October 21, 1913.

DRAWING

4,718

A careful search has been made this day for the original drawing or a photolithographic copy of the same, for the purpose of reproducing the said drawing to form a part of this book, but at this time nothing can be found from which a reproduction can be made.

Finis D. Morris,

Chief of Division E.

AWK

NO DRAWING AVAILABLE

UNITED STATES PATENT OFFICE.

DANIEL WOODBURY, OF WEATHERSFIELD, VERMONT.

HORSE-POWER.

Specification of Letters Patent No. 4,718, dated August 26, 1846.

To all whom it may concern:

Be it known that I, DANIEL WOODBURY, of Weathersfield, in the county of Windsor and State of Vermont, have invented, constructed, made, and applied to use a new and useful machine for applying horse-power to propel machinery of various kinds in a manner not known or used before my application, called, "Woodbury's horse-power;" and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a horizontal section. Fig. 2 is a side view of the gearing of the machine without the frame as seen from a position at right angles with the inclined shaft; and Fig. 3 is another side view of the gearing without the frame as seen at a position ninety degrees from the position at Fig. 2.

References to the letters on the figures.

A is a horizontal or main wheel with cogs on its upper and under sides; B, sweeps only one of which is shown at full length on the figure; C, pinions connecting with and plying into the main wheel; D, inclined shaft passing through the center on the ends of which are the pinions C. E, spin wheel fixed to and revolving upon the inclined shaft; F, trucks by which the main wheel is kept from sliding longitudinally with the inclined shaft; G, girts in the frame about which the main wheel revolves; H, trucks opposite to the pinions by which the main wheel is kept in gear; I, truck, of which there are two at the lower side of the main wheel A, about a quarter of a circle from the pinions to prevent the main wheel from rocking; K, drum, over which the band passes to the machinery to be worked; L, pinion upon the same shaft with the drum K, connecting with the spin wheel E and moving the drum K; M, band passing from the drum K, over the pulleys N, to the machinery to be worked; O, guards or lips which prevent the inclined shaft D from sliding longitudinally; P, shaft on which are the pinion L and drum K.

I build a strong frame about three and a half feet square, and place it upon a circular foundation grooved in such a manner that the machine may be turned at pleasure to accommodate itself to the work.

The main wheel A I place in a horizontal position around the outside of the frame G about two and a half feet from the ground. To the wheel A I attach one, two, three, or four sweeps B, passing off horizontally about eight feet, by which the horses move the machine. The main wheel A is geared with cogs on both the upper and under sides. I have usually one hundred and forty-four cogs on each side of the wheel. Within the frame G I place a wheel E as large as can revolve within the frame, with a spur gear of eighty-four cogs. This wheel has a shaft D through its center, with a pinion C upon each end, which shaft is so placed that the pinion C upon one end of the shaft D meshes with the cogs upon the upper side, and the pinion C upon the other end of the shaft D meshes with the cogs upon the under side of the horrizontal or main wheel A. Each of these pinions contains twelve cogs.

Directly above the wheel E is a shaft P having upon it the pinion L plying into the cogs of the spur wheel E and on the same shaft P is a large drum K over which the band M passes, and from this drum the band M passes over the pulleys N, above the horses to the outside of the circle in which they move to the machinery to be worked.

The main wheel is held in gear by means of small wheels or trucks H, one of which is placed upon the under side of it, opposite to the pinion which meshes with the cogs on the upper side, and another upon the upper side of it opposite to the pinion which meshes with the cogs on the under side of the main wheel A. This wheel A, is kept in place laterally by the pinions C connecting it with the inclined shaft D which prevent the main wheel A from sliding to the right or left of the pinions C and two trucks F placed at the corners of the frame G, near the pinions C, on the inside of the rim of the wheel A, which prevent it from sliding longitudinally with the inclined shaft D. The inclined shaft D is kept from sliding by means of lips or guards O, upon the inside of the cogs of the pinions C, which meet the inside of the cogs upon the main wheel A.

What I claim as my invention, and desire to secure by Letters Patent, is—

The manner of gearing by means of cogs upon both sides of the main wheel, and two pinions upon one and the same inclined

shaft, one at each end of the shaft, one of said pinions connecting with the cogs on one side of the main wheel, and the other on the opposite side. This mode of gearing renders the machine much stronger, more easily worked, more durable and less liable to injury by a sudden start of the horses, and is supported at less expense than any other mode yet discovered.

DANIEL WOODBURY.

Witnesses:
GEORGE WILLSON,
WM. M. PINGRY.