

P. K. DEDERICK.
HORSE-POWER.

No. 171,001.

Patented Dec. 14, 1875.

Fig. 1.

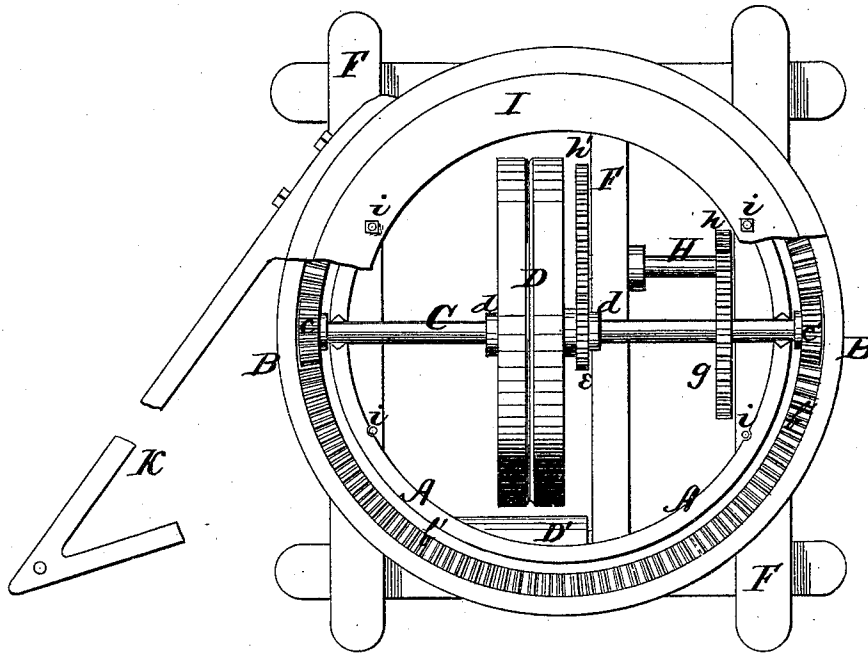
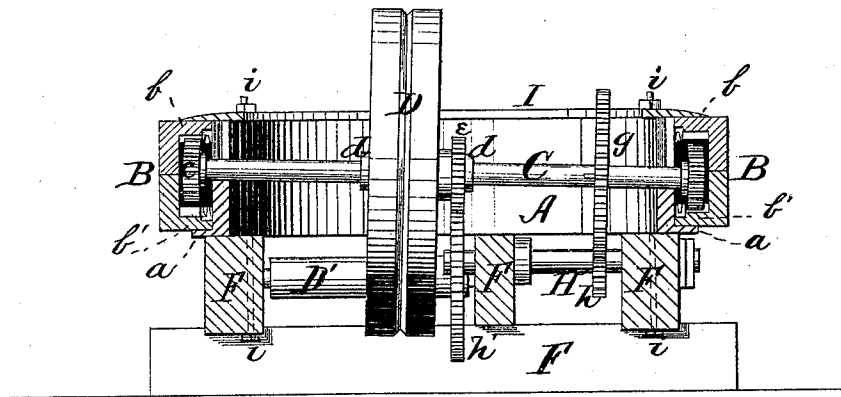


Fig. 2.



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IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. **171,001**, dated December 14, 1875; application filed May 26, 1875.

To all whom it may concern:

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

Figure 1 is a top-plan view, a portion of the casing having been removed in order to reveal the internal construction; and Fig. 2 is a vertical section in line *x x* of Fig. 1.

Similar letters of reference in the accompanying drawings denote the same parts.

The object of this invention is to provide for public use a simple, compact, durable, and powerful apparatus with a horizontal sweep, for the purpose of applying the power of draft animals to the driving of machinery; and the invention consists in the combinations of mechanism, substantially as I will now proceed to set forth.

In the drawings, F is the supporting frame or foundation; A, a stout horizontal ring secured to the frame F; *a*, an external horizontal flange around the lower edge of the ring A; B, a stout doubly-flanged ring, fitting closely around the outside of ring A, and supported and rotating upon the flange *a*, said ring B being composed of two equal separable horizontal segments, which are united by dowel-pins when in operation; *b*, the upper internal flange of ring B, provided with cog-teeth on its under side; *b'*, the lower internal flange of ring B, provided with similar cog-teeth on its upper side; C, the main shaft, extending diametrically across the space inclosed by the rings, and having its bearings in the walls of the ring A, and its ends projecting into the annular chamber inclosed between the parts A B *b b'*, one end slightly higher than the other; *c*, a pinion on the higher end of the shaft, gearing with the upper cog-rim *b*; *c'*, a pinion on the lower end of the shaft, gearing with the lower cog-rim *b'*; D, a belt-pulley, mounted loosely on the shaft C between collars *d d*, and having a row of cog-teeth, *e*, around its hub; D', a guide roller or pulley for the belt; *g*, a large cog-wheel, fixed to the shaft C near the wall of the ring

A; H, a shaft, mounted in the frame F, and provided with a small cog-wheel, *h*, and a large one, *h'*, for the purpose of receiving motion from the large pinion *g*, and communicating it to the belt-pulley D; and I, a cover bolted upon the upper edge of the ring A by means of long bolts *i i* extending down to the bed-frame F, said cover projecting out over the flange *b*, and serving to lock the two cog-rims *b b'* in constant working contact with the pinions *c c'*, and prevent any slip of the gearing when in operation.

The bifurcated sweep K is arranged in a horizontal position and bolted to opposite sides of the upper segment of ring B, so as to render the strain upon the parts as uniform as possible. The hub of the belt-pulley D may be provided with both a fast and a loose rim, and a common shifting-lever may be employed to move the belt from one to the other when required. As the horizontal sweep is drawn around by the team it causes the ring B, to which it is bolted, to revolve upon the flange *a*, and, as it revolves, the upper cog-rim *b* and the lower cog-rim *b'* co-operate in giving a rapid rotary motion to the shaft C, which motion is communicated through the gearing *g h h' e* to the fast belt-pulley D, causing the latter to revolve with great velocity in the same direction as the shaft C.

The cog-rims *b b'* and pinions *c c'* are inclosed in a tight chamber, where they are protected from dust, and enabled to keep constantly in working order.

The working parts are packed into the smallest possible space, and are caused to support each other, so as to give great strength and durability to the machine.

The whole structure is exceedingly simple in design and construction, and efficient in practical operation.

In addition to communicating power by belt it is also useful for hoisting purposes. The line by which the weight is raised being wound upon the pulley or drum D, which is detached and secured to the shaft, as desired, by means of a clutch.

Having thus described my invention, I claim as new—

1. The armless drive-wheel B, having two inside faces provided with cogs or teeth, in

combination with the pinions *c c* and shaft C, substantially as shown and described.

2. The fixed ring A, combined with the shaft C, the outer rotating ring B, and the horizontal sweep, substantially as and for the purpose set forth.

3. The pulley D, mounted loosely upon the shaft C, in combination with the shaft H, gear-

ing *e h h g*, double cog-rims *b b'*, and pinions *c c'*, substantially as and for the purpose described.

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Witnesses:

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