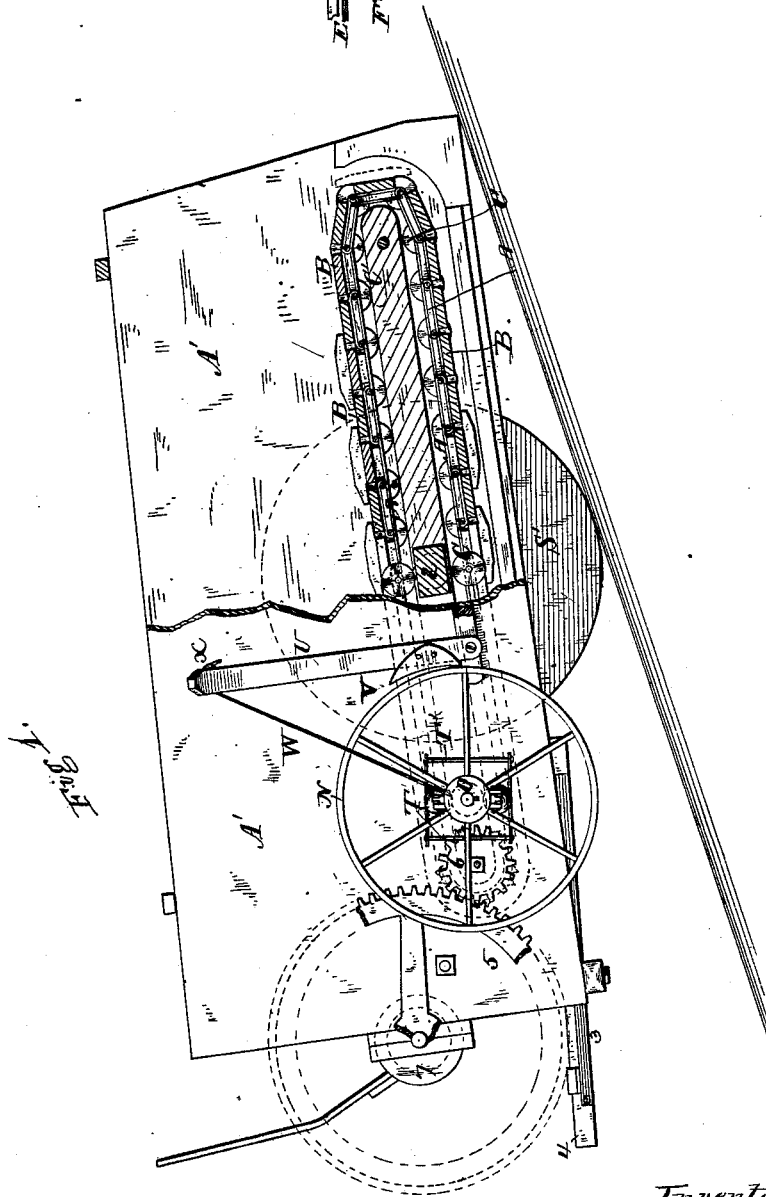
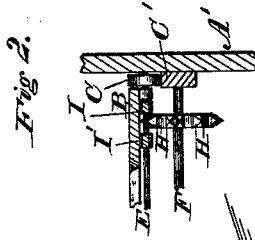


P. K. DEDERICK.  
Horse-Power.

No. 215,214.

Patented May 13, 1879.



Witnesses.  
Emanuel Blount  
W. Blackstock.

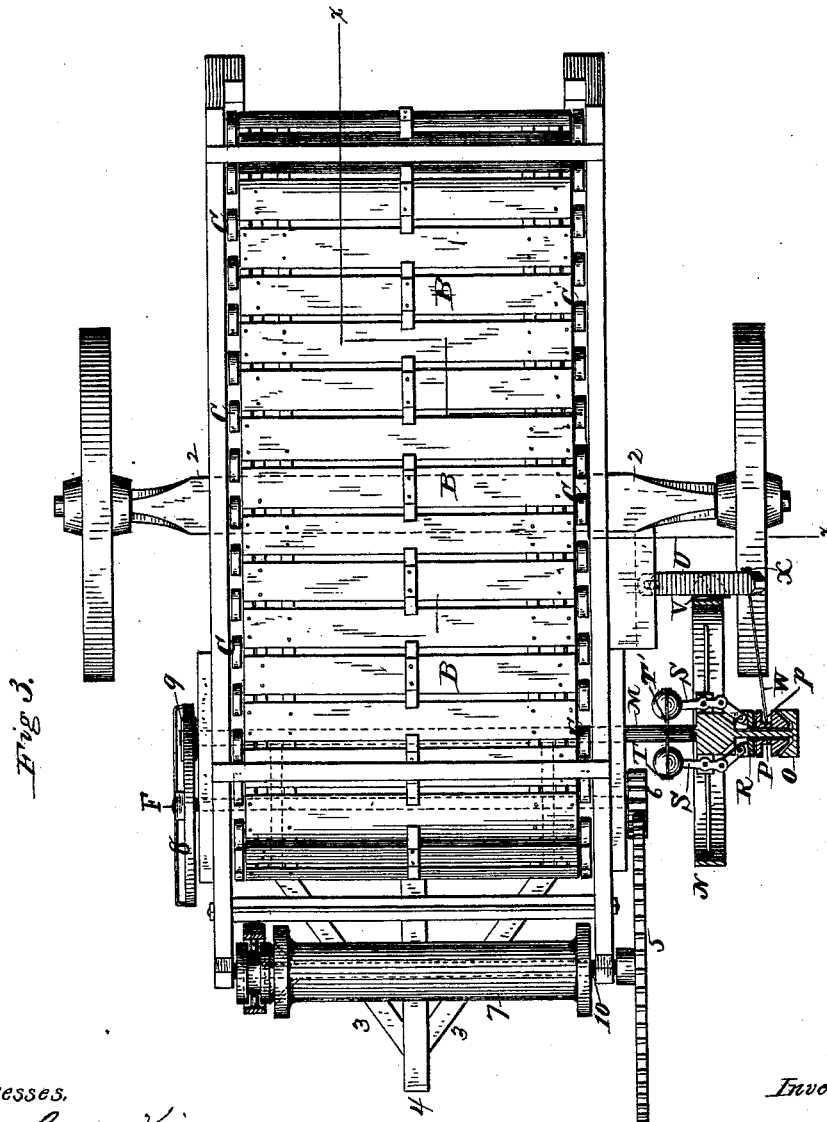
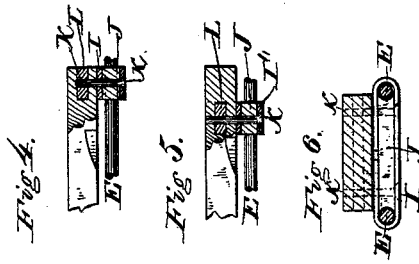
Inventor.  
Peter K. Dederick  
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Witnesses.

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# UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF ALBANY, NEW YORK.

## IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. **215,214**, dated May 13, 1879; application filed August 14, 1878.

*To all whom it may concern:*

Be it known that I, PETER K. DEDERICK, of Albany, Albany county, New York, have invented certain new and useful Improvements in Horse-Powers; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a horse-power, partly in section, constructed in accordance with my invention, and in position for use. Fig. 2 is a detail view, showing the means employed for supporting and operating the endless chain or platform. Fig. 3 is a top-plan view, intended particularly to illustrate the hoisting attachment and the mechanism for controlling or governing the speed of the power. Figs. 4, 5, and 6 are views showing the manner of securing the links to the lags of the endless platform.

Similar letters of reference in the several figures denote the same parts.

This invention relates to improvements in that class of horse-powers in which an endless chain or traveling platform is employed to impart motion through suitable gearing to a driving-shaft; and it consists, primarily, in an endless-chain horse-power hung at or near its center upon an axle provided with suitable supporting-wheels, whereby the power is nearly or quite balanced, and is adapted to be tilted on said axle into proper inclined position for working, and also to be conveniently transported from place to place.

It further consists in the manner of supporting the rods which connect the links of the endless chain, whereby said rods are materially strengthened and held in their proper relative position, and the chain prevented from binding.

It further consists of means for governing and regulating the speed of the power, so that the same shall be uniform under all circumstances.

It further consists in the combination of a hoisting attachment with the power, all which I will now proceed to describe.

In the accompanying drawings, A' represents the frame of the power; A, the endless chain; B, the lags secured to the endless chain;

and C, friction-rollers, upon which the endless chain is supported as it rides over the guiding-track C'.

The parts thus generally referred to are to be found in other powers of this class, and hence need no particular description at present.

In mounting this power I employ but a single axle, 2, and this I pass transversely through the endless belt at or near the center of the power, as seen clearly in Figs. 1 and 3, so that the portions on either side of the axle will nearly or quite balance each other.

The advantages obtained by this construction are twofold: First, it adapts the power to be easily transported from place to place; and, secondly, it enables the power to be tilted on the axle, so as to bring it at the proper inclination for working.

E are the rods which connect the links of the endless chain, and by which the motion of the said chain is imparted to the sprocket-wheels H, mounted upon the shaft F.

Heretofore it has been customary to support these rods upon one side of the sprocket-wheels only, and the consequence has been that the rods were often bent and thrown out of line, causing undue friction and a binding of the parts.

To obviate this difficulty I employ an inside link, I', on every other lag, and thus furnish a support to the rods on each side of the sprocket-wheel, as seen in Fig. 2. By this arrangement neither the tension nor weight of the horses can bend or displace the rods so as to interfere in the slightest with the smooth and even operation of the endless chain.

The links I I' of the endless chain are of wrought-iron, bent around pieces of hard wood J, so as to admit of the passage of one of the rods E at each end, and they are secured to the lags B by bolts K, which screw into a plate or bar, L, mortised through the lag, as shown in Figs. 5 and 6, or slotted into the end of the lag, as represented in Fig. 4, or located on the bottom of the lag, as will be readily understood.

This construction is neat, firm, and inexpensive. The shaft F, upon which the sprocket-wheels H are mounted, is provided at one end with a large internally-cogged gear-wheel,

8, with which meshes a pinion, 9, on the shaft M, carrying the belt wheel or pulley N. The belt-wheel shaft is extended beyond the belt-wheel, and at its extremity is provided with a stationary plate, O, the inner surface of which is preferably concave. A spool or pulley, P, is loosely mounted on the shaft M, between the stationary plate, O, and a sliding plate or collar, R. This sliding plate R is connected by a jointed connection to the short arms of governor-levers S S, which are pivoted to the hub of the belt-wheel. The long arms of these levers are weighted, and are adjustably connected with each other by springs T and rods T', as shown in Figs. 1 and 3. The outer face of the spool P is preferably made convex, to correspond with the inner face of the stationary plate O, and the inner face of said spool is made plain, to correspond with the face of the sliding collar R. All these friction-faces, however, may be plain or concave and convex.

The spool P is provided with a peripheral groove, p, and in said groove one end of a cord, W, is fastened, the other end of said cord being connected to a pivoted lever, U, having a brake-shoe, V, adapted to bear upon the periphery of the belt-wheel N.

It is evident that by the employment of these devices the speed of the power is regulated and governed automatically. Should there be a tendency to "race" the increased rotation of the belt wheel shaft would throw the weighted ends of the governor-levers outward, and cause the sliding plate or collar to clamp the spool P tightly against the outer stationary plate, O, and thereby rotate said spool. The rotation of the spool would, of course, wind up the cord W and cause the brake-shoe V to be clamped against the periphery of the belt-wheel, and thus retard the motion of the latter. Other means may be employed for effecting the connection between the belt-wheel shaft and the spool, though I prefer that the connection be made by frictional contact.

A hoisting-drum, 7, is mounted loosely upon

a shaft, 10, journaled in the forward end of the power, and driven from the shaft F through gears 5 and 6.

The usual shipping devices are employed for effecting the connection between the drum and shaft at will.

Hounds 3 3 and a pole, 4, are provided at the forward end of the power for attaching the horses to move the power from place to place. The pole is connected so that it can be removed when it is desired to tilt the power into the proper inclination for working, as shown in Fig. 1.

The whole structure is so well balanced upon its axle that it is very easily transported, while the wheels are of such height as to give the most desirable inclination to the power when tilted for working.

I claim as my invention—

1. An endless-chain horse-power hung at or near its center upon an axle provided with suitable supporting-wheels, whereby the power is nearly or quite balanced, and is adapted to be tilted on said axle into proper inclined position for working, and also to be conveniently transported from place to place, substantially as described.

2. In an endless-chain horse-power, the combination of the connecting-rods E and the inside and outside links secured to the lags in close proximity to the sprocket-wheels, substantially as described, for the purpose specified.

3. The combination, with an endless-chain horse-power, of the band-wheel, lever-brake, spool P, cord W, and the friction-plates and governor, substantially as described, for the purpose specified.

4. The combination of the endless-chain or traveling platform, the shaft F, gears 5 6, and the adjustable hoisting-drum 7, mounted on shaft 10, substantially as described.

P. K. DEDERICK.

Witnesses:

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