

W. C. Williamson,

Elevator,

No 85,415,

Patented Dec. 29, 1868

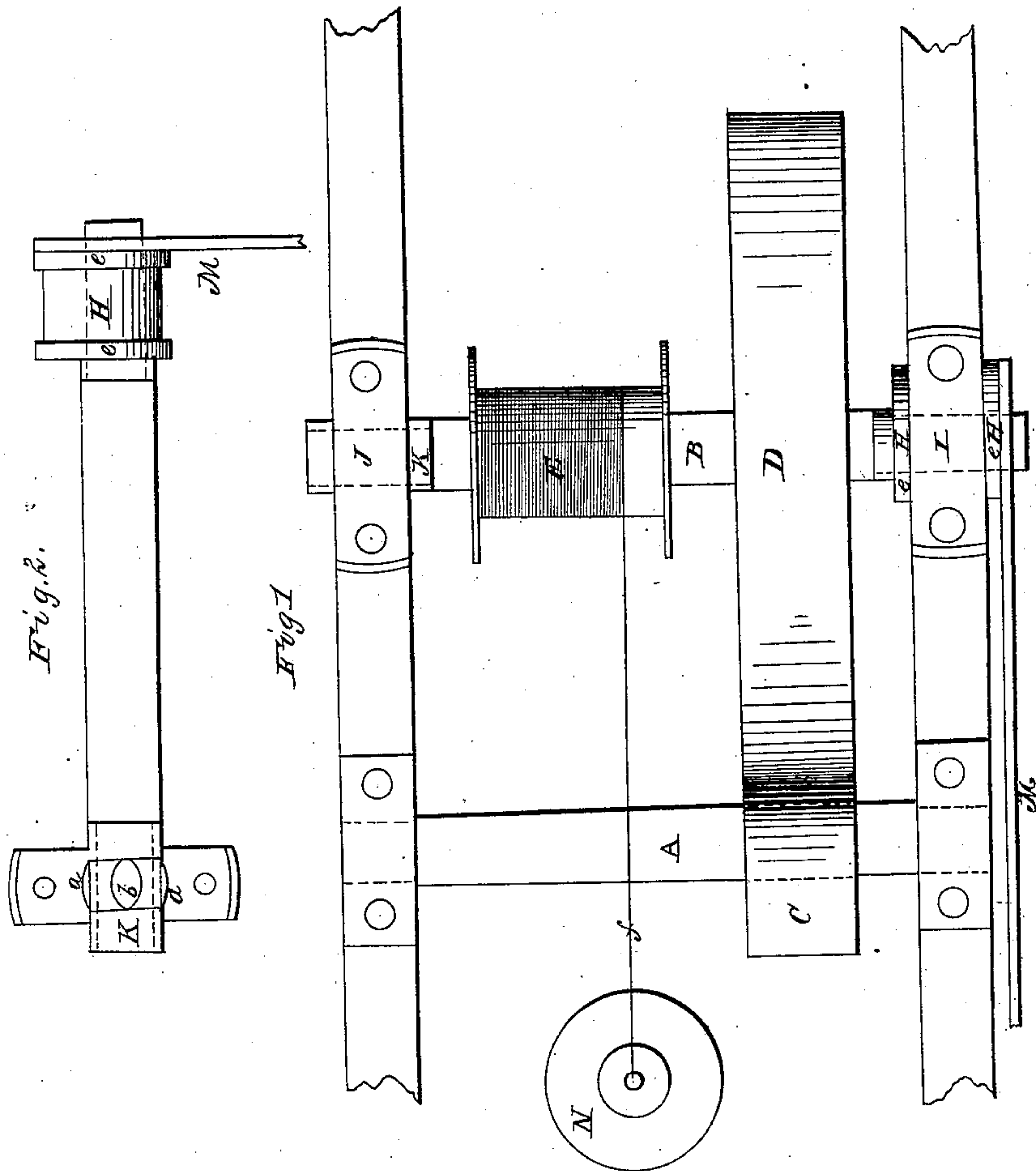


Fig. 1.

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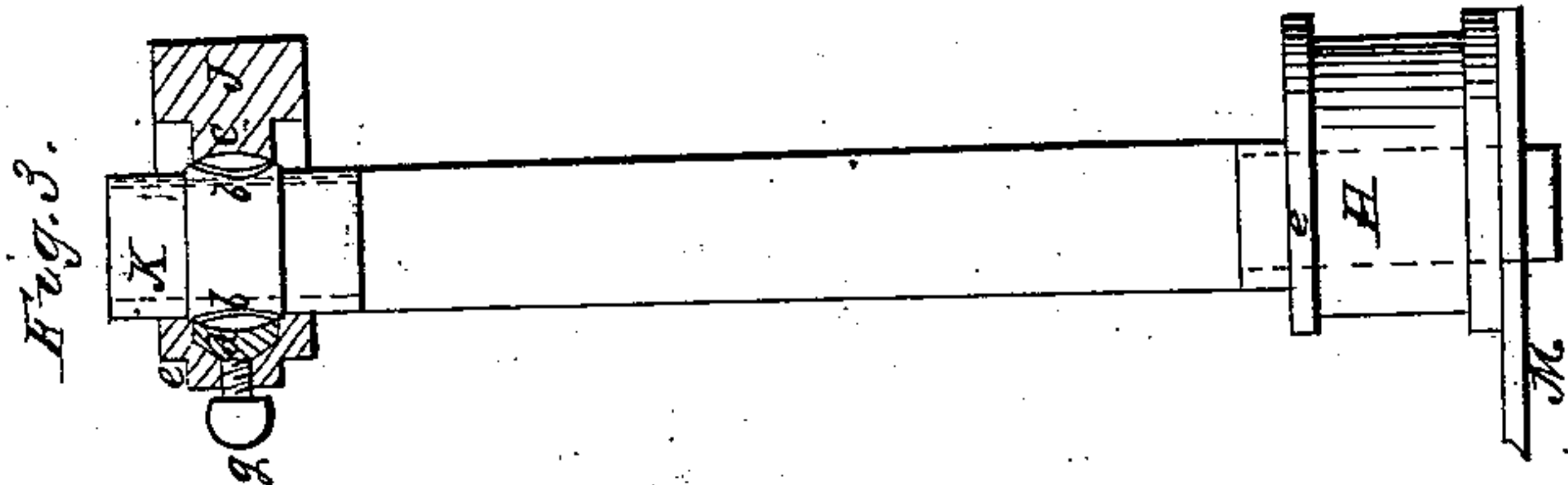


Fig. 2.

Witnesses.
David L. Collier
John Blair

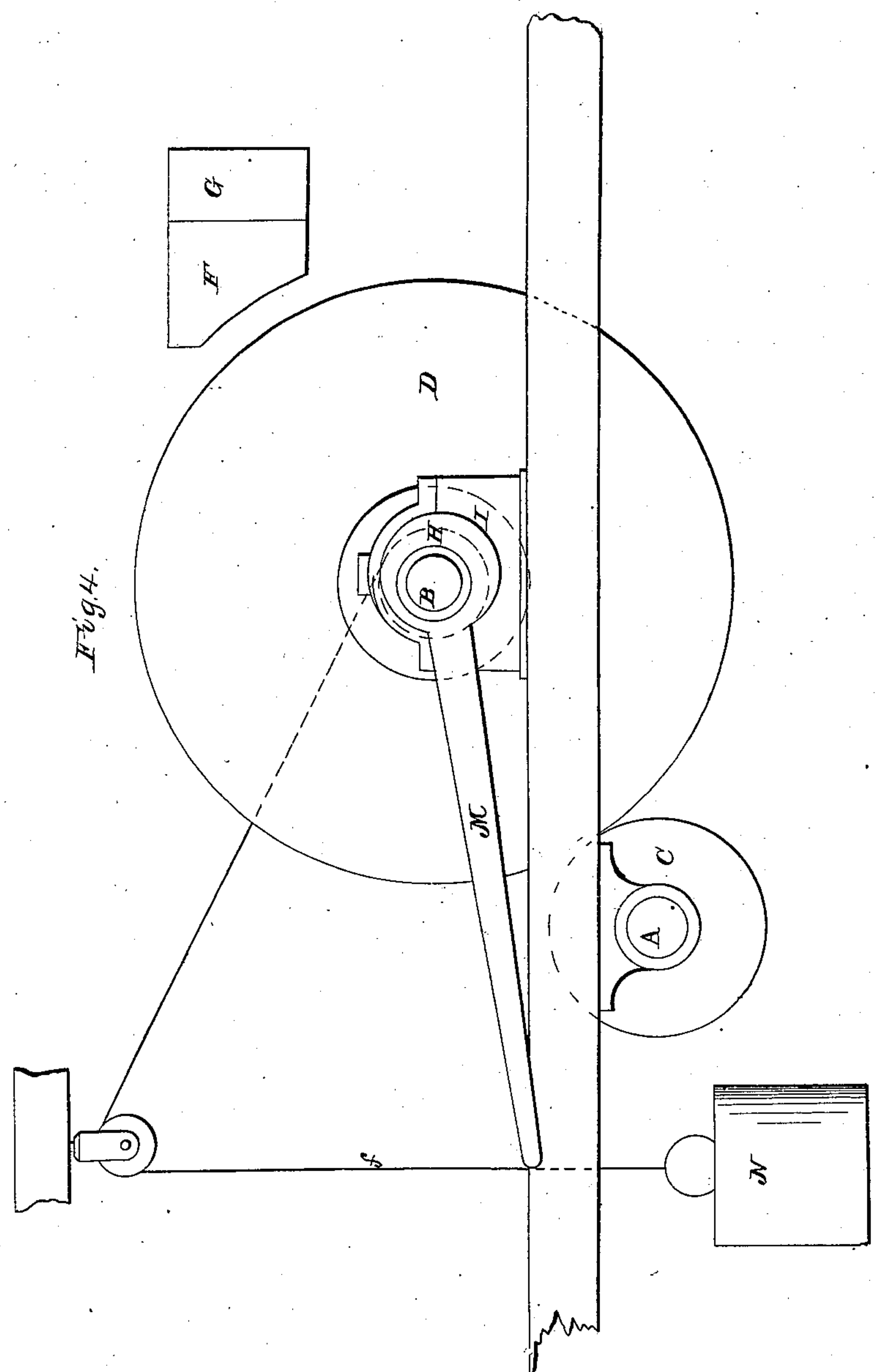
Inventor
William C. Williamson
per Francis D. Patterson

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Witnesses.
David S. Collier
John Wick

Inventor
William C. Williamson
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Atty

UNITED STATES PATENT OFFICE.

WILLIAM C. WILLIAMSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HOISTING-MACHINES.

Specification forming part of Letters Patent No. 85,415, dated December 29, 1868.

To all whom it may concern:

Be it known that I, WILLIAM C. WILLIAMSON, of the city of Philadelphia, and State of Pennsylvania, have invented an Improved Hoisting-Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying sheets of drawings, and to the letters of reference marked thereon.

This invention relates to a machine for hoisting. It is designed to be either portable or permanent, and is applicable to the raising and lowering of goods and other materials in warehouses, ships, or elsewhere.

On reference to the accompanying sheets of drawings, making part of this specification, Figure 1, Sheet 1, is a plan view. Fig. 2 is a plan view of the friction-wheel shaft. Fig. 3 is a view of the friction-wheel shaft, showing the method of swiveling and balancing one end; and Fig. 4, Sheet 2, is a side view of the machine.

Similar letters refer to similar parts in the several views.

A B are shafts, which turn in boxes fitted to the joists of the warehouse or other building in which the machine is erected. The shaft A has the friction-pulley and driver C, while the shaft B has the friction-wheel D and the drum E, around which the rope, chain, or other device employed for suspending goods or other materials in the process of raising and lowering is wound. A friction-block or shoe, F, is fixed to the joist G, in proximity to the periphery of the friction-wheel D, its surface being curved to correspond with the same. The friction-pulley C, the friction-wheel D, and the shoe or block F should be in the same vertical plane, at right angles to the shafts A and B. H is an eccentric-wheel, which turns in the box or pedestal I.

One end of the shaft B takes through and turns in a correspondingly circular opening or bearing formed in it, the centers of the shaft and the eccentric being different. The other end of the shaft is balanced to swivel by the action of the eccentric, as shown in Figs. 2 and 3 of the accompanying drawings.

The chamber of the pedestal J is made larger than the diameter of the sleeve K, in which that end of the shaft turns, it being reduced to form a journal. (Shown in dotted lines.)

On each side of the sleeve a lug, *a*, is formed, the outer edge of each being curved to correspond with curved slots formed in the chamber of the pedestal, into which they take. The purpose of these lugs is to prevent the shaft from moving in the direction of its length, and at the same time permit it to swivel by the action of the eccentric-wheel H.

On the top and bottom of the sleeve K other lugs, *b*, are formed, their outer ends being also rounded, the lower one taking into a correspondingly rounded end of the post *c*, which projects upwardly from the bottom of the chamber of the pedestal J, forming part of it.

The upper lug takes over the rounded end of the plug *d*, which fits into a recess in the cap *e* of the pedestal. The lugs *b*, together with the post *c* and the plug *d*, prevent the sleeve K from turning with the shaft B, while, at the same time, they permit it to freely swivel.

The ends of the shaft B, which turn in the eccentric-wheel H, and the sleeve K are reduced in diameter, (shown in dotted lines,) to shoulder against the inner ends of the eccentric and the sleeve, whereby the shaft is held from moving in the direction of its length or escaping from its bearings by the action of the eccentric.

The rings or flanges *e* of the eccentric, which take over or rather on both sides of the pedestal I, retain the eccentric in its position in the pedestal.

As shown in the accompanying drawings, the friction-wheel D is in contact with the friction-pulley C, and the machine supposed to be hoisting. If it be required to lower the weight N, the lever M, which controls the action of the eccentric-wheel H, is moved in the proper direction until the wheel D is suspended between the friction-pulley C and the shoe or block F; then the load, having no resistance to overcome, descends by its own weight, acting through the medium of the rope *f* on the drum E and the shaft B, causing them to turn and the rope to unwind. If it be required to stop the machine, the lever is moved sufficiently to cause the eccentric to throw the periphery of the wheel D into the curve of the shoe or friction-block F, where it is held, by frictional contact, from turning.

It will be readily seen that the turning of the eccentric in its bearing throws that end of

the shaft either backward or forward, as the case may be, which could not be accomplished if the other end of the shaft were not permitted to swivel.

To give the swivel end of the shaft the required stiffness, a binding-screw, *g*, Fig. 3, screws through the top of the cap of the pedestal J, bearing on the top of the plug *d*.

The machine is described as permanent. It can be made portable by using suitable framing and transporting devices.

What I claim as my invention, and desire to secure by Letters Patent, is—

The eccentric-wheel H, when used in connection with the friction-pulley C, the friction-wheel D, and the shoe F, for the purpose shown.

In testimony whereof I hereunto sign my name to this specification in presence of two subscribing witnesses.

WILLIAM C. WILLIAMSON.

Witnesses:

JOHN A. HURLEY,
FRANCIS D. PASTORIUS.