A. H. MILLER.

Stump-Extractor.

No. 197,652. Patented Nov. 27, 1877.

Fig. 1.

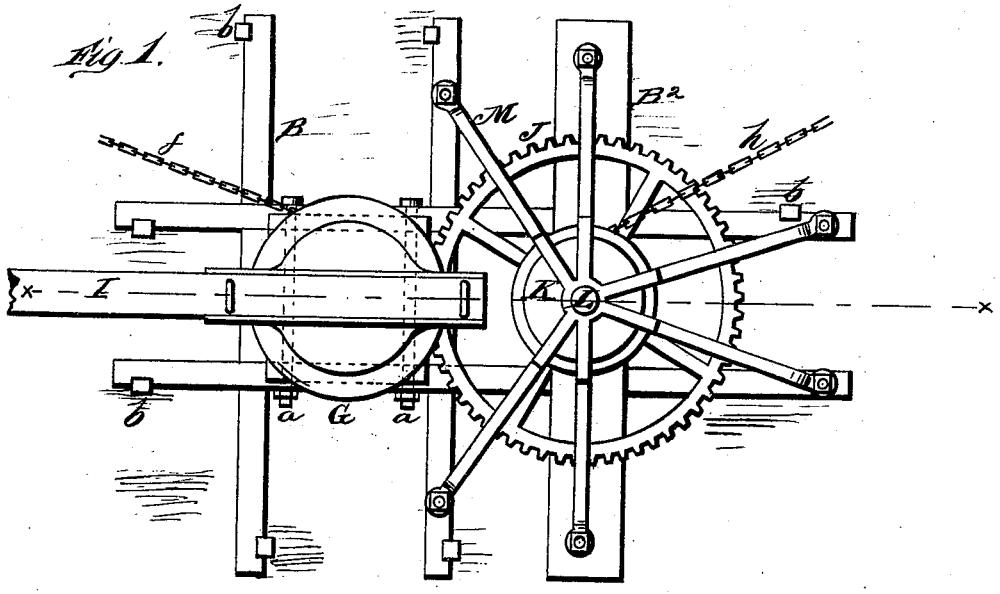
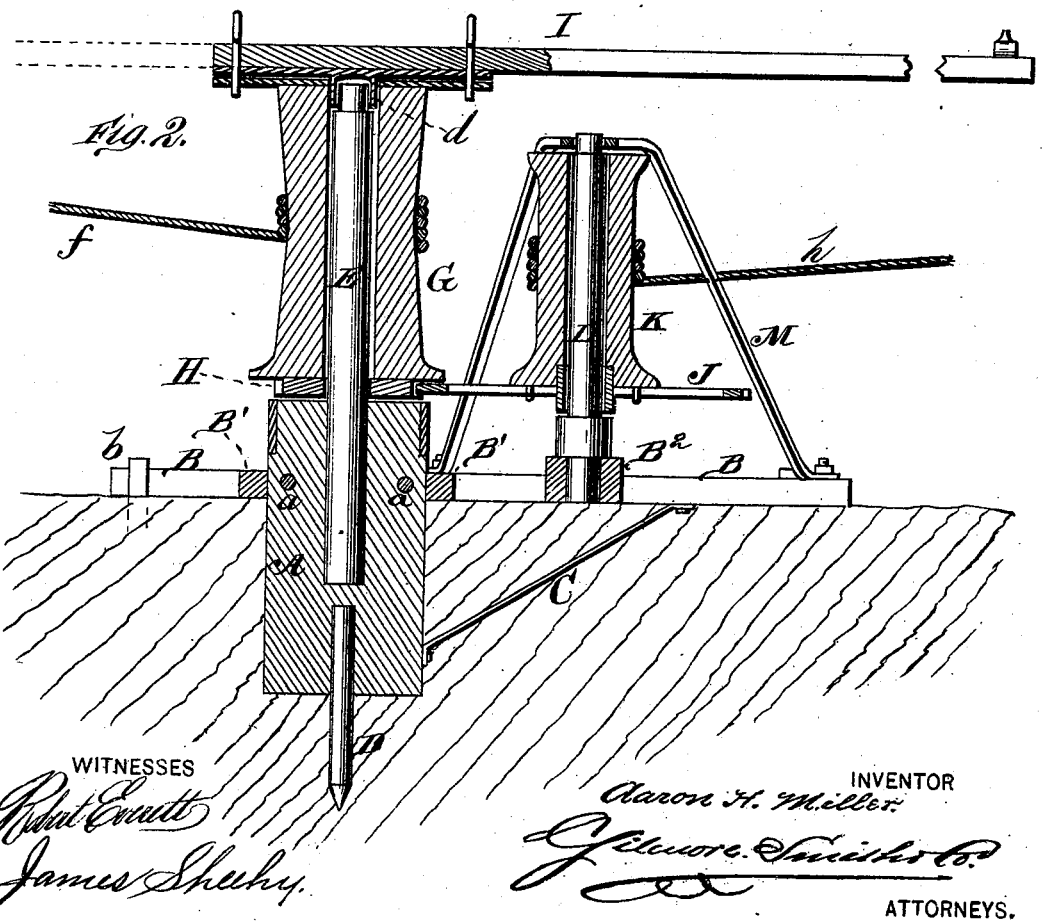


Fig. 2.



WITNESSES

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AARON H. MILLER, OF LA PORTE, INDIANA.

IMPROVEMENT IN STUMP-EXTRACTORS.

Specification forming part of Letters Patent No. **197,652**, dated November 27, 1877; application filed November 15, 1877.

To all whom it may concern:

Be it known that I, AARON H. MILLER, of La Porte, in the county of La Porte and State of Indiana, have invented a new and valuable Improvement in Stump-Extractors; and I do 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, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a plan view of my stump-extractor, and Fig. 2 is a longitudinal vertical sectional view of the same.

The nature of my invention consists in certain improvements upon the stump-extractor for which Letters Patent No. 109,316 were granted to Samuel Harman, November 15, 1870, as will be hereinafter more fully set forth, and pointed out in the claims.

The annexed drawing, to which reference is made, fully illustrates my invention.

A represents an upright post of any suitable dimensions, which, when the machine is ready for operation, is to be buried in the ground up to a frame-work secured to the upper portion of said post, and resting on the surface of the ground. This frame-work is composed of two parallel beams, B B, which are let into opposite sides of the post A, and fastened by bolts *a a*, as shown. Two cross-bars, B^1 B^1, are let into the beams B B, at right angles thereto, and close to or let into the corresponding sides of the post A. The beams B B are extended on one side farther than the other, so as to receive a third cross-beam or platform, B^2, as shown, and this portion of the frame-work is thus connected to the lower end of the post A by inclined braces C C.

The frame-work thus constructed is fastened to the ground by stakes *b* at the ends of the various beams, so as to make the machine perfectly firm.

To further insure the required firmness, the post A is, at its lower end, provided with a central downwardly-projecting pin, D, which enters such a distance into the ground as to prevent any wabbling of the post in any direction.

E is a vertical pivot or shaft, extending upward from the post A, and on this shaft is placed a drum or barrel, G, which revolves loosely thereon. This drum is, at its lower end, provided with a pinion or small cog-wheel, H, the central orifice of which is made smaller in diameter than the bore of the drum, so that in operation the drum will not come in contact with the shaft E, the bearings of the drum being formed by the cog-wheel H at the bottom, and by a cup, *d*, at the top, said cup being attached to the lever or sweep I, and projecting downward into the upper end of the drum to fit on the upper end of the shaft.

The lever or sweep I may extend a suitable distance in both directions, so as to have one or more horses attached at each end; or it may only extend in one direction, with the horses attached at the one end only.

The cog-wheel H meshes with a large cog-wheel, J, attached to or formed on the lower end of a supplemental drum, K, which is placed upon a vertical shaft, L, having its lower bearing in the beam B^2, and its upper bearing in a cage or spider, M, the arms of which are bolted to the frame-work. The cog-wheel J, drum K, and shaft L may be all cast in one piece, if so desired.

f is a chain or rope attached to and wound around the drum G. *h* is a similar chain or rope on the drum K.

By means of the supplemental drum K, geared to the drum G by the cog-wheels H J, great power is exerted on the chain *h*, so that large stumps or trees can be easily pulled. Both the chains *f* and *h* may be used at the same time for pulling different grubs or stumps.

By removing the cage or spider M the drum K, with its cog-wheel, may be easily taken off, when it is desired to use only the drum G and chain *f*.

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

1. The combination of the extended frame-work B B^1 B^2, let into post A, braces C, and

point D, all constructed substantially as and for the purposes herein set forth.

2. In a stump-extractor having a vertical center post, A, with horizontal frame-work, and a vertical pivot or shaft, E, the combination of the drum G, with cog-wheel H, drum K, with cog-wheel J, shaft L, and spider M, all constructed substantially as and for the purposes herein set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

AARON H. MILLER.

Witnesses:
JOHN F. BLACKMAR,
JAMES J. SHEEHY.