

*J. N. Pease,
Horse Power.*

N^o 36,477.

Patented Sep. 16, 1862.

Fig. 1.

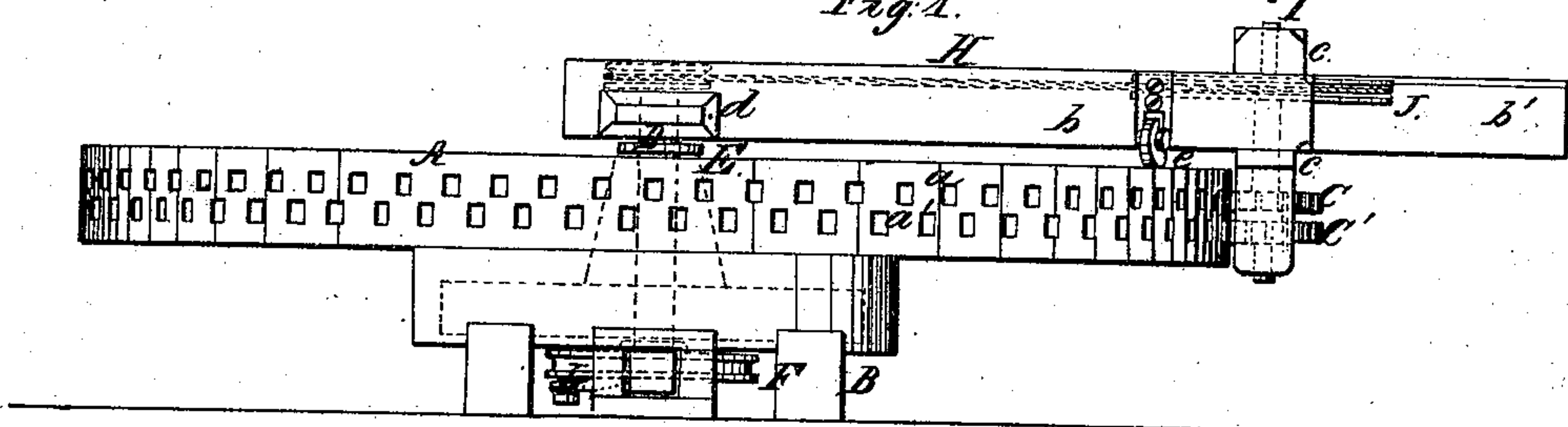
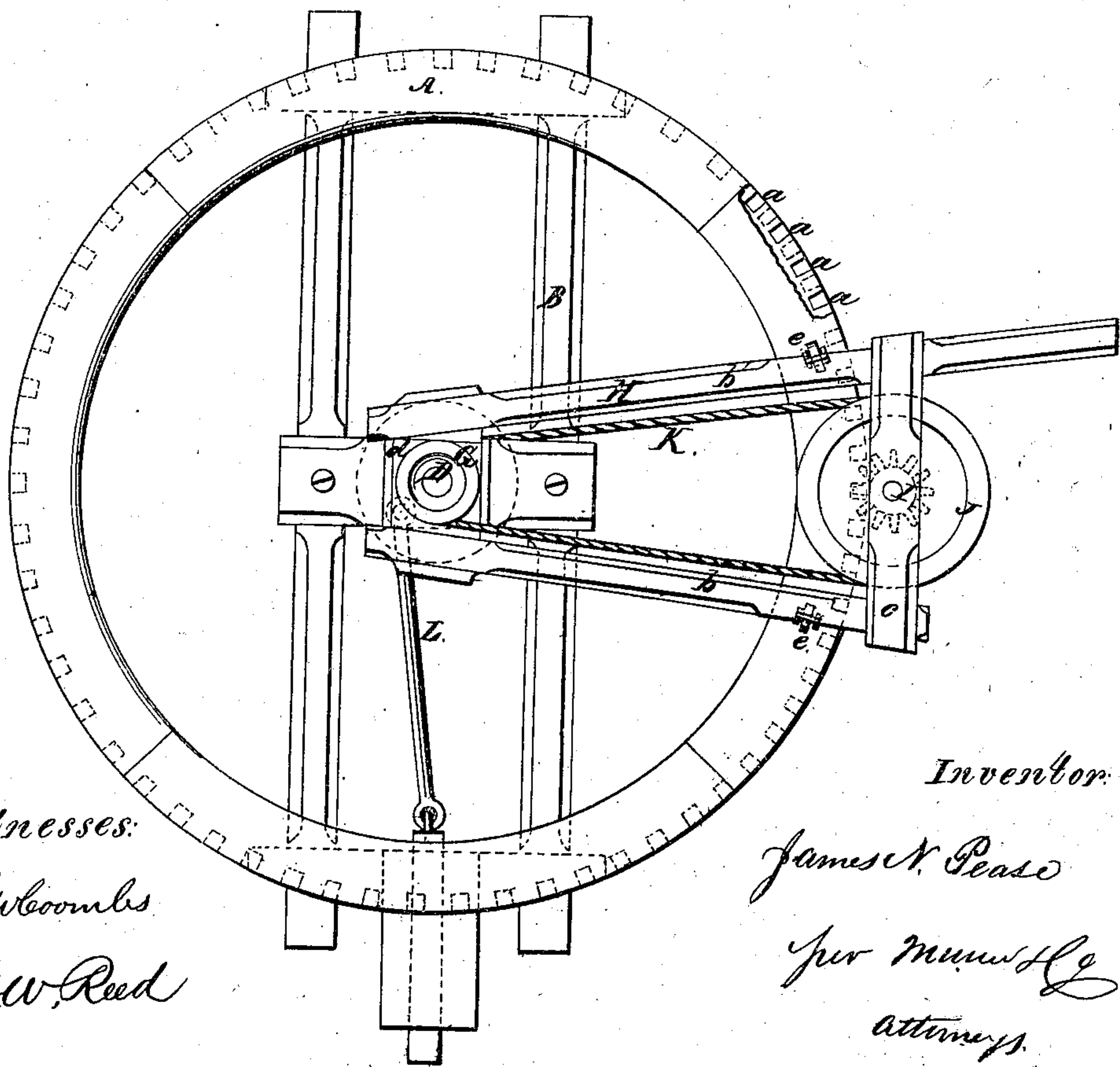


Fig. 2.



Witnesses:

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Inventor:

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per M. W. H. G.
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UNITED STATES PATENT OFFICE.

JAMES N. PEASE, OF HARMONY, NEW YORK.

IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. 36,477, dated September 16, 1862.

To all whom it may concern:

Be it known that I, JAMES N. PEASE, of Harmony, in the county of Chautauqua and State of New York, have invented a new and Improved Horse-Power; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

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

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to obtain a horse-power of simple construction, which may be constructed at a small expense and still be strong and durable, and arranged in such a manner as to transmit the power of the animal to the machinery to be driven with but little loss by friction.

To this end the invention consists in the employment or use of a stationary wheel, toothed or provided with sunken gear and used in connection with a radial traveling frame, in which a pinion is placed that gears into the stationary wheel, motion being communicated from the pinion to the shaft from which the power is taken by means of pulleys and a belt or rope, all arranged as hereinafter fully shown and described.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a stationary wheel, which is firmly bolted to a horizontal framing, B, constructed in any proper way. This wheel A is provided at its periphery with a sunken gear, or, in other words, with recesses *a a'* to receive the teeth of the pinion C, or, rather, two pinions, C C', hereinafter described. The recesses *a a'* are in two rows, one row, *a*, being above the other, *a'*, the recesses of one row being in line with the centers of the spaces between the other, as shown clearly in Fig. 1.

D is an upright shaft, which passes through a support or vertical tube, E, which is at the center of the stationary wheel A. This shaft D has a pulley, F, on its lower end and a pulley, G, on its upper end, and on the upper part of the shaft D the inner end of a frame, H, is fitted loosely and allowed to turn freely. The frame H may be constructed of two bars,

b b', having a slightly-oblique position relatively with each other, as shown in Fig. 2, said bars being connected near their outer ends by traverse-bars *c c*, and connected at their inner ends by a traverse bar, *d*, the latter being the part of the frame H which is fitted on the upper end of the shaft D. In the outer traverse-bar, *c*, there is fitted a vertical shaft, I, having a pulley, J, upon it, around which and the pulley G on the upper part of shaft D a rope or belt, K, passes. On the shaft I there are also placed two pinions, C C', of equal diameter, and having such a relative position with each other that the teeth of one pinion will be in line with the centers of the spaces between the teeth of the other, the teeth of the two wheels thereby coinciding with the recesses or sunken gear *a a'* in the periphery of the stationary wheel A.

The bar *b'* of the frame H is longer than its fellow, *b*, sufficiently so to form a sweep to which the draft-animal is attached, (see Fig. 2,) and the frame H, near its outer part, is provided with rollers or small wheels *e e*, which rest upon the upper surface of the rim of the stationary wheel A and admit of said frame traveling around upon the wheel A with but little friction.

The operation is as follows: The draft animal travels around the wheel A and rotates the frame H, or turns it around on said wheel, and thereby gives a rotary motion to shaft I, in consequence of the pinions C C' meshing into the sunken gear *a a'*, and motion is communicated to the shaft D from shaft I by the cord or belt K. The power is taken from the pulley F at the lower end of the shaft D by a belt when a rotary motion is required, but if a reciprocating motion is required a pitman, L, may be attached to pulley F at any suitable distance from its center. (See Fig. 2.)

By this arrangement it is believed that several advantages are obtained over the ordinary horse-powers of this kind in use.

First. The arrangement is extremely simple and admits of being constructed at a small cost.

Second. There are but few moving or working parts, and hence the power of the animal is transmitted to the shaft from which the power is taken with but little loss by friction.

Third. The wear and tear of the machine are

extremely slight, and there are no parts liable to get out of repair or become deranged by use. The double pinions C C' prevent any unnecessary play or "backlash" and insure an easy or smooth working movement of the running parts, and also admit of comparatively large and consequently strong teeth being employed on a pinion of small diameter, as the same number of teeth on the two pinions combined could not be used on a single pinion of the same diameter—that is to say, not the same number of teeth of as large a size as could be used on the double pinion.

It will of course be seen that teeth or cogs may be used instead of the sunken gear *a a'*; but the principle would be the same in either case, the recesses being equivalent to teeth or cogs.

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

1. The stationary wheel A, in combination with the radial traveling frame II, provided with the vertical shaft I, which is connected by gearing with the wheel A, so as to communicate, by the traveling of frame II, motion to the central shaft, D, by the rope or belt K, substantially as and for the purpose set forth.

2. The double sunken gear *a a'*, or equivalent teeth or cogs, in the periphery of the wheel A, in combination with the double pinion C C' on shaft I, when said parts are arranged as shown, and used in connection with the traveling frame II and central shaft, D, as and for the purpose specified.

JAMES N. PEASE.

Witnesses:

ISAAC N. PEASE,
JOHN WILTSE.