

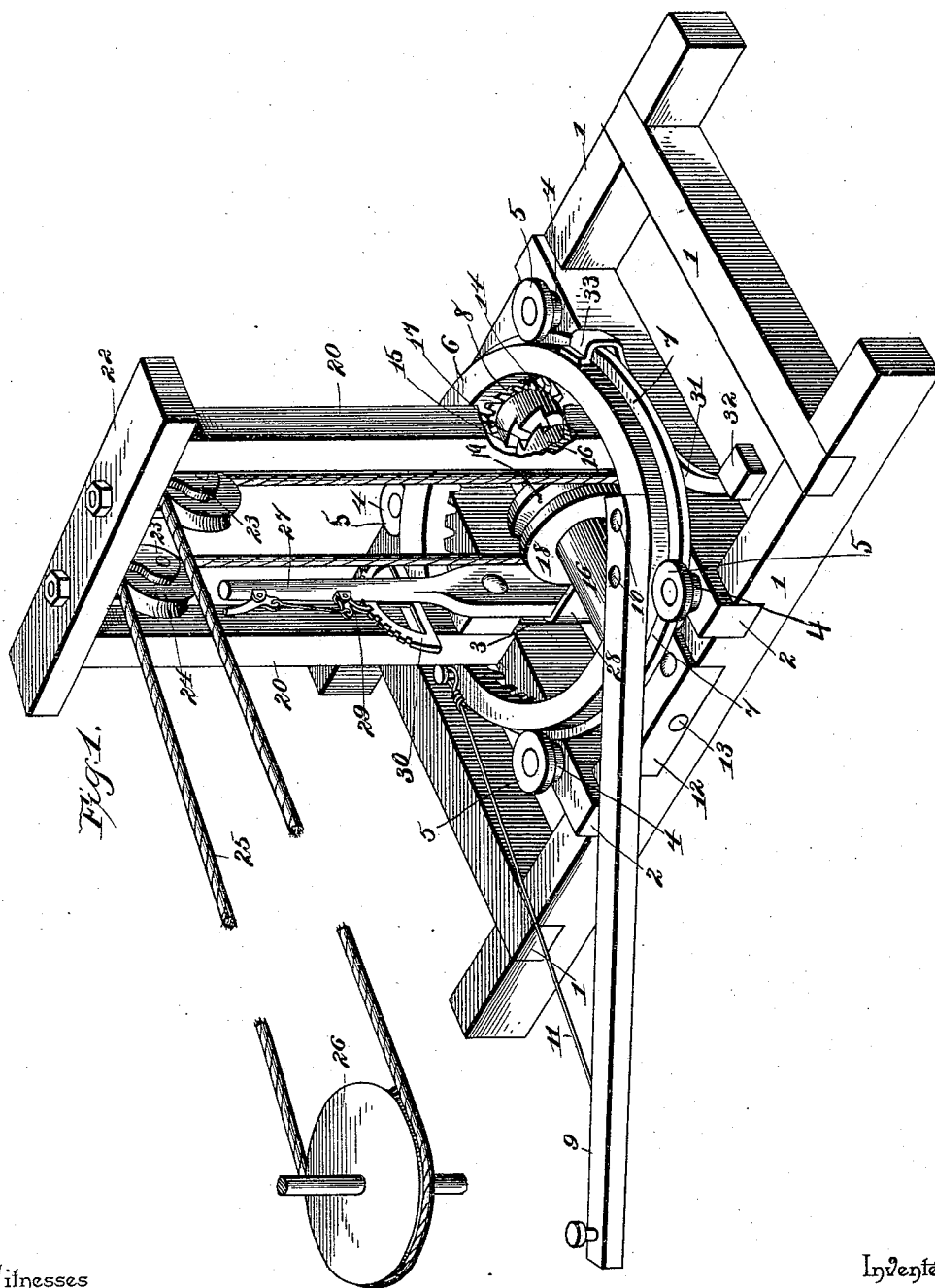
(No Model.)

2 Sheets—Sheet 1.

R. B. MILLER.  
HORSE POWER.

No. 475,044.

Patented May 17, 1892.



Witnesses

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Inventor

By *his* Attorneys, *Rogus B. Miller*  
*C. A. Snow & Co.*

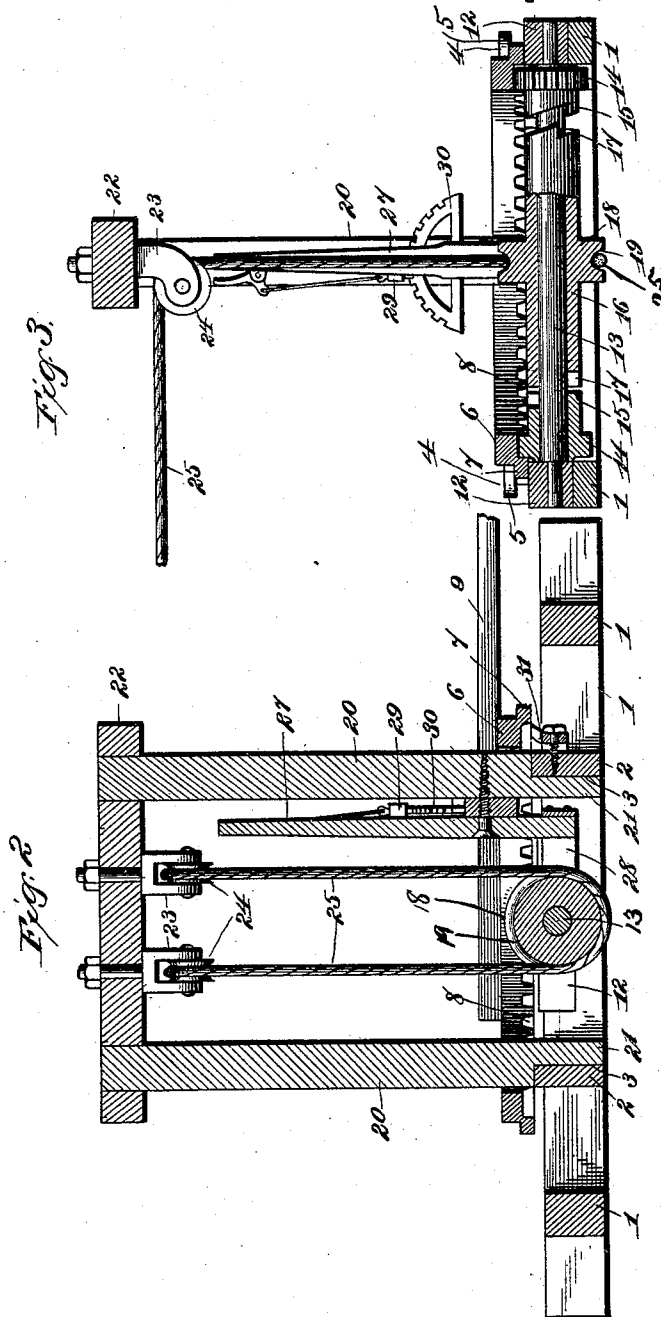
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# UNITED STATES PATENT OFFICE.

RUFUS B. MILLER, OF SPRAGUE, WASHINGTON.

## HORSE-POWER.

SPECIFICATION forming part of Letters Patent No. 475,044, dated May 17, 1892.

Application filed October 6, 1891. Serial No. 407,884. (No model.)

*To all whom it may concern:*

Be it known that I, RUFUS B. MILLER, a citizen of the United States, residing at Sprague, in the county of Lincoln and State of Washington, have invented a new and useful Horse-Power, of which the following is a specification.

This invention relates to horse-powers; and it has for its object to provide a device of this character which will be especially applicable for building, mining, or other purposes and for running any machinery that may be designed to be operated without the use of steam, and to provide a power which by the construction and combination of its constituent parts will be more easily operated and be more efficient in power than those in ordinary use; and with these and other objects in view the invention consists of a frame carrying a master-wheel operating continuously in one direction, but with means whereby the operating-belt may be controlled to operate in either direction that may be desired, all of which will be hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a horse-power constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a vertical transverse sectional view of the same.

Referring to the accompanying drawings, 1 represent the end and side pieces suitably connected together to form the bed or frame upon which the power is located and operated and which may be secured in the location desired by the ordinary means for securing such devices rigidly in position. Within the space inclosed by the right-angularly-disposed bed-timbers and parallel with two sides thereof are the opposite sills or cross-bars 2, provided with dovetailed grooves or recesses 3, facing inwardly toward each other and which are designed to accommodate a portion of the device, which will be presently described. At each end or a short distance from said sills or cross-pieces are journaled the guide-rollers 4, which are provided with top retaining-flanges 5, that are designed to hold the revolving master-wheel 6 in its position upon the bed-frame made up of said end and side pieces and the cross-sills.

The master-wheel 6 is provided with a flange 7, projecting from the bottom edge thereof and designed to take beneath the flanges 5 of each of the guide-rollers, and is thus held securely in position upon said bed. The master-wheel is provided with a toothed or cog under face 8, that is designed to engage the parts which operate the power, and to the upper side or smooth face of said master-wheel or ring is secured tangentially thereto the operating lever or sweep 9, suitably braced and bolted to the said ring or master-wheel by means of the securing-bolts 10 and the brace 11, secured thereto and the master-wheel, and is designed to have the ordinary single or double trees attached to the end thereof and operated by animals, as is customary.

Secured in the boxes 12, seated within two of the side pieces composing the bed or frame, is the stationary transverse shaft 13, that extends parallel to the opposite cross-pieces or sills, and is centrally located within the space between said sills, in order that the parts connected therewith may have perfect freedom of movement. Adjacent to the boxes 12 in the opposite side pieces of the frame and loosely mounted upon the shaft 13 therein are the rotating cog-wheels or pinions 14, provided with inner clutch-faces 15, and are designed to mesh with the cogs or teeth upon the under face of the ring master-wheel, and as said ring master-wheel rotates it can be readily seen that said pinions will revolve in a reverse or opposite direction to each other. Intermediate of said pinions or cog-wheels and mounted upon the stationary shaft referred to is the sleeve 16, which is also loosely mounted upon the shaft, in order that the same may freely revolve thereon, but is of such a length as to be allowed a sliding movement on the shaft, in order that the clutch-faces 17, with which each end of said sleeve is provided, may alternately engage either of the clutch-faces 15 of said revolving pinions, according to the direction in which it may be desired to rotate said drum. The sleeve or drum is provided with an annular flange or wheel 18, having a groove 19 therein, and which is designed to receive the belt or cord, through which motion is imparted to the machinery to be operated, and which may be controlled to work in either direction, accord-

ing as the sliding sleeve or drum is brought into engagement with either of the pinions or cog-wheels.

The vertical frame-pieces 20 are provided at their lower ends with dovetailed tongues 21, that are adapted to fit tightly within the dovetailed grooves located upon the inner faces of the oppositely-disposed cross-pieces or sills, and extending vertically thereabove are connected together by the horizontal cap-piece 22, which completes a detachable frame, which may easily be removed from the bed of the machine for purposes of transportation or removal. Securely bolted or otherwise secured to said cap-piece are the opposite sheave-frames 23, within which are journaled the idler-pulleys 24, over which the operating rope or belt 25 passes after leaving the grooved disk or flange upon the revolving drum or sleeve operated by the master-wheel of the power, and said operating cord or belt extending out and over said idler-pulleys is connected at any suitable distance or elevation with the flanged pulley 26, which is connected with the machinery to be operated by the power. Pivottally secured to the inner side of one of the upright frame-pieces 20 is the reversing-lever 27, the lower end of which is provided with the upwardly-extending arms 28, that are adapted to normally take over the grooved disk or flange upon said sleeve or drum, and by operating the same the sleeve or drum is thrown into engagement with either the clutch-pinions or cog-wheels, according to the direction in which the power is desired to be operated and is held in such position by means of the pivoted dog 29 thereon engaging the teeth in the toothed segment 30, also secured to one of the upright pieces behind the handle of the lever.

A supplemental brake-lever 31 is pivoted to one side of one of the cross bars or sills 2, as illustrated in Fig. 2 of the drawings, and is provided at one end with a foot-operating portion 32 and at the other with a flanged grip 33, taking over the ledge or flange 7 of the master-wheel, and when clamped thereover by pressure placed upon the foot portion 32 will securely hold the master-wheel from revolving, and thus hold the horse still while

the operator, by means of the reversing-lever, may reverse the motion of the power.

The construction and operation of my improved horse-power is now thought to be apparent without further description.

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

1. In a horse-power, the combination, with a bed-frame, of a series of flanged guide-rollers mounted on said frame, a master-wheel having an encircling flange traveling beneath the flanges of said guide-rollers, a stationary shaft secured in said frame, opposite clutch-pinions or cog-wheels loosely mounted on each end of said shaft and meshing continuously with the master-wheel, and a sliding and revolving drive drum or sleeve intermediate of said pinions and provided with opposite clutch-faces on each end adapted to engage either one of said clutch-pinions or cog-wheels, and with an integral grooved drive-disk centrally located thereon, substantially as set forth.

2. In a horse-power, the combination, with the bed-frame and the master-wheel revolving thereover, of a stationary shaft, clutch-pinions or cog-wheels loosely mounted on each end of said shaft, a sliding and revolving drive-sleeve intermediate of said pinions and provided with clutch-faces at each end, and a central grooved drive disk or flange, an upright frame detachably secured to said bed-frame directly over said shaft and within said master-wheel, idler-pulleys secured to said frame, a reversing-lever pivoted to one side of said frame and provided with outwardly-extending arms engaging either side of said grooved disk or flange, and a brake-lever pivoted to one side of the bed-frame and provided with a flanged grip taking over and engaging the flange of the master-wheel, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

RUFUS B. MILLER.

Witnesses:

J. T. JORDAN,

A. W. HOLLAND.