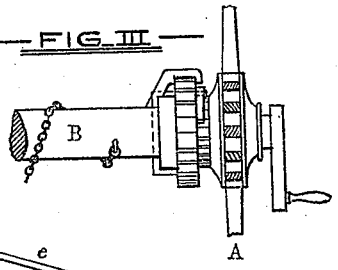
W. BERRY, Jr.

STUMP EXTRACTOR.

No. 186,788. Patented Jan. 30, 1877.

FIG. III



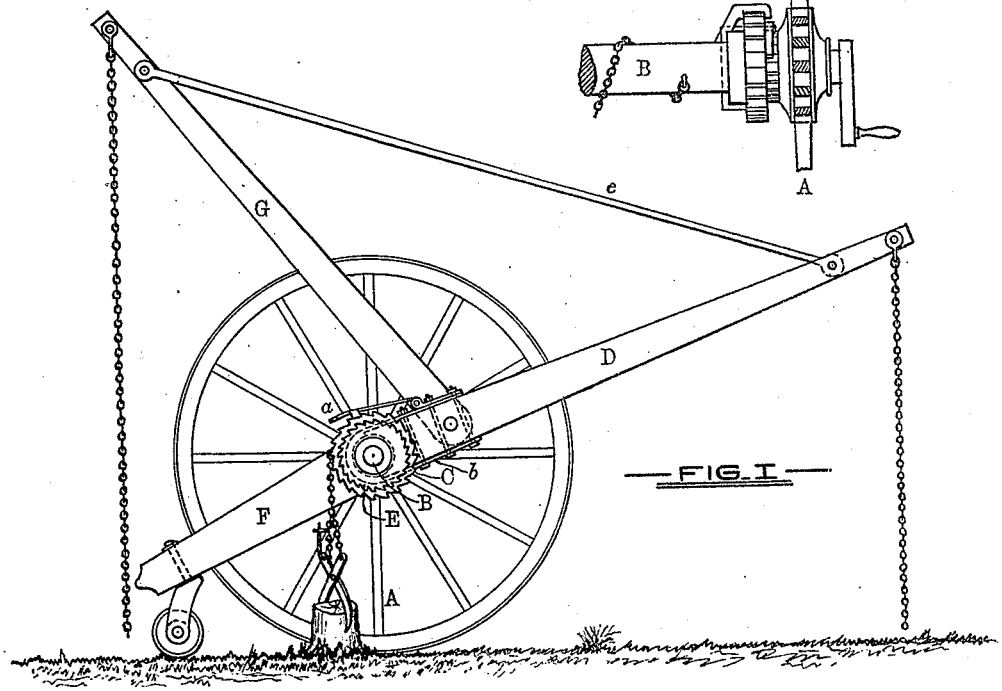


FIG. I

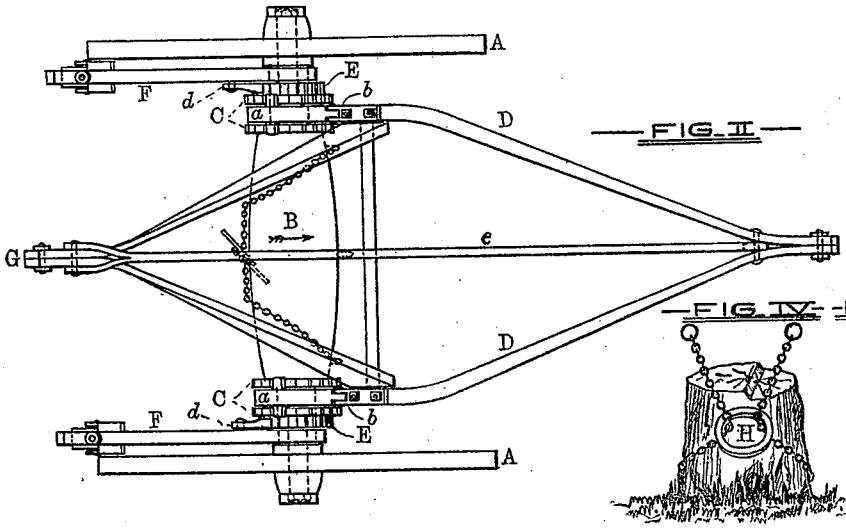
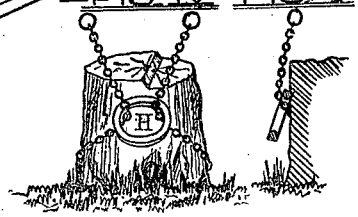


FIG. II

FIG. IV FIG. V



WITNESSES:

Wm. H. Towson

Jno. P. Pattison

INVENTOR:

William Berry Jr.

by G. H. & H. S. Howard

attys.

UNITED STATES PATENT OFFICE.

WILLIAM BERRY, JR., OF FOND DU LAC, WISCONSIN, ASSIGNOR TO WILLIAM BERRY, OF SAME PLACE.

IMPROVEMENT IN STUMP-EXTRACTORS.

Specification forming part of Letters Patent No. 186,788, dated January 30, 1877; application filed November 29, 1876.

To all whom it may concern:

Be it known that I, WILLIAM BERRY, Jr., of Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented certain Improvements in Stump-Extractors, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention relates to a wheeled stump or grub puller or extractor having the axle, which revolves independently of the wheels, adapted as a windlass, the said windlass being provided with ratchet-wheels and suitable levers carrying pawls, by means of which it is revolved in one direction to extract the stump, a reverse rotary movement of the said windlass being prevented by means of other ratchet-wheels and pawls hinged to stationary parts of the machine.

In the description of my invention which follows, reference is made to the accompanying drawing, forming a part of this specification, and in which—

Figure 1 is a side view of the extractor, with one wheel thereof removed, attached to a stump; and Fig. 2, a plan of the machine. Fig. 3 illustrates certain modifications in parts of the same. Figs. 4 and 5 represent a method of attaching the draft-chain to the stump.

Similar letters of reference indicate similar parts in all the figures.

A A are the wheels of the machine, and B is the axle connecting the same. C C are double ratchet-wheels, secured rigidly to the windlass, by which it is turned in the direction of the arrow through the medium of the pawls *a*, hinged to the main bifurcated lever D. The lever D is connected to the axle and windlass B by means of straps *b*, which fit loosely around it, or around the central portions of the double ratchet-wheels C. E E are the reverse ratchet-wheels, secured to or cast upon the outer sides of the wheels C, and serve, in connection with their pawls *d*, hinged to the stationary bars F, to prevent backward movement of the windlass. The stationary bars F, which are connected to the windlass in a manner similar to the levers D, assume the positions shown in the drawing, by reason of their weight, and are provided at their free ends with rollers, which rest on the ground.

G is a supplemental bifurcated lever, secured to the lever D, to be used in elevating the same. The levers are connected by the rod *e*. Both levers are supplied with chains, through the medium of which they are drawn down until their ends are brought within reach of the persons using the machine. Suitable chains are attached to the windlass, to which the grappling tongs or hooks are suspended.

The manner of operating the machine in extracting stumps is as follows: The grappling-hooks are firmly fastened to the stump, and the levers alternately elevated and depressed until the stump is sufficiently elevated to be easily removed by other means.

In many cases the grappling-hooks may have to be removed from the stump, and reattached thereto, in order to give the stump they required lift to disengage it from the earth.

In Fig. 3 a somewhat different arrangement of the ratchet-wheels and pawls is shown, and the windlass fitted with a crank, by means of which the said windlass is turned until the chains connected to the grappling-hook are drawn tightly, and farther movement of the windlass by this means prevented.

Figs. 4 and 5 show the chain attached to the stump through the medium of a ring, H, practically of square cross-section, which ring, when the draft or strain is placed on the chain, embeds in the stump, and makes a secure hold or bite therein, which is rendered the more efficient as the strain is increased.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. The bifurcated levers D and G, rod *e*,

and wheeled bars F, combined with the axle of the machine, windlass B, ratchet-wheels C, and pawls *a* and *d*, substantially as and for the purposes specified.

2. The draft-chain and the ring H, combined and operating in the manner and for the purpose described.

In testimony whereof I have hereunto subscribed my name this 21st day of October, A. D. 1876.

WM. BERRY, JR.

Witnesses:
WM. D. CONKLIN,
WM. BERRY.