2 Sheets. Sheet 1.

J. A. Jenkins,

Stump Extractor.

No. 109,015. Patented Nov. 8, 1870.

Fig. 1

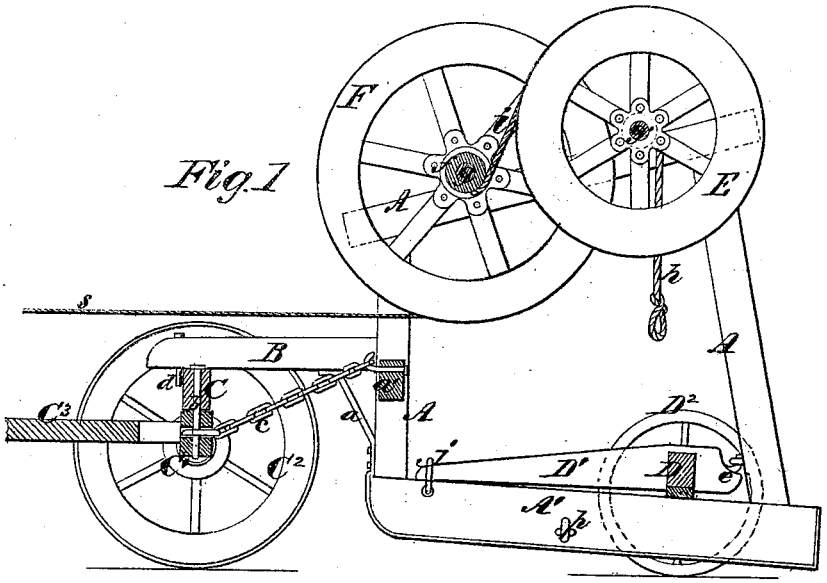


Fig. 2

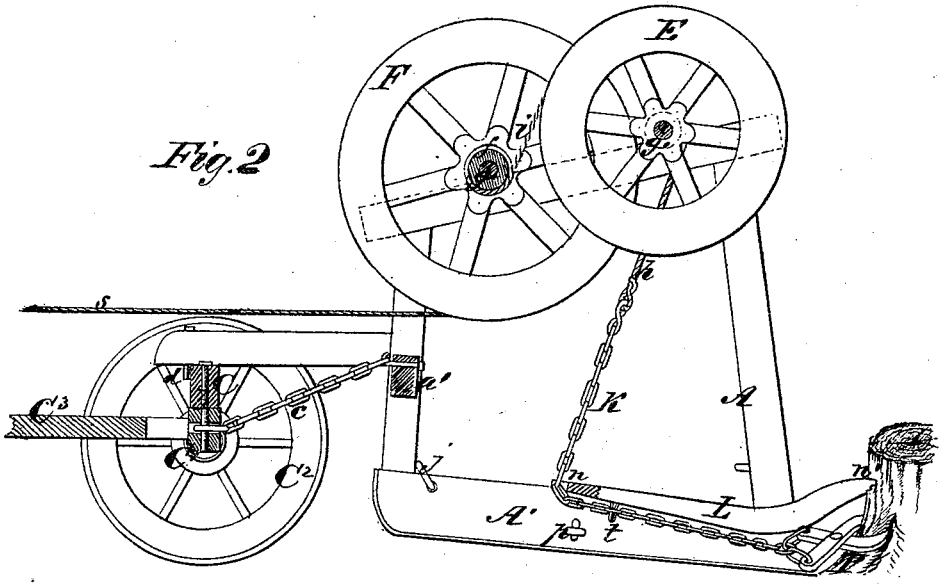


Fig. 3

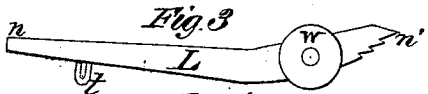


Fig. 4

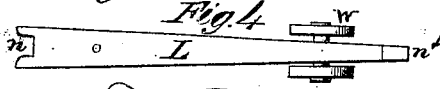
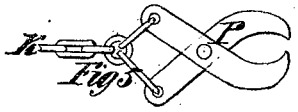


Fig. 5



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2. Sheets, Sheet 2.

J. A. Jenkins,

Stump Extractor.

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Fig. 6

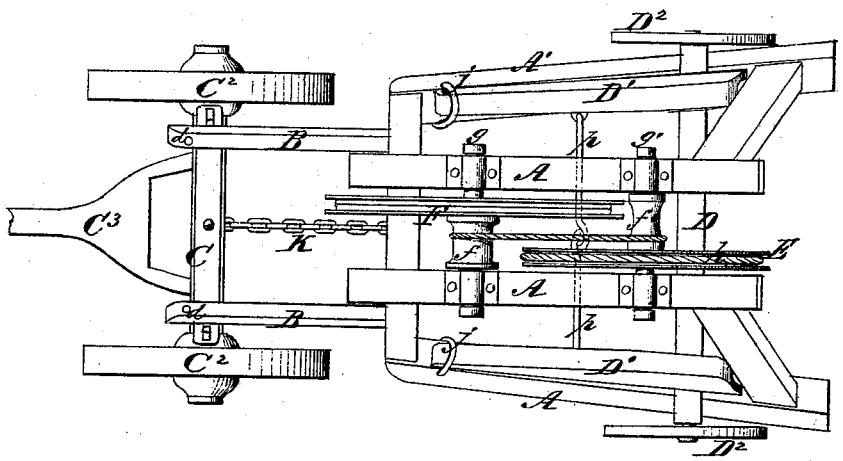
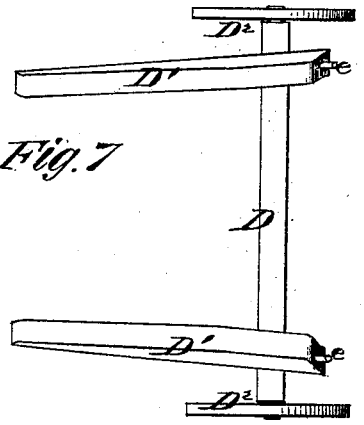


Fig. 7



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United States Patent Office.

JAMES A. JENKINS, OF CLARKSVILLE, MISSOURI.

Letters Patent No. 109,015, dated November 8, 1870.

IMPROVEMENT IN MACHINES FOR EXTRACTING STUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES A. JENKINS, of Clarksville, in the county of Pike and State of Missouri, have invented certain new and useful Improvements of Machines for Extricating Stumps, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, plate 1, is a longitudinal section, taken through the machine in a vertical plane, showing it mounted on its four wheels for transportation.

Figure 2, plate 1, is a similar view of the machine, arranged for extracting a stump.

Figures 3 and 4 show the extracting-lever.

Figure 5 shows the grapple-hooks.

Figure 6, plate 2, is a top view of the machine on its four wheels.

Figure 7, plate 2, is a top view of the rear truck-wheels and frame, detached from the machine.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain improvements on that class of machines for extracting stumps, trees, stones, &c., from the ground, wherein the power is applied to and sustained by a frame which is mounted upon wheels so as to render it portable, which wheels are detachable when it is desired to operate the machine, as will be hereinafter explained.

The following description, when taken in connection with the accompanying drawing, will enable others skilled in the art to understand its construction and operation.

In the accompanying drawing—

A represents the frame of the machine, which is pyramidal, inclined forward, and substantially erected upon two strong sills or sled-runners A′ A′, which converge toward the front end of the machine.

The two upright front portions of the frame are connected together by a strong horizontal beam, *a′*, and in rear of this beam the base of the frame is sustained against lateral separation by means of a transverse rod, *p*.

From the front uprights of frame A project two beams, B B, which are strongly braced by straps *a*, and which sustain the front end of the frame upon the bolster C of an axle, C^1, of two transporting-wheels, C^2 C^2.

To the axle C^1 the stiff draft-pole C^3 is secured.

The chain *c* connects the frame of the machine to the axle of the front wheels, and it may be disconnected from said axle by removing the king-bolt *b*.

The pins *d d*, which pass down through the forward ends of the projecting beams B B, in front of the bolster C, also connect the frame to the front truck.

The rear wheels D^2 D^2 are applied to an axle, D, to which levers D D^1 D^1 are securely fastened.

The rear ends of levers D^1 D^1 are provided with hooks *e e*, which are received by staples on the rear standards of frame A, as shown in fig. 1, thereby securing the rear ends to the frame.

The front ends of these levers are held by means of loops *j* drawn back over them, as shown in figs. 1 and 6.

To detach the wheels D^2 D^2 from the frame the loops *j* are pressed forward, and the hooks *e* removed from their staples; this allows the rear part of the machine to rest on the ground, as shown in fig. 2.

Across the top of frame A, and supported by journal-boxes on the top longitudinal beams of this frame, two shafts, *g g′*, are arranged, the ends of which shafts have heads on them that adapt the shafts to serve as braces for resisting outward pressure.

The front shaft *g* has a large flanged pulley, E, and a drum, *f*, keyed on it, and the rear shaft *g′* has a flanged pulley, E, and a drum, *f′*, keyed on it.

Around pulley F is carried a draft-rope, *s*, and around the drum *f* is passed a rope or chain, *i*, which latter is carried around the wheel E.

Around the drum *f* passes a rope or chain, *h*, which has a loop formed on its pendent end, for receiving a hook on a chain, *k*, shown in fig. 2.

In conjunction with the machine above described I employ a very strong lever, L, constructed with a pointed end, *n′*, a notched end, *n*, a staple, *t*, and, if desired, with two transporting-wheels. W, as shown in figs. 3 and 4.

I also employ, attached to the chain *k*, pivoted hooked-levers or grapple-hooks P, shown in figs. 2 and 5.

Operation.

The machine is moved up to a stump or tree, as shown in fig. 2, and the grapple-hooks P applied to the stump so as to hold firmly. The lever L is then adjusted over the chain *k*, with the pointed end *n′* against the stump, and the rear forked end *n* receiving the chain. The staple *t* is then passed through one of the links of the chain, and a key driven through the staple below such link.

One or more animals are then hitched to the draft-rope *s* and made to pull on this rope, at the same time to walk away from the machine, which will unwind the rope *s* from its pulley F, wind up the rope *i* on drum *f*, and wind up rope *h* on drum *f′*, thus lifting the free end of lever L, and tearing the stump out of the ground, or loosening it so that its roots can be readily severed.

It will be seen that the two pulleys E F, and their drums connected as described, afford means whereby

tremendous force can be applied to the lever L, the fulcrum of which being at P, also affords great leverage in extracting stumps.

Having described my invention,

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

1. The wheels D^2 applied to an axle or bar D, which has secured to it levers D^1, in combination with the fastenings *e j*, substantially as described.

2. The lever L, with or without wheels W, constructed with a pointed end, *n'*, a forked end, *n*, and a staple, *t*, adapted for use substantially as described.

3. The combination and arrangement of the lever L, chain *k*, and grapple-hooks P, in the manner and for the purpose herein described.

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Witnesses:

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