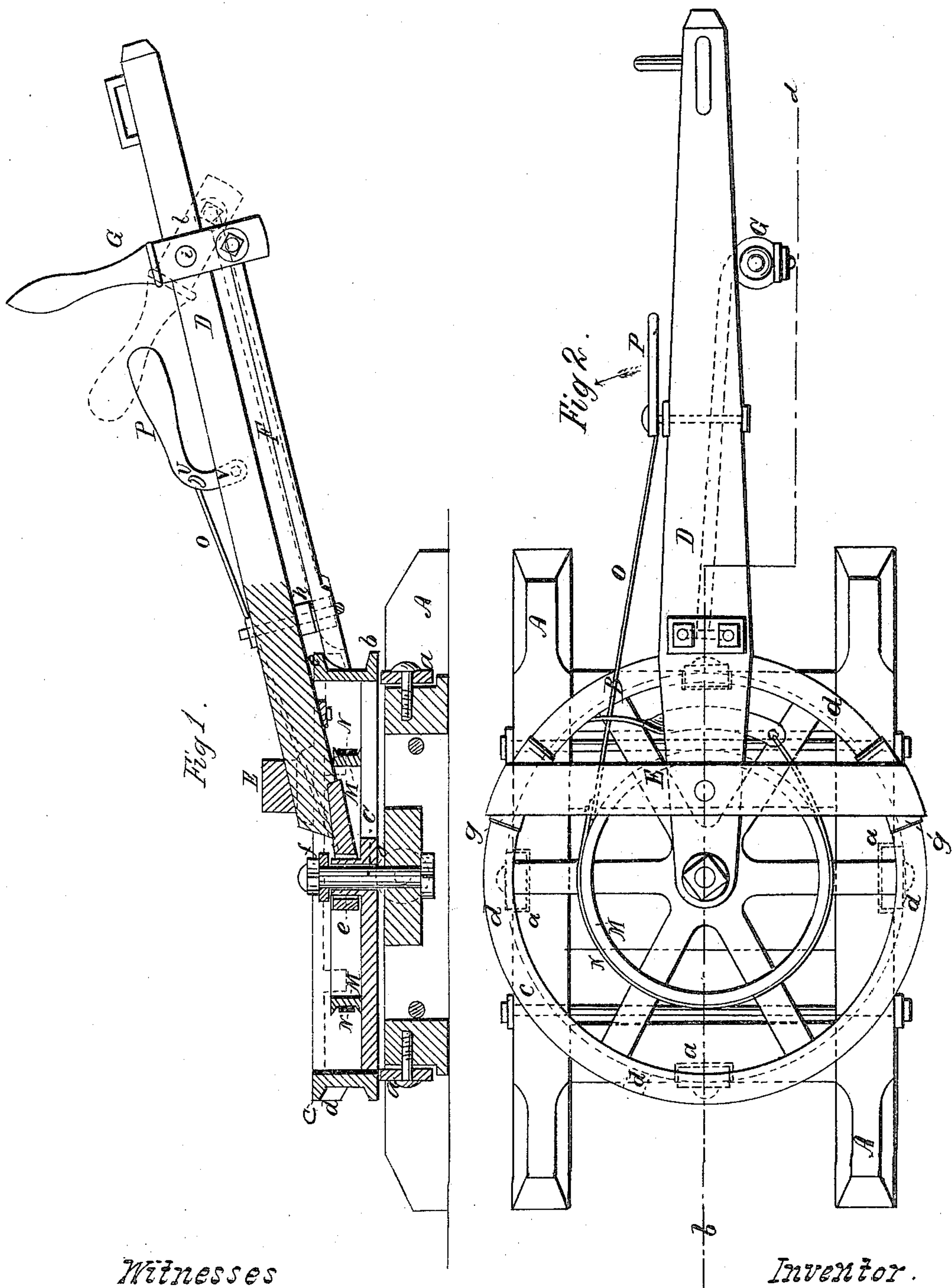


P. K. DEDERICK.
HORSE-POWER FOR HOISTING.

No. 172,397

Patented Jan. 18, 1876.



Witnesses

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IMPROVEMENT IN HORSE-POWERS FOR HOISTING.

Specification forming part of Letters Patent No. 172,397, dated January 18, 1876; application filed February 27, 1873.

To all whom it may concern:

Be it known that I, P. K. DEDERICK, of Albany, in the county of Albany and State of New York, have invented certain Improvements in Horse Hoisting-Machines, of which the following is a specification:

The invention is particularly designed for the hoisting of weights, unloading vessels, &c., and is so constructed that the horse-lever is detached from the wheel when it is reversed, and the reversing of the machine and uncoil of the rope regulated by a friction strap and lever.

Figure 1 is a vertical central section of my invention. Fig. 2 is a plan or top view of the same.

Similar letters indicate similar parts.

A represents a rectangular frame, on which a horizontal wheel, B, is placed, said wheel being fitted loosely on a vertical stationary shaft, C, secured centrally in the frame A, as shown in Fig. 1. The frame A has friction-rollers *a* attached to it, on which the wheel B rests, the lower edge of the latter being provided with a flange, *b*, as shown in Fig. 1. The upper end of the wheel B is also provided with a flange, *c*, which projects outward, and is provided at its under side with lugs *d* at suitable and equal distances apart, as indicated by the dotted lines in Fig. 2. D is a sweep, the inner end of which is fitted loosely on the upper part of the hub *e*, and secured thereon by a nut, *f*. This sweep has a cross-bar, E, attached to it near its inner end, said bar being provided with shoes *g g*, one at each end, and directly over the upper flange of the wheel, as shown in Fig. 2. To the under side of the sweep D there is fitted a slide, F, the inner part of which works in a suitable guide, *h*, the outer end being attached to a lever, G, which is connected to the sweep D by the fulcrum-pin *i*. On the arms of the wheel B a metal or cast circle, M, is firmly secured, around which a strap or iron band, N, is passed with one end attached to the sweep D, and the other secured to the rod O, connecting the strap N and lever P. The lever P is curved, or of L-form, and with the lower end secured to the sweep, so that, by pressing down on the lever,

the strap is drawn up around the wheel—or, in other words, the weight, acting on the lever in a vertical line, exerts a horizontal force.

By securing the lever P to the sweep at its angle of the L, and attaching the strap-rod at the end now attached to the sweep, would produce the same result in the same manner.

This is a very important improvement, as it enables a small boy to exert by his weight what would require the strength of a man on a lever like G.

The operation is as follows: The article to be hoisted or operated upon is connected to the wheel B by shoving the slide F inward through the medium of the lever G, the slide F serving as a pawl, in consequence of its inner end coming in contact with one of the lugs *d*. The sweep D, being drawn around by the horse, the rope or chain is wound upon the wheel B, and the article thereby hoisted or elevated; and when it is to be lowered the slide F is thrown outward from the wheel B, so as to release the latter from the sweep, and the elevated article will fall by its own gravity, the speed of its fall being regulated by the attendant pressing down upon the lever P, which causes the strap to bear upon the face of the circle M, and, with greater or less friction, according to the pressure upon the lever.

In hoisting articles such as coal from vessels it will be seen that the filled bucket can be lowered without backing the horse, and the speed of the descent graduated, as described.

Having thus described my invention, I claim as follows:

The combination of the horizontal grooved wheel B, having the center M, with the oblique sweep D secured to it, as described, and with the brake-strap N, connecting-rod O, and angular lever P, the latter being arranged at the outer end of the sweep, near the clutch-lever, as herein set forth, for the purpose specified.

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Witnesses:

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