

Fig. 1.

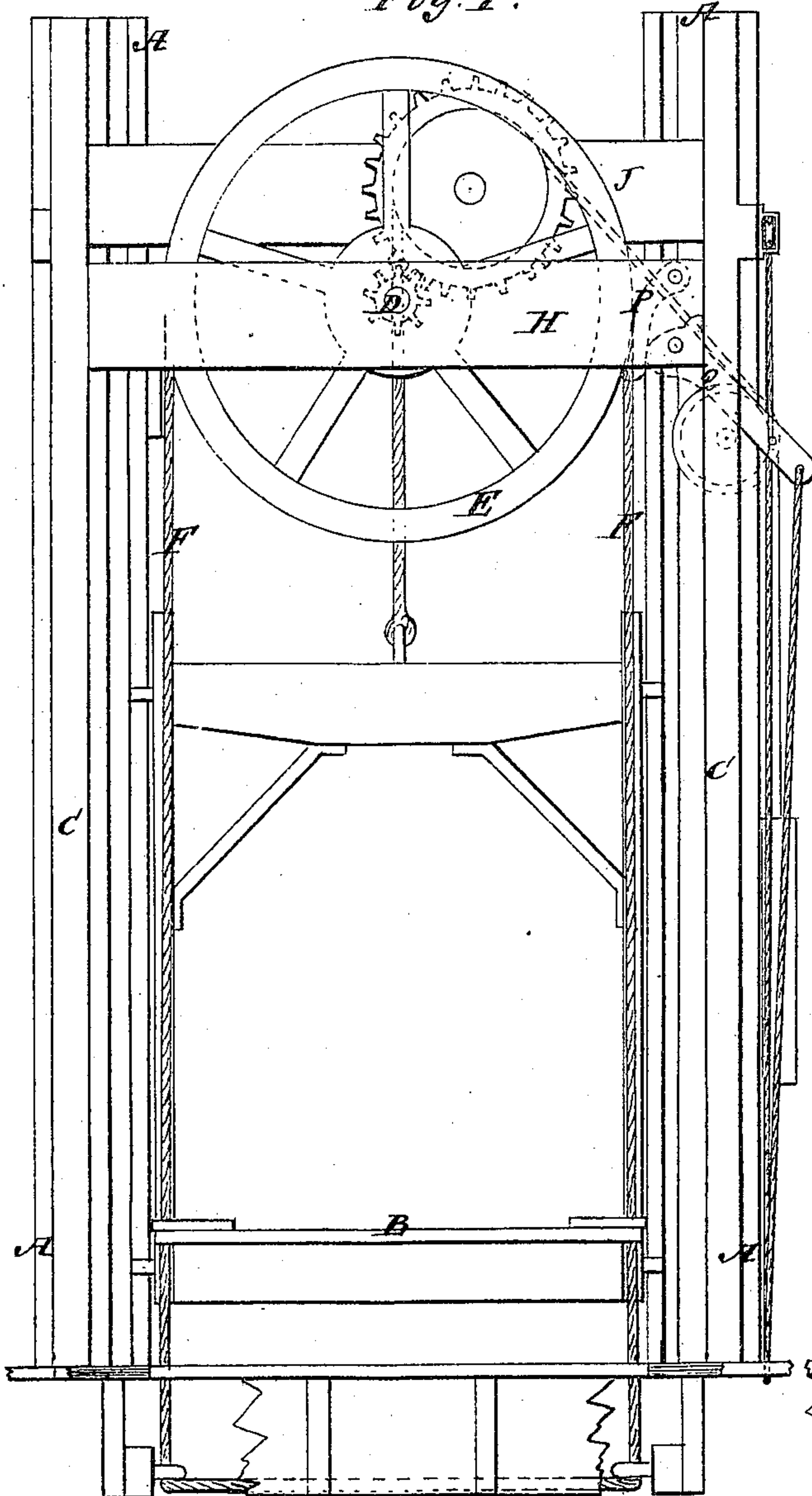


Fig. 2.

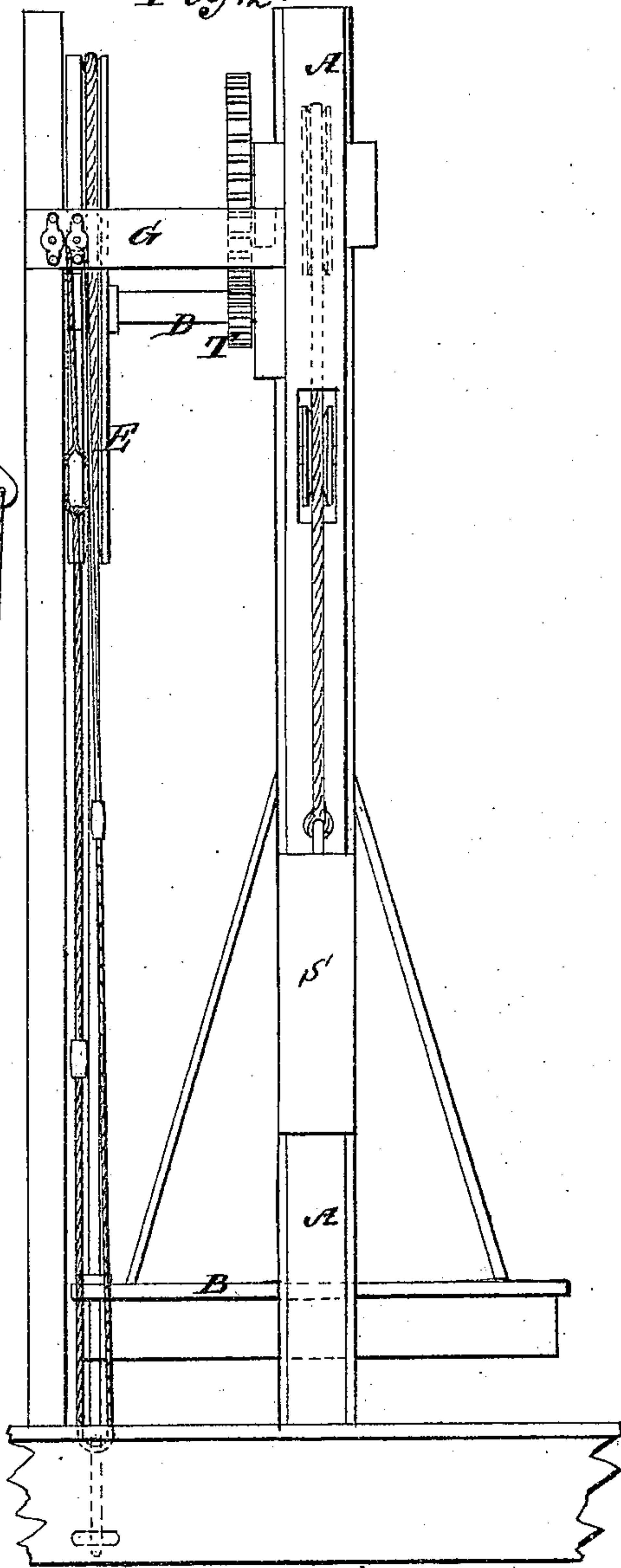


Fig. 3.

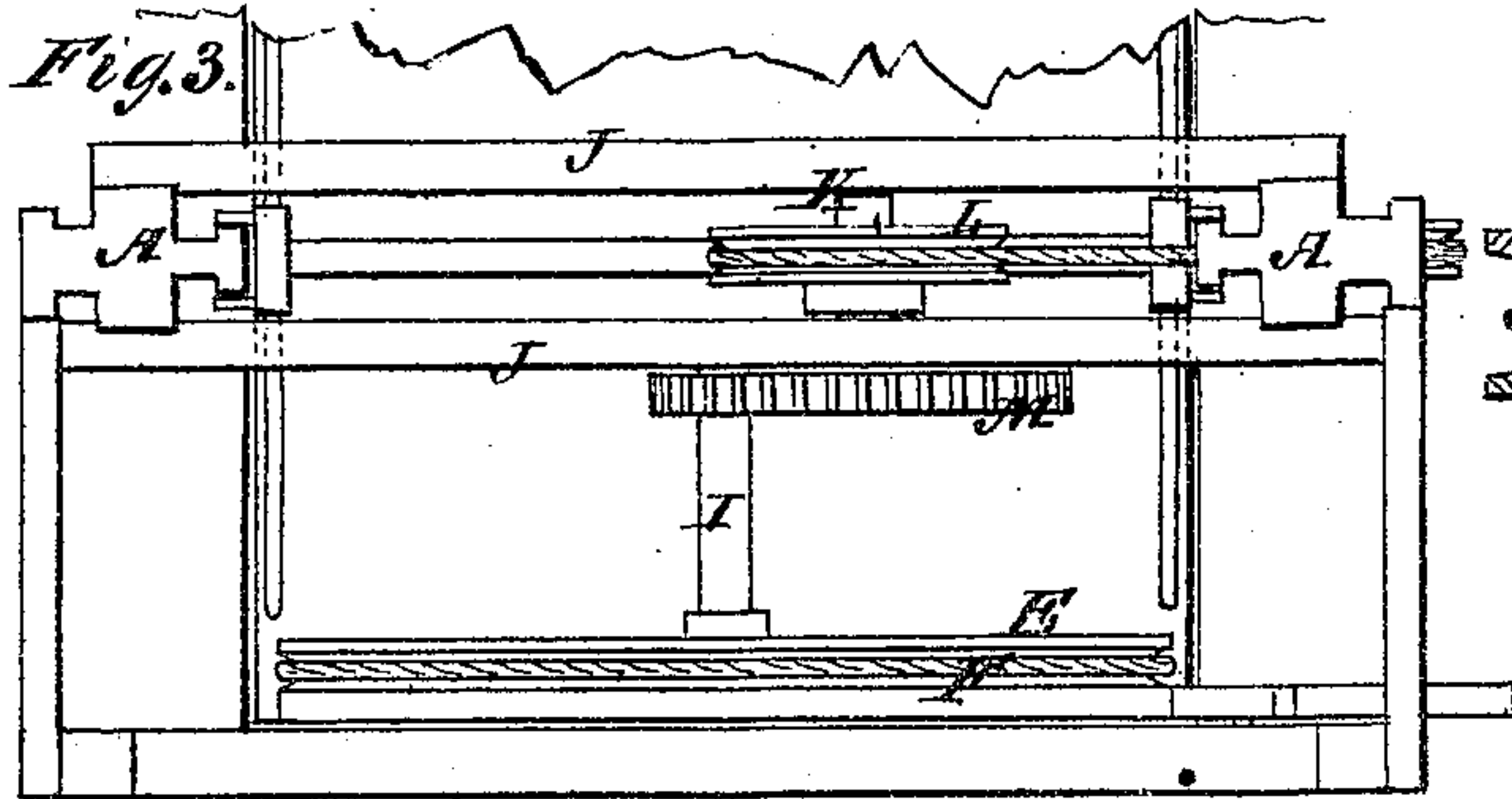


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

PATRICK BYRNE, OF NASHVILLE, TENNESSEE.

IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. 119,572, dated October 3, 1871.

To all whom it may concern:

Be it known that I, PATRICK BYRNE, of Nashville, in the county of Davidson and State of Tennessee, have invented a new and useful Improvement in Elevators; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention consists in the improvement of elevators, as hereinafter fully described and subsequently pointed out in the claim.

Figure 1 is a side elevation. Fig. 2 is another side elevation, the view being perpendicular to that of Fig. 1. Fig. 3 is a top view, and Fig. 4 is partly a top view and partly a section of the hoisting-rope pulley.

Similar letters of reference indicate corresponding parts.

A represents the two main posts, which serve for the ways or guides for the platform B, and C represents two other posts for the support of one end of the shaft D of the large drum E, whereon the hand-rope F works. These posts are placed at one side of the hatchway, say the rear or wall side, and are connected near the top, by the short pieces G, with the posts A. H is a beam extending from one to the other of the posts C, and supporting one end of the shaft D of drum E, near its center, on its upper side, while the other end is supported at the under side of one of a pair of beams, J, extending from one to the other of the posts A parallel with H, but a little higher, and supporting the short shaft K of the hoisting-pulley L, near their upper sides, the said hoisting-pulley being placed between them and the shaft extending through the one fronting the drum E, and carrying a large wheel, M, gearing with a pinion, T, on shaft D. The drum E is placed as near the beam H as it can be, so that while the hand-rope F is at the rear side of the platform, out of the way of the load placed on it, yet it is arranged so that it passes through the platform at the edge, where it can be actu-

ated by a person on said platform with facility. This arrangement of the frame and operating-gears simplifies the construction and cheapens the cost materially. In order to avoid the cutting and wear of the hoisting-rope, now so common, by the serrated walls of the V-grooves of the hoisting-wheels, and yet insure such hold of the rope as to prevent its slipping when the platform is heavily loaded, I propose to form the groove N in the wheel on a true semicircle of the same size as that of the rope, and provide the walls with ribs O, preferably in spiral form, so that instead of limiting the action of the ribs on the rope to two narrow spaces, one on each side, they apply to fully one-half of the rope, and have greater adhesion, while they injure it less, because of the greater surface contact, which resists the cutting better. The spiral form of the ribs affords greater surface contact than annular ribs would. The hoisting-rope has a weight, S, attached to the end, as in other machines of this kind, to cause it to bind in the groove of the wheel. The brake-shoe P and lever Q, when arranged under the drum E, as heretofore, are sometimes very much in the way of loading and unloading the platform, especially when the upper story of the warehouse, or the one on which the elevator's frame and machinery is supported, is low, and when the arrangement is such that it is desirable to pass the freight under the wheel, which sometimes happens. I therefore arrange the shoe and pawl higher up on the wheel, say as high as the axis, pivoting them on the beam H, as shown, when they are entirely out of the way, and I save the expense of fixtures under the wheel for supporting them.

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

The arrangement of the posts A C, beams H J, drum E, shaft D, pinion T, wheel M, and hoisting-wheel L, substantially as specified.

PATRICK BYRNE.

Witnesses:

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(63)