W. W. Dingee,

Horse Power.

No. 113,750. Patented Apr. 18. 1871.

Fig. 1.

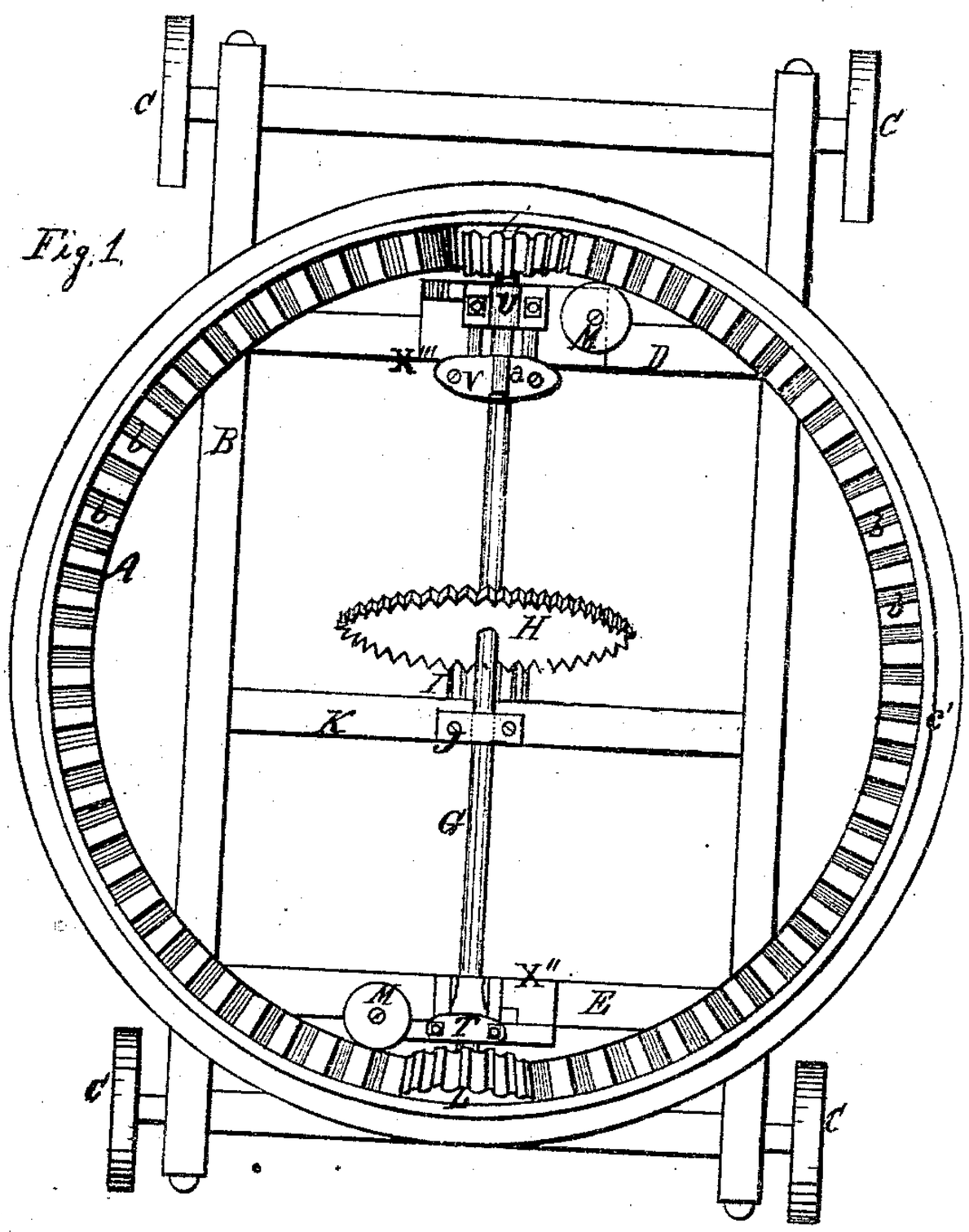


Fig. 2.

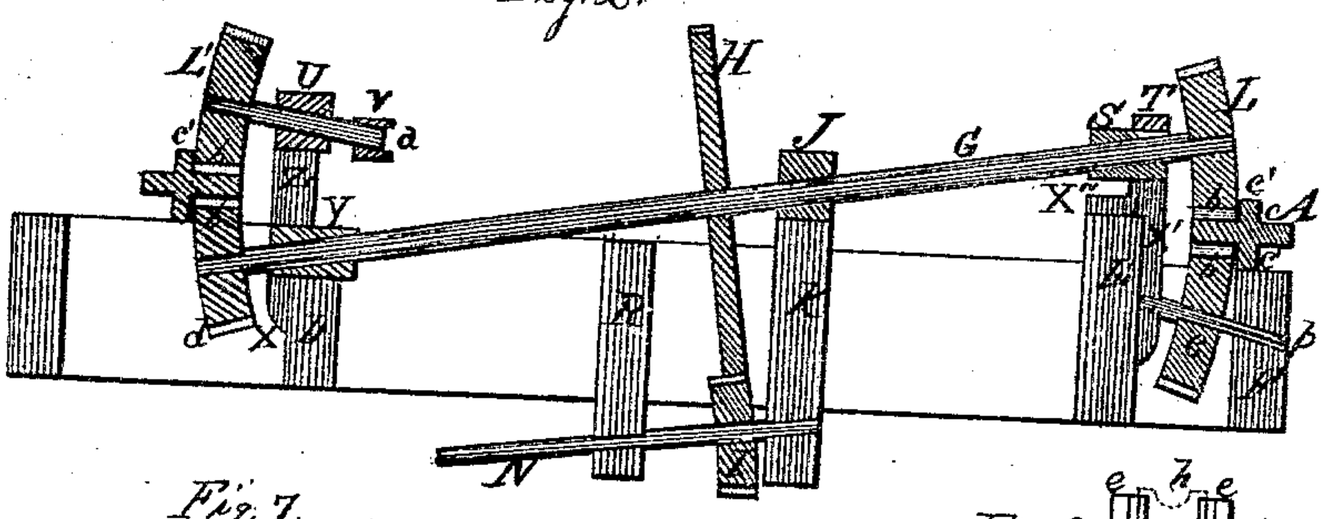


Fig. 7.

Fig. 6.

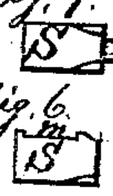


Fig. 4.

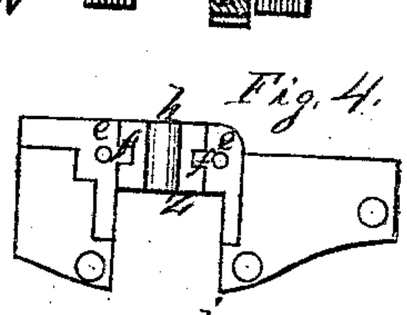
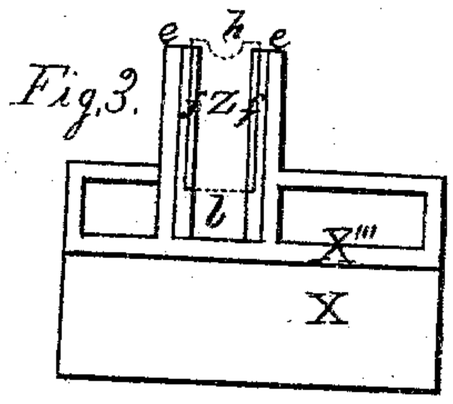


Fig. 5.

Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM W. DINGEE, OF RACINE, WISCONSIN, ASSIGNOR TO THE GEISER THRASHING MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN HORSE-POWERS.

Specification forming part of Letters Patent No. **113,750**, dated April 18, 1871.

To all whom this may concern:

Be it known that I, WILLIAM W. DINGEE, of Racine, in the county of Racine and State of Wisconsin, have invented an Improved Portable Horse-Power; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, reference being had to the accompanying drawing, and to the letters marked thereon, in which—

Figure 1 is a plan or top view of my improved horse-power; Fig. 2, a longitudinal section of the same. Figs. 3, 4, and 5 are different views of the bridge-trees detached from the other parts of the power; Figs. 6 and 7, the boxes of the main shaft removed from the bridge-trees.

The object of the present invention is to so improve the ordinary portable horse-power that all of its gearing may be reversed so as to wear the cogs on their opposite sides; and its nature consists in the novel construction of the bridge-trees and shaft attachments, whereby the said object is accomplished, as the whole is hereinafter fully described and shown.

D C represent the truck on which the horse-power is mounted in the usual manner, any particular form of truck answering the purpose well if the cross-timbers are placed in suitable positions to support the boxes, bridge-trees, &c.

A represents the master-wheel, on which *b b* are cogs above and below alike. *c c* are flanges connecting the cogs *b b* at their outer ends, and strengthening them and the wheel A. These flanges are also alike, and when the cogs of the wheel A become worn it can be turned bottom side up and bring the opposite set of cogs to wear.

The cross-beam D of the truck supports a peculiarly-constructed bridge-tree, which is as follows: A substantial seat, X‴, is arranged to rest on the top of beam D, and it has a skirt, X, which projects down from it and fastens to the side of said beam, as shown in Figs. 2 and 3, and it supports two standards, *e*, which hold the boxes Y Z of the shafts G *a*, and to accomplish that the said standards are placed the proper distance apart to receive the box Y, as shown by the space *l*, Fig. 3, and on the inside of the standards, as shown at *f*, Fig. 4, are vertical tongues, which support the lower part of the box for the shaft *a* to rotate in, and hold the box Y, Fig. 2, in the opening *l*, Fig. 3.

The standards *e* have holes made vertically through them to receive the bolts which hold the cap U of shaft *a* in position. Said box, when properly secured by nuts turned onto the top ends of the aforesaid bolts, holds the box Y firmly in place, the lower part Z of the box of shaft *a* readily sliding down to the proper position.

In order that shaft *a* of pinion L′ may have a double bearing, an inner bridge, *u*, is secured to the seat X‴ of the principal bridge, as shown in Figs. 1, 2, and 5, and it is provided with a rectangular notch, *j*, on its top part, in which the inner square end of the shaft *a* bears, the pinion L′ rotating freely on the shaft while the latter is stationary.

The bridge X″ X′ is constructed similarly to the one heretofore described, only it has no vertical tongues, the standards supporting the box S by means of cap T, held in place by means of bolts in the same manner as the cap U.

The shaft G running in the boxes S Y is provided with pinions L *d* on its opposite ends, so arranged as to run on opposite sides of the master-wheel A and mesh into cogs *b b*.

The spur-wheel H is keyed to the middle part of the shaft G, so that when said shaft is changed end for end to reverse the positions of pinions L *d*, the said spur-wheel will yet rotate the pinion I of drive-shaft N.

When the cogs of pinions L *d* become worn and also those of wheel H, the shaft G has its ends reversed by simply removing the cap-boxes T U. The master-wheel A is then turned bottom side up and the pinion L′ placed on shaft *p*, Fig. 2, and the pinion on shaft *p* placed on shaft *a*, and all of the cogs will wear on their opposite sides.

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

1. The bridge-tree X″ X, provided with

standards *e*, so combined with boxes Y Z that the latter are held in position by one cap-box U, as set forth.

2. The bridge-tree X′ X″, arranged to support the box S of shaft G, and the inner end of shaft *p* of pinion *c*, to give said pinion a double bearing, as set forth.

3. The combination of master-wheel A, shaft G, wheel H, pinions L′ L *c d*, and bridge-trees X″ X′ X‴ X, and V, so arranged as to reverse the sides of the cogs, as set forth.

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