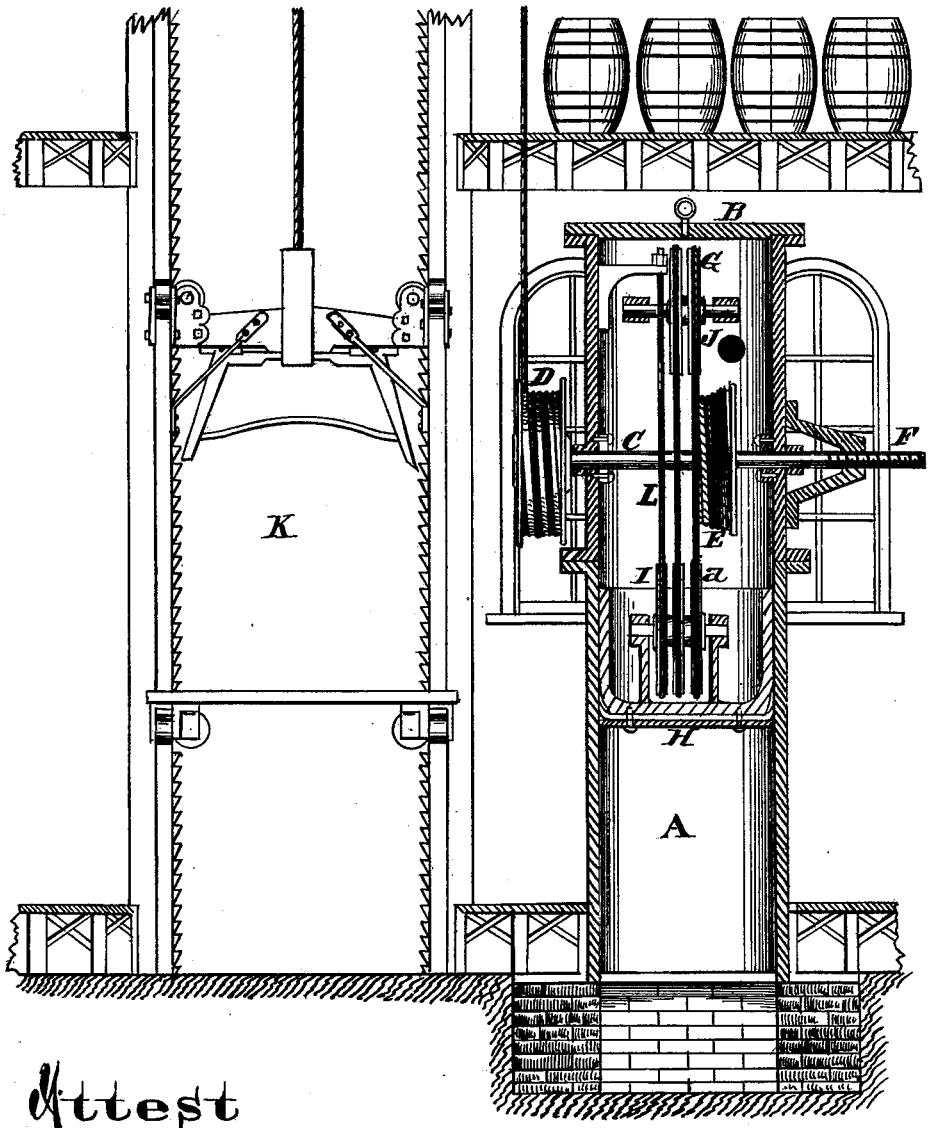
H. J. REEDY.

HOISTING MACHINE.

No. 191,717. Patented June 5, 1877.



Attest

John B. Reich.

Ed Dewald.

Inventor

Henry J. Reedy

by

Henry Millward

atty.

UNITED STATES PATENT OFFICE.

HENRY J. REEDY, OF CINCINNATI, OHIO.

IMPROVEMENT IN HOISTING-MACHINES.

Specification forming part of Letters Patent No. **191,717**, dated June 5, 1877; application filed January 26, 1877.

To all whom it may concern:

Be it known that I, HENRY J. REEDY, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Hoisting-Machines, of which the following is a specification:

My invention relates to certain improvements in hydraulic elevators, and has for its object to practically balance the weight of the cage, and also to economize the amount of floor space required.

My improvements will be fully hereinafter described, and a preliminary explanation of the devices is not therefore deemed essential.

In the accompanying drawing, A is a vertical cylinder, of a convenient length, firmly secured to a suitable foundation. At the nearest practical distance from the top B of the cylinder A a horizontal shaft, C, passes through and is journaled to the said cylinder. A drum, D, is firmly secured to the said shaft at one end on the outside of the cylinder, and at a point near the center a tapering drum, E, is also secured to the same shaft, and is located in the interior of the cylinder. The opposite end of the shaft C to that where the drum D is secured is provided with a thread, F, the pitch of which is equal to the diameter of the cable used. The screw F is constructed to work in a female screw in the cylinder A, or through a stationary nut affixed either on the exterior or interior of said cylinder.

At a point in the cylinder A above the shaft C, and near the top B, are located a number of sheaves, G, and on the piston H are firmly secured the sheaves I, their number being one in excess of those attached to the cylinder A. A cable, L, is attached at one end to the cylinder-top, and at the other to a tapering drum, E, upon which it coils when the piston H is relieved from pressure.

When the pressure is applied to the piston H the piston is made to travel in the cylinder A, causing the drums D and E to revolve in proportion as the drum E is forced to give out cable to supply the sheaves G and I as the distance between them increases. With each revolution made by the shaft C the tapering drum E changes its position laterally, in order to bring the groove from which the cable is leaving in line with the sheave *a*, which is done by means of the screw F.

Upon the drum D is a cable, which communicates with and elevates or depresses the cage K in proportion as the cable is taken up or given out.

The tapering shape of the drum E is for the purpose of compensating for the varying weight of the water in the cylinder acting upon the piston H.

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

The combination of the vertical cylinder A, sheaves G and I, tapering drum E, shaft C, and screw F, the whole being arranged substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 4th day of January 1877.

HENRY J. REEDY.

Witnesses:

HENRY MILLWARD,

JNO. P. MURPHY.