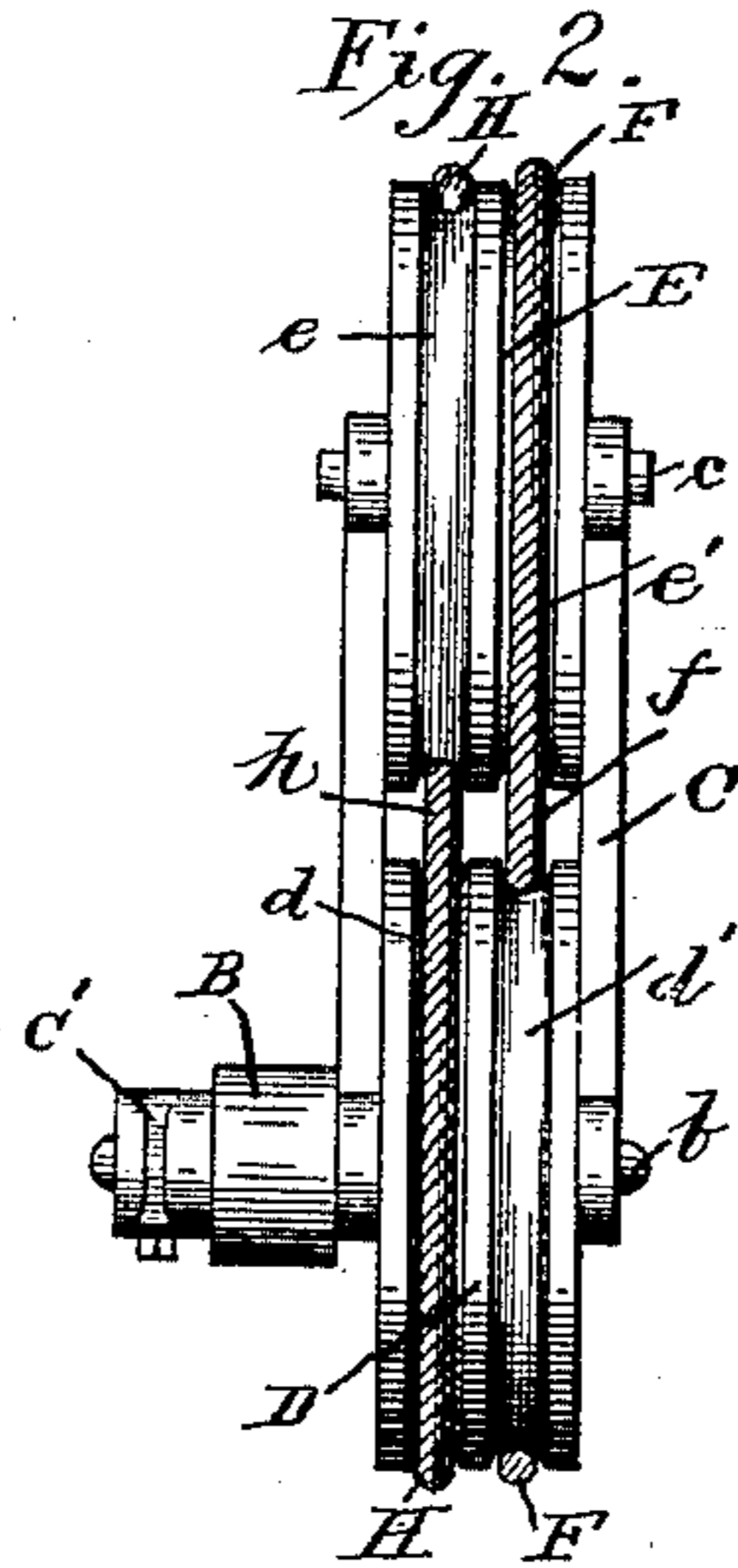
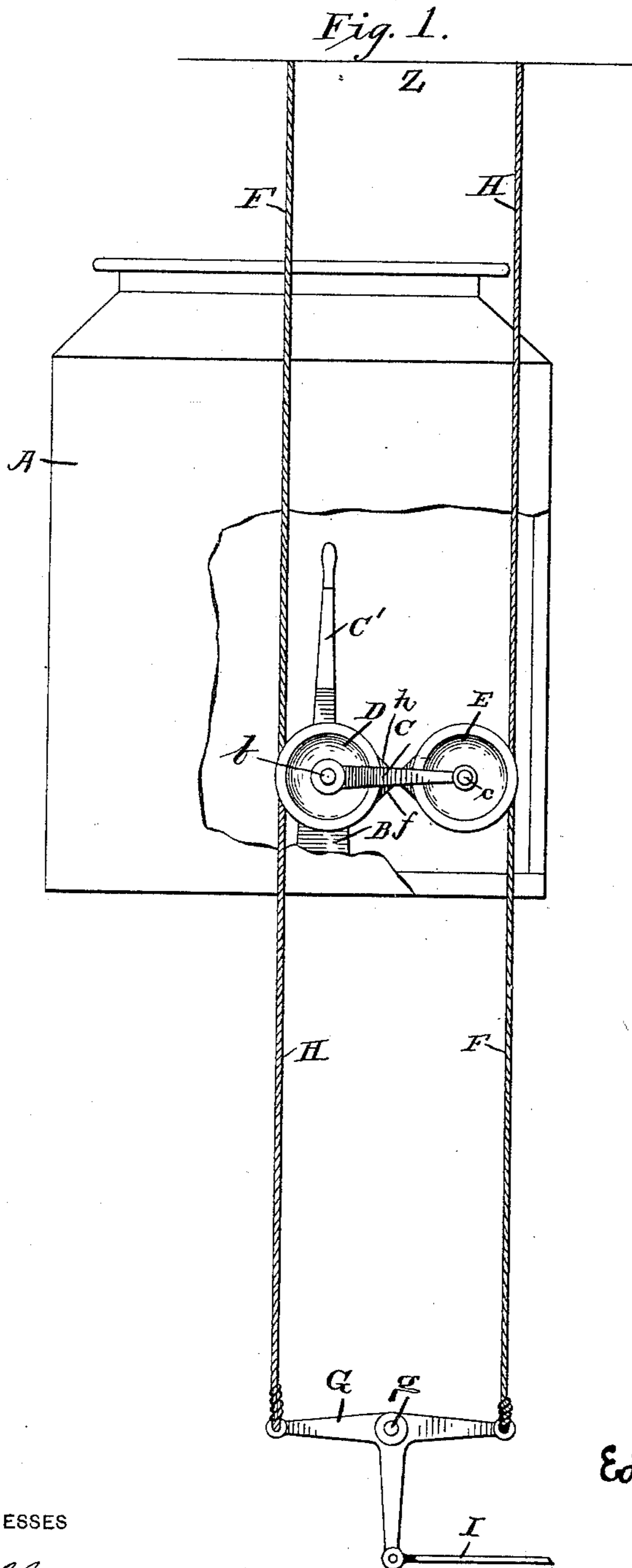


(No Model.)

E. S. MATTHEWS.  
ELEVATOR VALVE CONTROLLER.

No. 450,965.

Patented Apr. 21, 1891.



WITNESSES

*Gloveraucc.*  
*M. S. Belden*

Edwin S. Matthews

INVENTOR

*by James M. See*  
*attorney*

# UNITED STATES PATENT OFFICE.

EDWIN S. MATTHEWS, OF CINCINNATI, ASSIGNOR OF ONE-HALF TO JAMES L. HAVEN, OF AVONDALE, OHIO.

## ELEVATOR-VALVE CONTROLLER.

SPECIFICATION forming part of Letters Patent No. 450,965, dated April 21, 1891.

Application filed November 10, 1890. Serial No. 370,839. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN S. MATTHEWS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Elevator-Valve Controllers; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the annexed drawings, which form part of this specification.

This invention relates to a device for controlling the motor of an elevator from the cage in a simple and efficient manner; and to this end it consists of the apparatus described and claimed in this specification and illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of an elevator-car with my device applied thereto, the side of the car being partly broken away. Fig. 2 is a plan of one arrangement of the sheaves for operating the shifting-rope. Fig. 3 is a plan of the preferred arrangement of said sheaves.

Reference will first be had to the device shown in Figs. 1 and 2, and in detail A represents an elevator-car; B, a bearing on the same, in which is journaled the shaft *b*. On one end of this shaft is fastened the operating-lever C', which is placed at any convenient point to be reached by the elevator-conductor. Running on the said shaft *b* is the pair of sheaves or the double sheave D, having the two grooves *d d'*.

Fastened on the shaft *b*, so as to be moved by the lever C', is the frame C. This frame C may be double, as shown, or, of course, may be only a single piece.

In the frame C is fastened the shaft *c*, and on the same runs the pair of sheaves or the double sheave E, having the two grooves *e e'*. I term the sheaves E "active sheaves," inasmuch as by their motion the shifting of the valve or other controlling device is accomplished. A pair of ropes F and H are held at Z. The rope F comes down the side of the elevator-cage under sheave D, is crossed at *f*, and then passes over sheave E. The rope H passes under sheave E, is crossed at *h*, and then passes over sheave D. The two ropes

are carried to a double-armed lever G, fulcrumed at any suitable point *g*. This lever G connects by a suitable link I to the controlling element of the motor.

The operation of the device is apparent. When it is desired to move the motor-controlling element, the lever C' is rocked one way or the other. This, as will be readily seen, will take upon one rope and give on the other, and the lever G will be rocked to move the motor-controlling element. It is a very desirable construction to move the active sheaves of each rope together and in the same direction, as then the slack of one rope will exactly counterbalance the draw on the other.

The preferred construction of sheaves is shown in Fig. 3, in which a pair of idle sheaves D' D'' are used instead of a double idle sheave, and two active sheaves E' E'' instead of a double active sheave. Of course the form of the sheave-frame may be varied so that the same will act as levers of any desired class and transmit the motion multiplied or diminished, as desired.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of two standing controlling-cables with an elevator-car having a stationary-mounted idle sheave, a movably-mounted active sheave, one of said cables being passed under the idle sheave and over the active sheave and the other cable being passed under the active sheave and over the idle sheave, whereby the cables are crossed between the sheaves, and a handle to move the active sheave to take up one cable and pay out the other, all substantially as described.

2. The combination of two standing controlling-cables with an elevator-car having two stationary-mounted idle sheaves, two movably-mounted active sheaves, one of said cables being passed under one of the idle sheaves and over one of the active sheaves and the other cable being passed under the other active sheave and over the other idle sheave, whereby the cables are crossed between the idle sheaves and active sheaves, and a handle to move the active sheaves to take up one

cable and to pay out the other, all substantially as described.

3. The combination of two controlling-cables with an elevator-car having a stationary-mounted pair of idle sheaves, a movably-mounted pair of active sheaves, one of said cables being passed under one of the idle sheaves and over one of the active sheaves and the other cable being passed under the other of the active sheaves and over the other of the idle sheaves, whereby the cables are crossed between the active and the idle sheaves, a frame carrying the active sheaves, and a handle to move said frame and active sheaves to take up one cable and pay out the other, all substantially as described.

4. The combination of two standing controlling-cables, an elevator-car, a shaft mounted in a bearing on said car, a pair of stationary-mounted idle sheaves on said shaft, a

frame mounted for oscillation on said shaft, a pair of movably-mounted active sheaves journaled in said frame, one of said cables being passed under one of the idle sheaves and over one of the active sheaves and the other cable being passed under the other active sheave and over the other idle sheave, whereby the cables are crossed between the idle sheaves and active sheaves, and a handle to rock said frame upon said first-mentioned shaft and move the active sheaves to take up one cable and pay out the other, all substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWIN S. MATTHEWS.

Witnesses:

JAMES H. LAYMAN,  
SAMUEL M. QUINN.