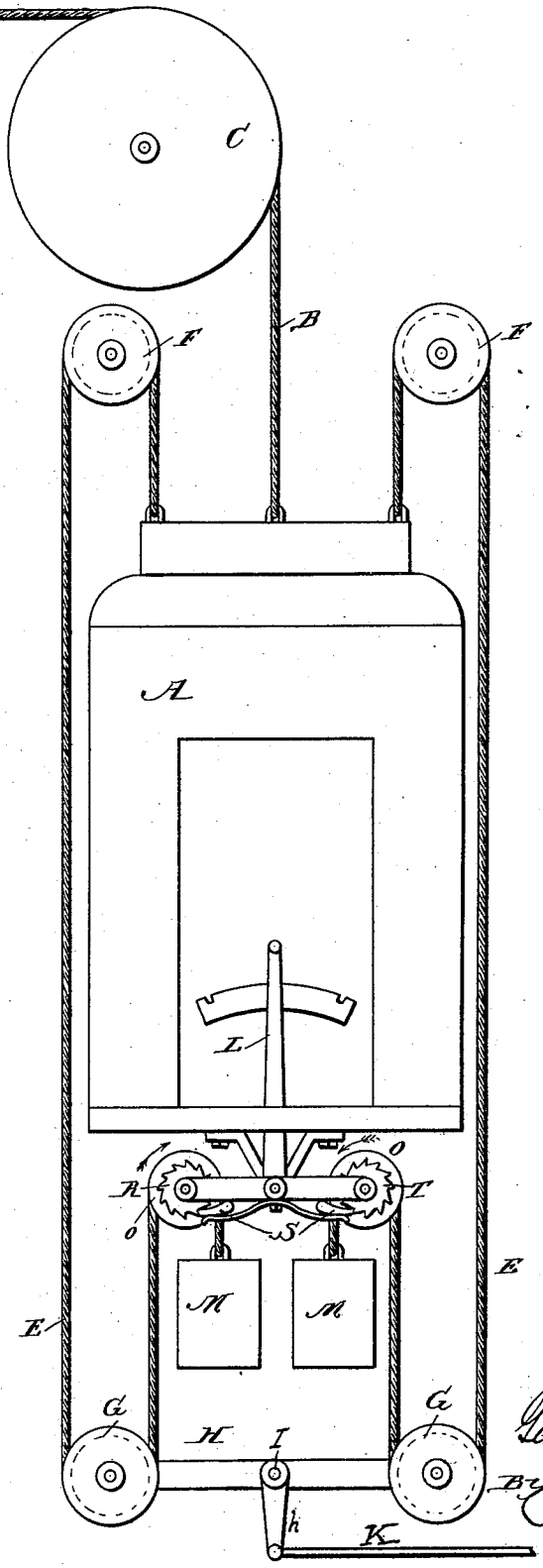
(No Model.)

G. H. REYNOLDS.

CONTROLLING DEVICE FOR ELEVATORS.

No. 456,123. Patented July 14, 1891.



Witnesses.
W. Rossiter
J. I. Veeder

Inventor:
Geo. H. Reynolds
By J. H. Raymond
Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE H. REYNOLDS, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE NATIONAL COMPANY, OF ILLINOIS.

CONTROLLING DEVICE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 456,123, dated July 14, 1891.

Original application filed January 26, 1887, Serial No. 225,538. Divided and this application filed June 29, 1887. Serial No. 242,862. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. REYNOLDS, of the city, county, and State of New York, have invented certain new and useful Improvements in Means for Controlling the Operation of Elevators, of which the following is a specification.

My invention relates to elevators having two control-cables running with the car, one end of each cable being connected with the car, the other end of each cable being attached to a separate weight.

It is understood that a mechanism may intervene between the cable and the car, to which mechanism one end of the cable may be rigidly attached.

My invention consists in connecting the weighted ends of the control-cables in such a manner to the car as to permit the weights to take up slack in the cables, but to prevent any return movement.

The drawing shows an elevator-car and enough of its connections to make fully apparent the nature of my invention.

A is the elevator-car.

B is the hoisting-cable, which passes over sheave C in the top of the elevator-shaft to the hoisting-engine, which may be either steam or hydraulic, though it is preferably the latter.

The control-cables E E are attached to the top of the cars, pass around sheaves F F at the top of the shaft and sheaves *o o* at the ends of the horizontal arm of lever L, and have weights M M hung from their lower ends. The sheaves *o o* are provided with ratchets R T, in which pawls S engage, and their circumferences are deeply grooved to prevent the slipping of the cables E E therein. The result is that the weights M M will keep the cables E E always taut; but they cannot be drawn back except by such extraordinary strain as would otherwise break the control-cables, the frictional connection of the cables to the take-up device being practically a rigid one so far as the ordinary operating strains are concerned. The lever H, pivoted at I, (its short arm *h* connected by the rod K to the valve-gear,) resembles in all respects the corresponding parts shown in Patent No. 317,202, granted me May 5, 1885, and also shown in the contemporaneous applications, Serial Nos. 242,858 and 242,859, filed June 29, 1887, and No. 243,694, filed July 7, 1887, and is operated in like manner by the lever L in the car.

It is to be understood that it is a matter of indifference whether the upper ends of the control-cables are rigidly connected to the car and the lower ends weighted and connected by a pawl-and-ratchet device to the car or whether the lower ends be rigidly attached and the upper ends weighted. It is only necessary that one end of each cable be rigidly attached and the other end weighted and connected by a device which will allow the weights to descend but not to return.

The device may be either a simple ratchet or any of the equivalent friction-clutches.

I claim—

1. In an apparatus connected to and operating the control-valve of an elevator, two cables running with the car, each immovably attached to the car at one end, the other end of each being weighted, and a pawl-and-ratchet mechanism which allows the weight to descend but not to return.

2. In elevator control mechanisms, the combination of the cage, a control-cable, a lever, a take-up device carried by said lever, and a weight connected with the control-cable, substantially as described.

GEO. H. REYNOLDS.

Witnesses:
J. H. RAYMOND,
J. I. VEEDER.