

(No Model.)

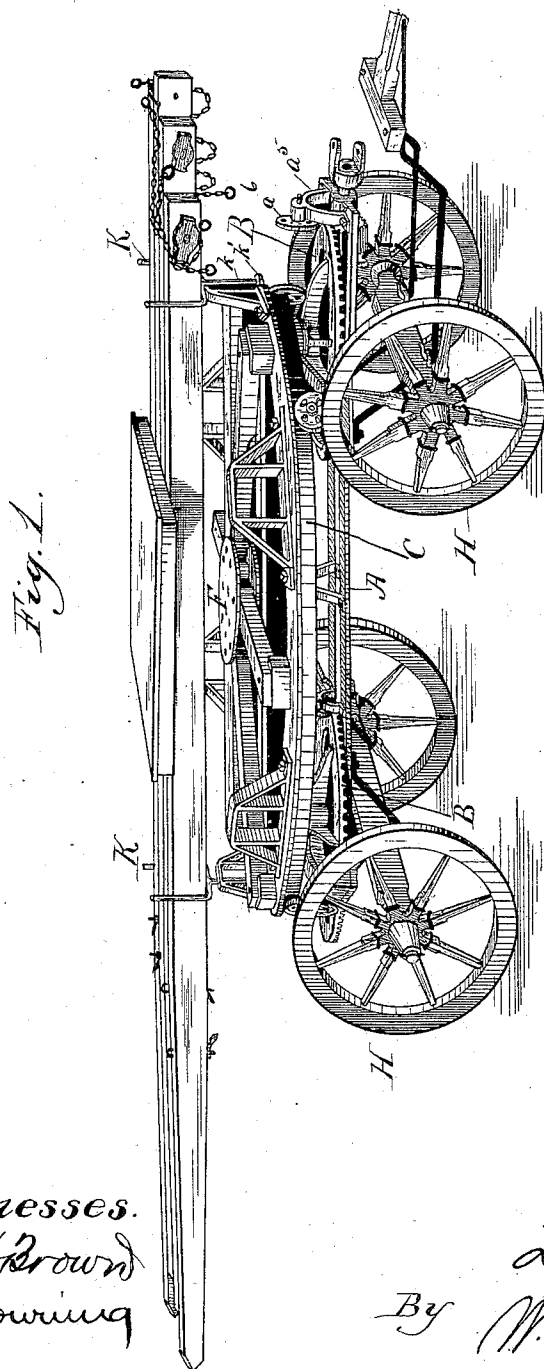
2 Sheets—Sheet 1.

L. H. DAVIS.

HORSE POWER.

No. 309,608.

Patented Dec. 23, 1884.



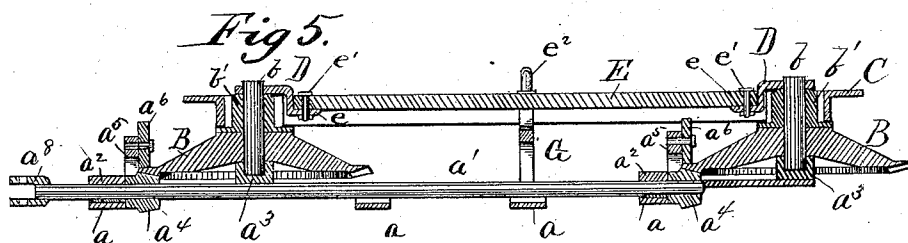
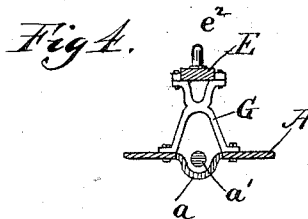
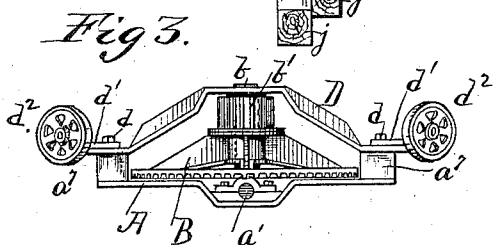
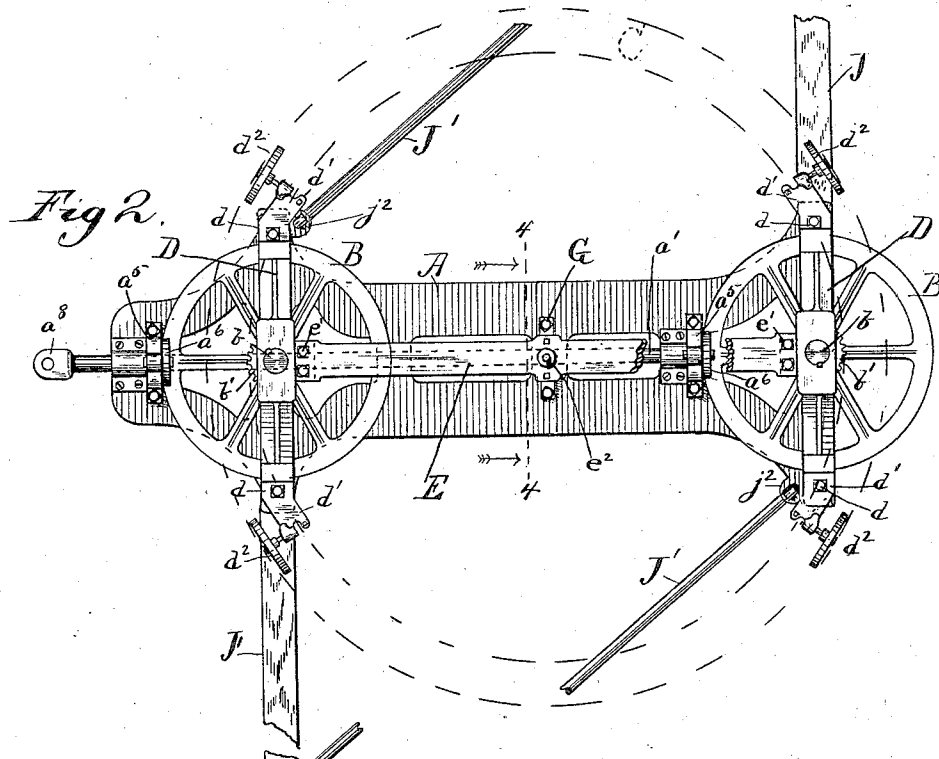
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

LEWIS H. DAVIS, OF DAVENPORT, IOWA.

HORSE-POWER.

SPECIFICATION forming part of Letters Patent No. 309,608, dated December 23, 1884.

Application filed October 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, LEWIS H. DAVIS, of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Horse-Powers, of which the following is a description, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of said horse-power, showing the sweeps removed and loaded for transportation. Fig. 2 is a plan view of the frame of said power with the master-wheel removed and showing the means for bracing said power when in use. Fig. 3 is an end view of the frame showing one of the bevel-wheels for driving the line-shaft, the arch supporting the same, and the friction-rollers for sustaining the master-wheel. Fig. 4 is a transverse vertical sectional view of the frame, taken on the line 4 4, Fig. 2, as viewed in the direction of the arrow there shown; and Fig. 5 is a central longitudinal vertical sectional view of said frame as shown in said last-named figure.

Like letters of reference indicate like parts in the different figures.

The object of my invention is to overcome many of the objections to horse-powers heretofore in use, and to provide a portable power which shall be light and compact in form, cheap and durable in construction, which may be securely and easily braced for use while standing upon the carriage upon which the same is transported from place to place, and the construction of which may be such as to permit said carriage to be turned within a very limited space.

My invention relates, particularly, to the manner of constructing the bed or frame-work of said power, whereby I am enabled to accomplish said results, all of which will be hereinafter more fully described, and definitely pointed out in the claims.

In the drawings, A represents the bed or main supporting-frame for said power, the same being made of cast-iron, and constructed as more clearly shown in Fig. 2, being widened at or near the ends, and provided with a central longitudinal depression, *a*, Fig. 4, in which the line-shaft *a'* is located in bearings *a'' a''*. Step-boxes *a''' a'''*, Fig. 5, are bolted or otherwise rigidly secured to said bed A at or near the respective ends, forming bearings

for the vertical shafts *b b* of the bevel-wheels B B, which mesh into pinions *a' a'*, Fig. 5, upon the line-shaft *a'*. Brackets *a⁵ a⁵*, secured rigidly to said bed-plate, as shown, serve as supports for the friction-rollers *a⁶ a⁶*, which bear upon the periphery of the wheels B B and hold them in mesh. Pinions *b' b'*, secured rigidly to the wheels B B, serve to engage the usual annular master-wheel, C, Fig. 1, and are propelled thereby.

In order to form bearings for the top of the shafts *b b*, the bed-plate A is made somewhat wider, as stated, at or near the ends opposite the shafts *b b* than the diameter of the wheels B B, and is provided with upward extensions *a' a'*, Fig. 3, to which is secured by means of the bolts *d d* arches D D, Figs. 2 and 3, through which the shafts *b b* project, as shown. The arches D D are connected with each other by means of a cross-bar, E, Figs. 2 and 5, the extremities of which are bolted to suitable flanges, *e e*, Fig. 5, by bolts *e' e'*.

Concentric with the master-wheel, and forming a pivotal bearing therefor, is a pin or pivot, *e''*, Figs. 2, 4, and 5, secured to the middle of said bridge E, and projecting upward therefrom, so that the usual plate, F, Fig. 1, connected to the radial cross-bars of the master-wheel C may rest thereon. A bracket or central support, G, Figs. 4 and 5, serves to reinforce said bridge E, and to distribute the weight between that and the bed A. Plates *d' d' d'*, secured by bolts *d d d d*, to the opposite extremities of the arches D D, form supports or bearings for the friction-rollers *d'' d'' d''*, which in turn tend to support the master-wheel C. The bed-plate A is supported upon trucks H in any well-known manner, by being preferably elevated to nearly the height of the wheels, substantially as shown, Fig. 1, to permit the front wheels to turn to the fullest extent desired, which it is obvious may be readily accomplished for the reason that the wider portions of said bed-plate are directly between the wheels, while the middle portion is quite narrow. I prefer to extend the line-shaft *a'* in front of said power, as shown in Fig. 1, so that the connecting portion *a⁸*, Figs. 1 and 5, may extend toward the thrasher, and may be brought readily into alignment therewith as the power is driven into position. When so placed, the power may be thoroughly

and securely braced as follows: Bars J J, having one end placed upon the ground, and the other against the blocks or projections $a' a'$, beneath the plates $d' d'$, are secured in position, respectively, upon opposite sides of said power, and at opposite ends thereof, by means of the stakes $j' j'$, (of which there are four, two being shown in Fig. 3,) the lower or grounded end of each of said bars abutting against one of said stakes, and being connected with the opposite end of said power by means of rods $J' J'$, which are hooked into holes $j^2 j^2$, Fig. 2, in the lugs upon the extremities of the plate A. It is obvious that the bars J J act as braces, and receive a pushing strain, while the rods $J' J'$ sustain a tensional strain, the lateral movement of the lower ends, respectively, of the bars J J being prevented by means of the stakes j' .

For the purpose of supporting the power-sweeps or levers while in transit, I provide racks K K, Fig. 1, each of which is provided with a downwardly-projecting rod, k , which is inserted into suitable holes in projections $k' k'$, one of which is shown in said figure upon opposite sides of the master-wheel C. This is a great advantage, as it saves loading said detachable parts upon a separate carriage for conveyance. The tongue is detachably secured to the front axle in the usual manner by means of hooks and eyebolts.

It is apparent that by adopting this form of construction the entire power, except the sweeps, may be made of iron, thus producing a frame that will not warp or twist from the action of the weather, and thus interfere with the working mechanism, but is practically indestructible.

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

1. In a horse-power, the combination of the bed A, constructed, as shown, with lateral projections or extensions at the respective ends to form supports for the arches B B, and friction-rollers d^2 , line-shaft a' , with beveled pinions thereon, bevel-wheels B B, arches D D, connecting-bridge E, bracket G, and pivot e^2 , with the usual master-wheel, substantially as and for the purposes set forth.

2. In a horse-power, the combination of the bed A, constructed, as shown, with lateral projections or extensions at the respective ends to form supports for the arches B B, and friction-rollers d^2 , line-shaft a' , with beveled pinions thereon, a front extension upon said bed to support the bearing for the extended portion of the line-shaft, bevel-wheels B B, blocks or projections a' , arches D D, connecting-bridge E, bracket G, and pivot e^2 , with the usual master-wheel, substantially as and for the purposes set forth.

3. A horse-power consisting of the bed A, line-shaft a' , pinions $a^4 a^4$, in combination with bevel-wheels B B, pinions $b' b'$, master-wheel C, bars J J, and rods $J' J'$, said bed being constructed, as shown, with lateral extensions at either end to form supports for the arches D D, and friction-rollers d^2 , and provided with perforated lugs $j^2 j^2$, whereby said power may be turned within a minimum of space, or braced in position for use without removal from the carriage, substantially as and for the purposes set forth.

LEWIS H. DAVIS.

Witnesses:

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