I. M. NOYES.

Stump-Extractor.

No. 206,352. Patented July 23, 1878.

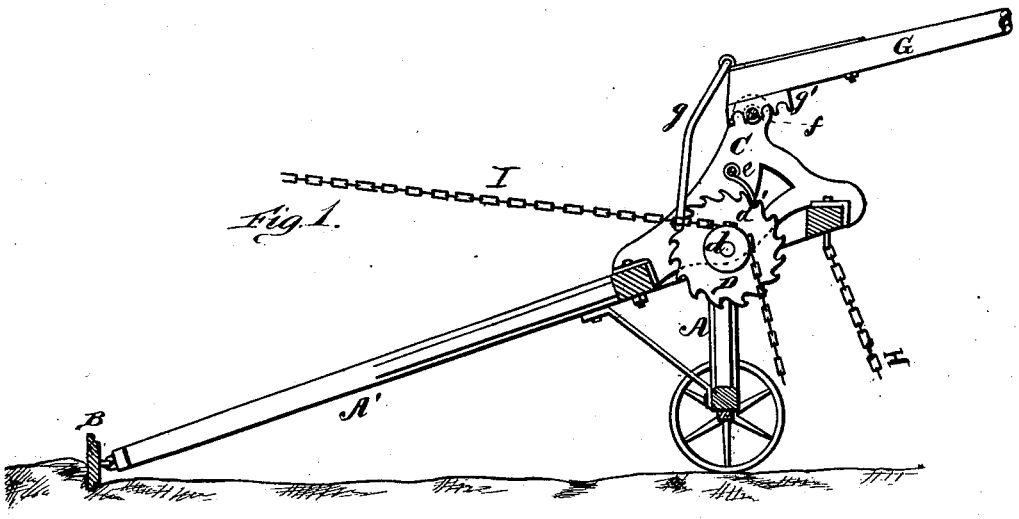

Fig. 1.

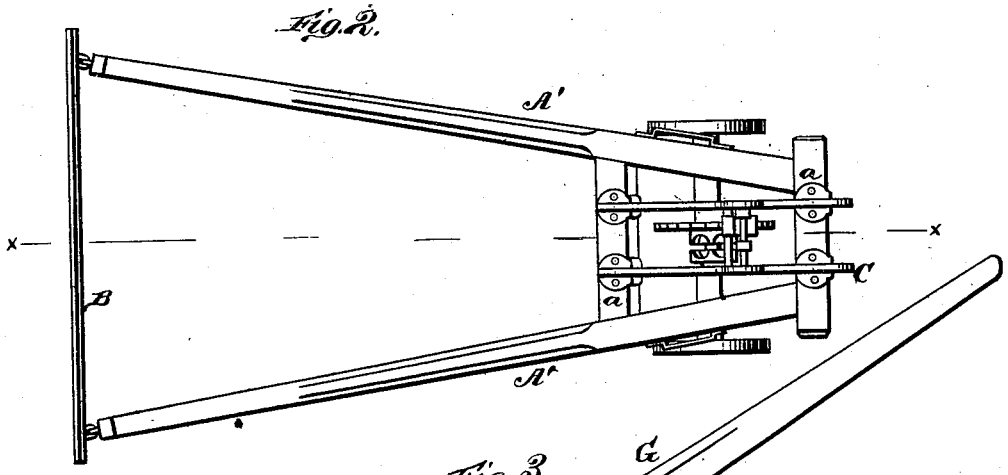

Fig. 2.

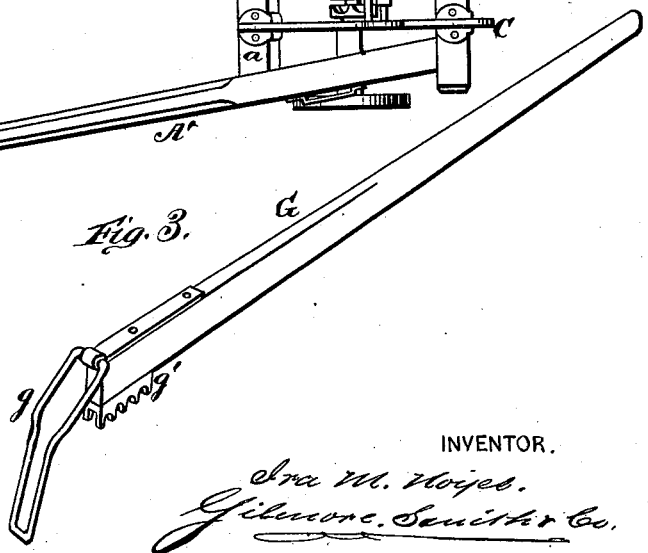

Fig. 3.

WITNESSES

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IRA M. NOYES, OF ST. CLOUD, MINNESOTA.

IMPROVEMENT IN STUMP-EXTRACTORS.

Specification forming part of Letters Patent No. **206,352**, dated July 23, 1878; application filed June 22, 1878.

To all whom it may concern:

Be it known that I, IRA M. NOYES, of the city of St. Cloud, in the county of Stearns and State of Minnesota, have invented a new and valuable Improvement in Grub-Pullers; 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 representation of a longitudinal vertical central section of my stump-extractor through *x x*. Fig. 2 is a plan view, and Fig. 3 is a perspective view of the lever.

The nature of my invention relates to that class of devices for pulling stumps, roots, and the like, which are mounted on wheels, and adapted to be anchored to a rigid object secured to the stump, and the stump-chain wound in over a windlass.

The novelty consists in the construction and arrangement of the parts, as will be more fully hereinafter set forth.

Referring to the drawings, A represents the standards, secured below to an axle, upon which are hung wheels of a broad tread, and above to side bars A′ A′, suitably braced and strengthened at one end by cross-bars *a a*, and at the other by a bearing-shoe, B. The ends of these bars A′, upon which the shoe B is loosely hung, are considerably apart, to afford a bracing strength. Upon the cross-bars *a* are secured two stout metal frames, C, parallel with each other, and between these is hung, upon a shaft, *d*, rigidly secured to each, a chain-windlass, D, having hooked ratchets *d′*, and an ordinary barrel adapted to receive the stump-chain I. A pawl, *e*, operates in the hooked teeth of the windlass, above which, extending from one of the frames C to the corresponding side, is a stout cross-rod, *f*, of metal, which acts as a fulcrum for the lever G. This lever has a double-slotted plate, *g′*, near one end, which rests upon the fulcrum *f* and gives greater power as those slots nearest the end of the lever are used, and from the upper end of the lever is hung a link which engages in the hooked teeth of the windlass. From staples which secure the frames C to the cross-bars *a* is hung the anchor-chain H.

The operation of my invention is as follows: The stump-chain being secured around a stump, root, or the like, the anchor-chain is secured to any convenient fixed object within reach, such as a tree, rock, &c. The stump-chain is then placed over the windlass, which, being turned by means of the lever G *g g′*, moves the stump or tree toward the machine and anchor, the shoe B bracing against the ground, and the power exerted on the stump, being both vertical and horizontal, wrenches it loose from the ground.

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

The combination of the lever G *g* with the double slotted plate *g′*, the fulcrum *f*, windlass D *d e*, the stump-chain bracing-shoe B, and anchor-chain, as herein set forth.

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

IRA M. NOYES.

In presence of—
D. B. LEASH,
F. E. HAMLIN.