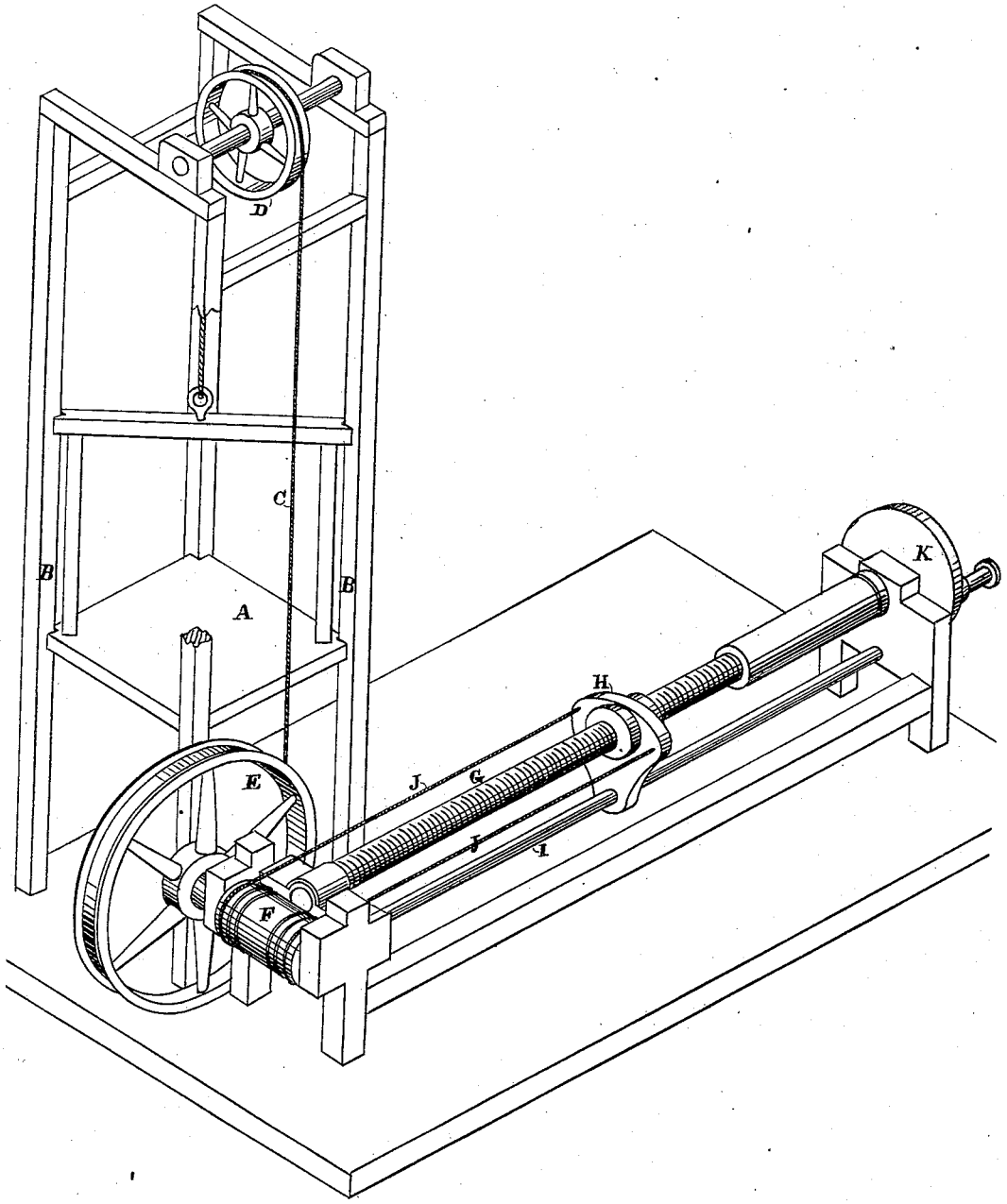
W. HAWKINS.

HOISTING APPARATUS.

No. 193,333. Patented July 24, 1877.




Witnesses

Geo. W. Young

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By Dewey & Co Attys

# UNITED STATES PATENT OFFICE.

WILLIAM HAWKINS, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN HOISTING APPARATUS.

Specification forming part of Letters Patent No. **193,333**, dated July 24, 1877; application filed June 18, 1877.

*To all whom it may concern:*

Be it known that I, WILLIAM HAWKINS, of the city and county of San Francisco, and State of California, have invented an Improved Elevator; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing.

My invention relates to a novel construction for elevators and hoisting apparatus; and it consists in the employment of a screw-shaft having a nut, which is caused to travel from end to end by the rotation of the shaft. This nut is connected by suitable ropes with drums or pulleys for multiplying the motion given by the screw, and to connect with the elevator-cage.

In the accompanying drawing the figure is a perspective view of my device.

A is an elevator-cage, moving in suitable guides B, and operated by the rope C, which passes over a pulley, D, at the top, extending thence down to the winding-pulley E, which is secured to the same shaft with the drum F. These parts are not essentially different from those employed upon many different styles of hoisting apparatus, and may be used equally well with my device, which consists of a screw, G, which, in the present case, is a horizontal shaft, with journals turning in boxes at each end. This shaft has a screw thread or threads cut upon it, and of a pitch sufficient to move a traveling nut, H, at the proper rate of speed. Thus nut has a guide or guides, I, placed in any suitable manner, either singly, as shown, or in pairs at the sides, as may be desired; and the ropes J from the drum are attached to the nut, so that when the nut is drawn outward the drum and pulleys will be rotated and the cage elevated, and when the nut is moved inward the cage will be lowered.

The screw may be driven in any suitable manner; but I have shown a crank, K, at one end, and one or more engines may be connected directly with this shaft, so as to rotate it at the desired speed; or, if desired, a double belt-pulley may be used.

Any of the ordinary devices may be used for stopping the elevator or changing its motion; but I have not considered it necessary to show these, nor any other than the present arrangement and connection of the screw with a hoisting apparatus.

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

The device herein described for operating elevators and hoisting apparatus, consisting of the rotating screw-shaft G, with its traveling nut H, in combination with the operating-ropes and the speed-increasing drums and pulleys E F, or equivalent devices, substantiantially as herein described.

In witness whereof I have hereunto set my hand.

WILLIAM HAWKINS.

Witnesses:
GEO. H. STRONG,
FRANK A. BROOKS.