H. M. Smith,

Elevator.

No. 63,955. Patented Apr. 16, 1867.

Fig. 2.

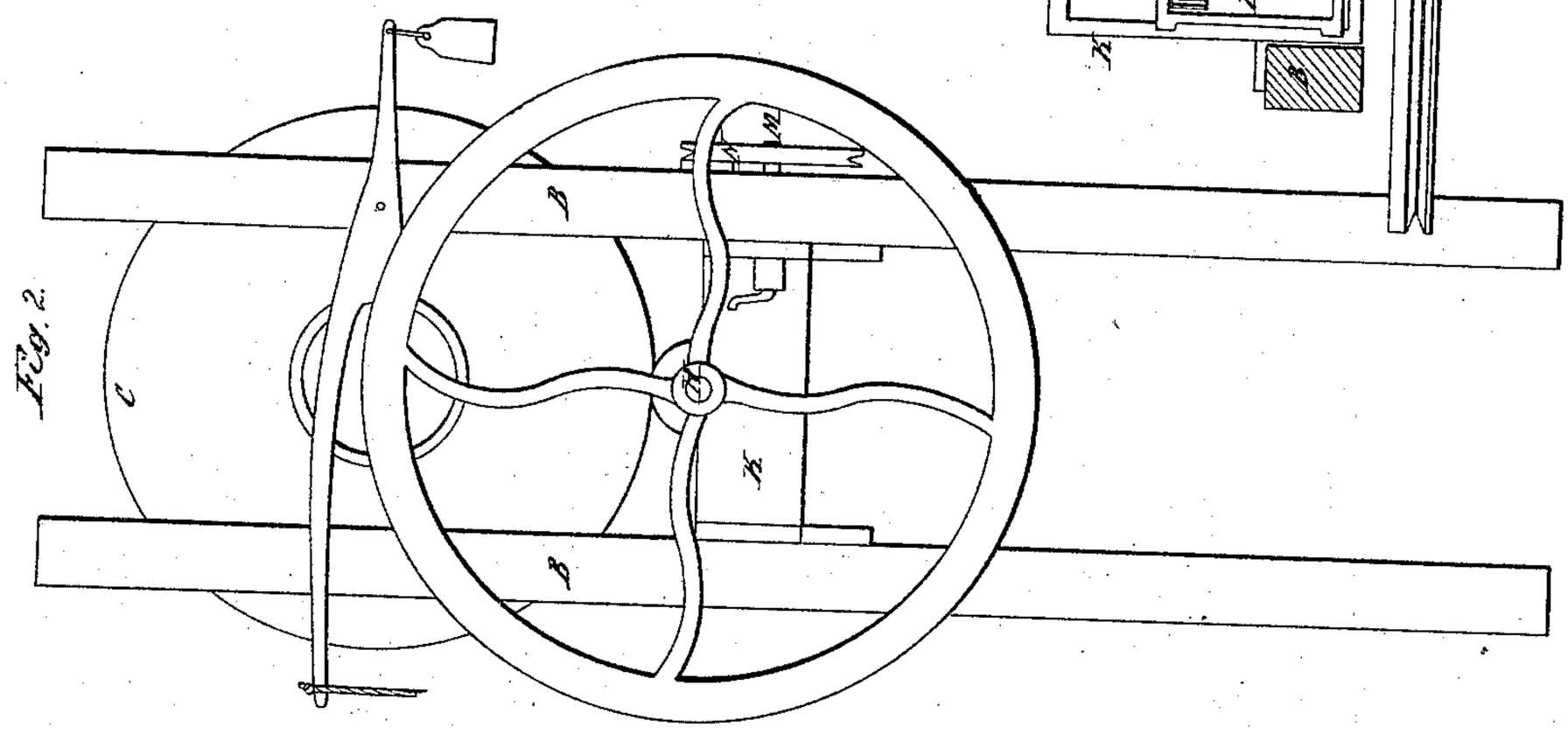


Fig. 3.

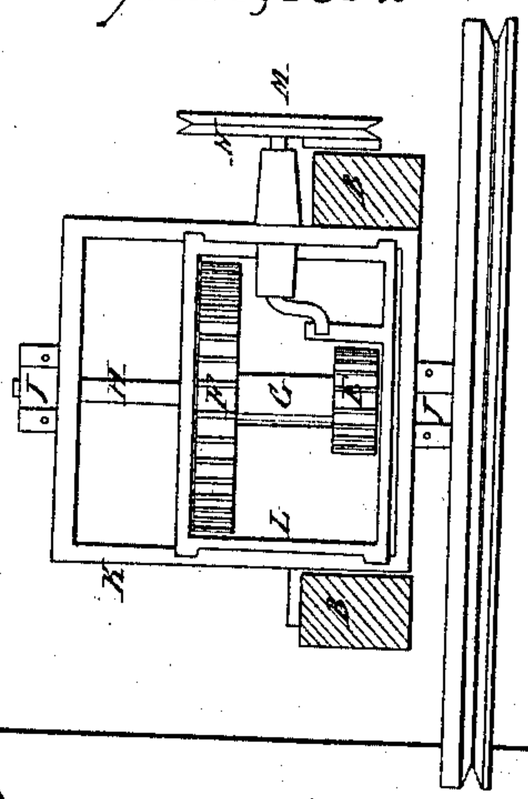
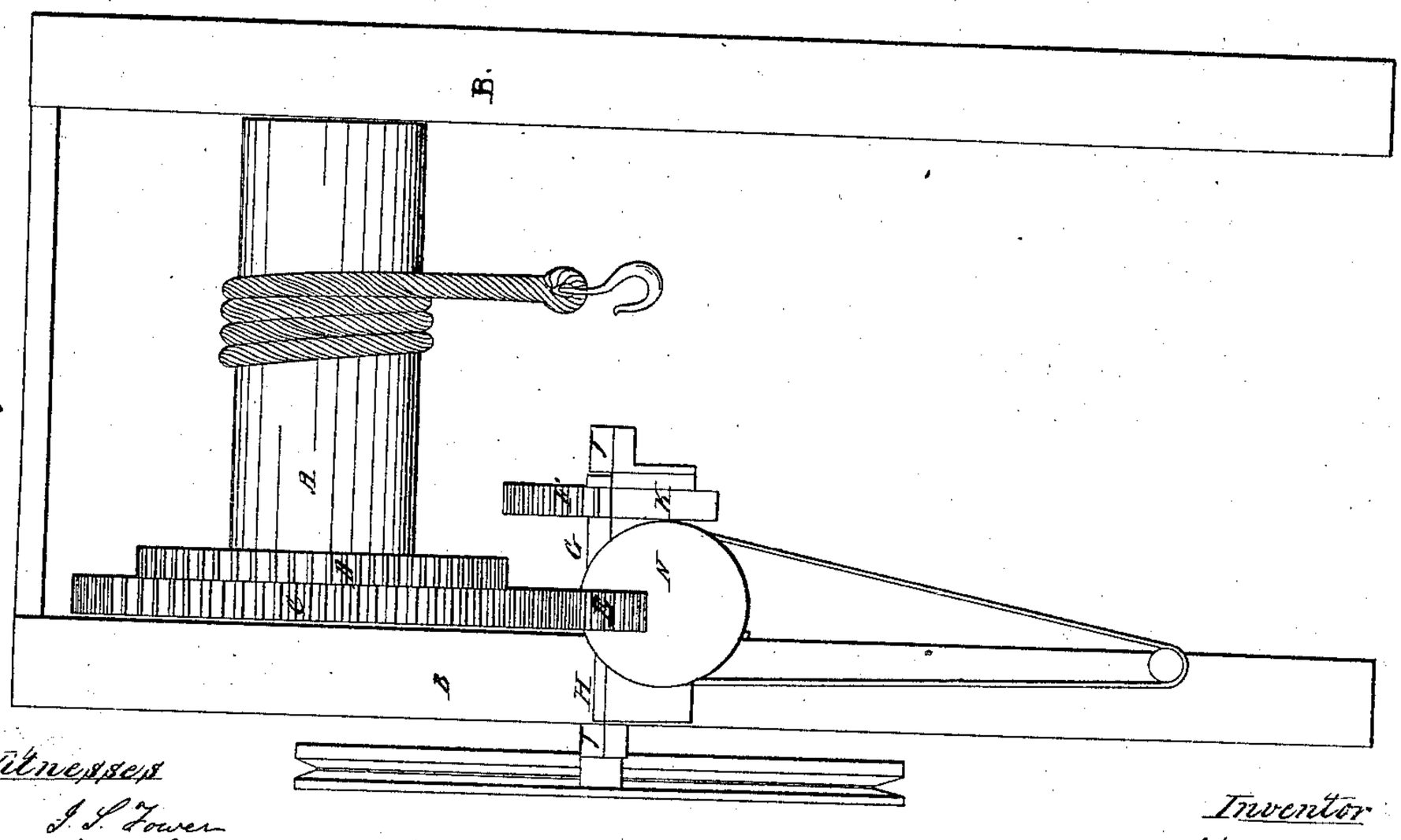


Fig. 1.



Witnesses

J. L. Lower

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HIRAM MOORE SMITH, OF RICHMOND, VIRGINIA.

Letters Patent No. 63,955, *dated April* 16, 1867.

IMPROVEMENT IN HOISTING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HIRAM MOORE SMITH, of the city of Richmond, and State of Virginia, have invented a new and useful Improvement on a Machine for Hoisting Goods and Material in Stores, Warehouses, Depots, &c.; and I do hereby declare that the following is a clear and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a horizontal section.

Figure 2 a transverse, and

Figure 3 a vertical section, showing the frame carrying the rope, wheel, axle, and the pinions, with the frame, crank, &c., that control them.

The same letters refer to the same parts in each of the figures.

I construct a cylinder, A, and support it in the ordinary way, say by four posts B B B B. On one end of this cylinder I hang a double gear-wheel proportioned to suit the business, say ordinarily, C, about thirty inches diameter, and, D, about three-fourths as large; then I have the pinion E about five inches diameter, to gear with C, and another pinion, F, of suitable size to gear into D, with its centre corresponding with E; E and F I hang upon a tube-shaft G, about five inches apart, so that only one pinion can be in gear at the same time. The two pinions and tube-shaft G are fitted to work on the rope-wheel shaft H, which has a feather on opposite sides working into corresponding grooves in tube G. The rope-wheel shaft H works in boxes J J, in ends of iron frame K, which is securely attached to B B. Another frame, L, works inside of K, with shaft H passing through it, and through the pinions which are controlled endwise by L. The crank-shaft M, with wrist working in vertical groove in L, with loaded wheel N on outer end making a little over a half revolution, is made to move either pinion into gear. The wheel N is loaded on side corresponding with the wrist of the crank, and as it passes the crank a little beyond the dead-centre each way, secures either pinion in gear beyond the possibility of jarring loose.

The machine is operated in usual way. To shift the gear, a small rope passes over wheel N, and is made fast at a point opposite the wrist of the crank; the two ends pass down through the floors as low as the hand-rope; then, by pulling either one until the loaded wheel N is beyond its balance, the corresponding pinion is permanently secured in gear.

I do not claim the first invention of two motions to a hoisting machine. What I do claim, and desire to secure by Letters Patent, is—

When applied to a hoisting machine, the double wheel on the cylinder A, the two pinions combined and working on the rope-wheel shaft, the crank and loaded wheel for moving and holding them securely in gear, the whole constructed and operating as above described and set forth.

H. M. SMITH.

Witnesses:

ISAAC S. TOWER,

J. T. SMITH.