

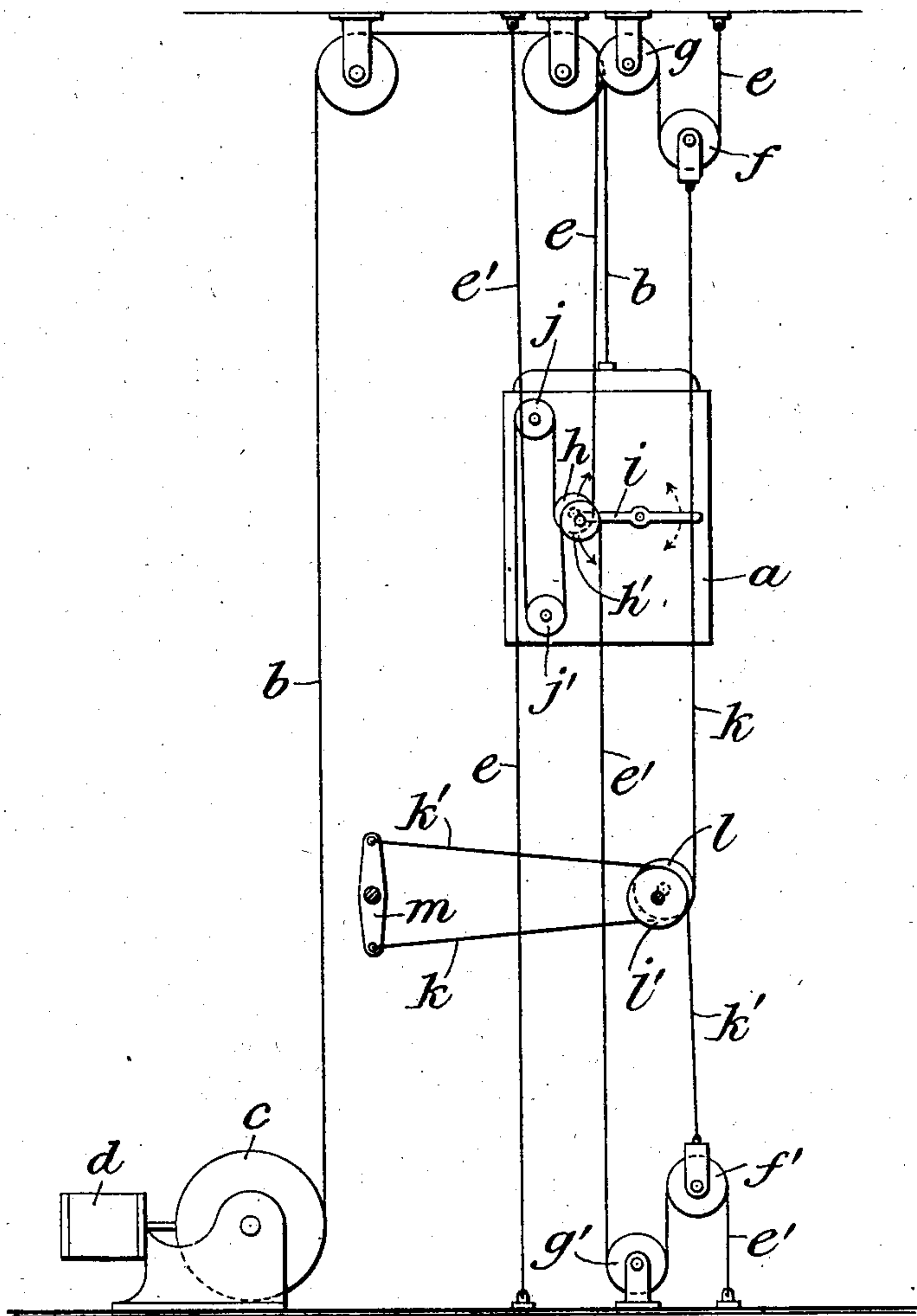
No. 729,434.

PATENTED MAY 26, 1903.

**A. C. SMITH.
ELEVATOR.**

APPLICATION FILED OCT. 13, 1902.

NO MODEL.



Attest:

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UNITED STATES PATENT OFFICE.

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ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 729,434, dated May 26, 1903.

Application filed October 13, 1902. Serial No. 127,033. (No model.)

To all whom it may concern:

Be it known that I, AMOUR COLUMBUS SMITH, a citizen of the United States, residing in the borough of Manhattan, in the city of New York, State of New York, have invented certain new and useful Improvements in Elevators, of which the following is a specification, reference being had to the accompanying drawing, forming a part hereof.

In another application filed concurrently herewith is disclosed an improvement in means for controlling elevators wherein floating sheaves are combined with an endless controlling-rope which travels with the car.

The present invention relates also to such controlling means and covers a different arrangement of controlling-rope and floating sheaves, in which the rope is stationary.

The invention will be more fully described hereinafter with reference to the accompanying drawing, in which, for purposes of illustration and explanation, it is embodied, and in which the single figure is an outline drawing illustrating an embodiment of the invention, the well-known devices being indicated conventionally.

The elevator-car *a* and its hoisting mechanism, represented by a hoisting-rope *b*, a drum *c*, and a motor *d*, may be constructed and arranged as usual or preferred, the present invention relating to the controlling means only. The controlling-rope in the present case comprises two parts. One part, *e*, may be suitably secured at the top of the shaft, passing thence under a floating sheave *f*, over a fixed guide-sheave *g* at the top of the shaft, about a guide-sheave *h* on the conductor's starting device, such as a lever *i* in the car, and over a guide-sheave *j* on the car to a fixed point at the bottom of the shaft. The second part, *e'*, suitably secured at the bottom of the shaft, passes over a floating sheave *f'*, under a fixed guide-sheave *g'* at the bottom of the shaft, about a guide-sheave *h'* on the conductor's starting device in the opposite direction to that of the part *e*, and under a guide-sheave *j'* on the car to a fixed

point at the top of the shaft. The sheaves *h* and *h'*, about which the two parts of the controlling-rope pass in opposite directions, are arranged to be moved by the conductor for the purpose of varying the length of the bights of the ropes, and therefore the position of the floating sheaves in corresponding degree. Any convenient means for effecting movement of the sheaves *h* and *h'* may be employed, the sheaves being shown in the drawing as mounted upon an ordinary starting-lever *i*.

The floating sheaves *f* and *f'* are connected together through the medium of the controller devices, and to accomplish this a rope *k* may be attached to the frame of one floating sheave, *f*, and extended about a guide-sheave *l* to one side of the controller, which may be of any suitable character and is sufficiently indicated by the lever *m*. A rope *k'* is similarly attached to the frame of the sheave *f'* and extended over a guide-sheave *l'* to the other side of the controller *m*.

It will now be understood that a movement of the starting device in the car in either direction will cause the guide-sheaves *h* and *h'* to take up one of the parts of the controlling-rope and to pay out the other, the floating sheaves *f* and *f'* being moved up or down through a length equal to the movement of the sheaves *h* and *h'*. The movement of the floating sheaves effects movement of the controller *m* in the proper direction. Both ends of the two controlling-ropes being fast, the car moves with reference to the ropes, and the bights of the rope travel freely over the guide-sheaves on the car, there being no interference between the movement of the car and the operation of the controlling-ropes to start or stop or change the direction of movement of the car. Obviously the starting device, the controller, and other details of the embodiment of the invention may be varied as conditions may require without departing from the spirit of the invention.

I claim as my invention—

In an elevator, the combination of a car, a

two-part controlling-rope, each part having its ends attached at the top and bottom of the shaft, a starting device on the car having a sheave in a bight of each part, guides on the car to form such bights, guides at the top and bottom of the shaft to form other bights, floating sheaves resting in the last-named bights, and a controller connected to both of

said floating sheaves, substantially as described. 10

This specification signed and witnessed this 23d day of September, A. D. 1902.

AMOUR COLUMBUS SMITH.

In presence of—

M. A. BRAYLEY,

ROSWELL S. NICHOLS.