J. F. Hostetter,

Stump Elevator,

No. 41,622, Patented Feb. 16, 1864.

Fig. 1.

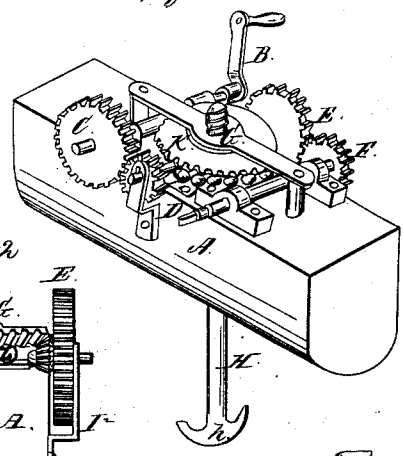


Fig. 2.

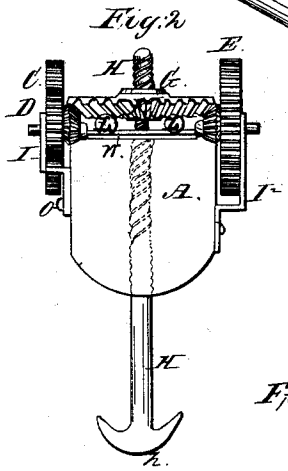


Fig. 3.

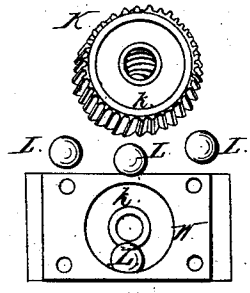


Fig. 4.

Witnesses:

J. C. Van Campe

Jacob Stauffer

Inventor:

John F. Hostetter

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

JOHN F. HOSTETTER, OF PENN TOWNSHIP, LANCASTER COUNTY, PA.

IMPROVEMENT IN STUMP-MACHINES.

Specification forming part of Letters Patent No. **41,622**, dated February 16, 1864.

To all whom it may concern:

Be it known that I, JOHN F. HOSTETTER, farmer, of Penn township, in the county of Lancaster and State of Pennsylvania, have invented a new and useful Improvement in Stump-Extracting Machines, in the combination of cogged wheels with a screw-shaft and manner of applying the same; 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 drawings, making a part of this specification, in which—

Figure 1 is a perspective view of all the parts of the gearing in place, mounted on and attached to the block A. Fig. 2 is a vertical section of the same. Fig. 3 is a detached view of the screw-cap K on its under side, showing the circular groove *k* and central female screw or thread, friction-balls L L and grooved bed-plate W, with its circular groove *k* corresponding with the upper groove, *k*, between which cap K and plate W the balls L are placed and held by the grooves revolving around the screw-shaft. Fig. 4 illustrates the manner of applying the machine on the block A, mounted on timbers P, laid parallel to each other in pairs, alternately crossing, leaving a central space through which the screw-shaft H descends, the whole built upon the long timbers O O, which connect the hind and front wheels (by means of chains) of an ordinary strong plantation-wagon. (Partly shown.)

The construction of the cog-wheels and their arrangement will be readily understood by inspecting Fig. 1, and are in many respects common to other machinery of the kind for increasing power. The cap K is thickened in the center, having an opening, with a female screw-thread which operates the long screw-shaft H with its double hook *h*. This cap K has a series of beveled cogs around its circumference, and rests upon balls L surrounding the screw-shaft H, said balls being confined or held by the circular grooves *k* in the cap K and bed-plate W. (Shown by Fig. 3.) The cap is operated by a small beveled cog-wheel, X, on each side, connected on the same shaft with the larger cog-wheel E on the one side and the smaller cog-wheel D on the other side, affixed and held by boxes and brackets I I^2 on the common supporting-block A. The hand-crank or windlass gearing C and F affords the facility of being worked by two persons at the same time. The cog-wheels are slipped on in such a manner that as will allow of their transposition when speed is preferred to power, and vice versa. This combination of the lever and the screw is well established for its power, facilitated by smooth and truly circular balls, to obviate the friction, as shown in the circular smooth grooves adapted for them, in the manner specified.

Mounted upon the timbers and wagon, as shown by Fig. 4, to which a pair of horses are hitched, the machine is brought over the stump to be extracted. The stump is surrounded by a powerful or strong chain, well secured with hooks to the stump, and principal roots, if need be. The chain is then connected with the claws *h* of the screw-shaft H, and by turning the crank-handle B one person can extract ordinary stumps with ease, as proved by experiment with a working model made for the purpose. The circular base of the block A, constituting a part of the machine, is provided in order that it may adapt the screw-shaft to assume any angle of inclination while operating the same, connected with the chains around the stump for the purpose of extracting it.

I am aware that various machines, jacks, and windlasses for hoisting purposes have similar gearing, caps, and balls; nor do I claim such, separately considered, as any part of my invention. What I deem novel is the manner of affixing the gearing to a square block with a rounded base with its long-clawed screw-shaft H, used and applied substantially in the manner specified.

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

The arrangement of the gearing C, D, X, E, F, and K, in combination with the block A and long screw-shaft H with its claws *h*, constructed and used in the manner set forth, for the purpose specified.

JOHN F. HOSTETTER.

Witnesses:

J. C. VAN CAMP,

JACOB STAUFFER.