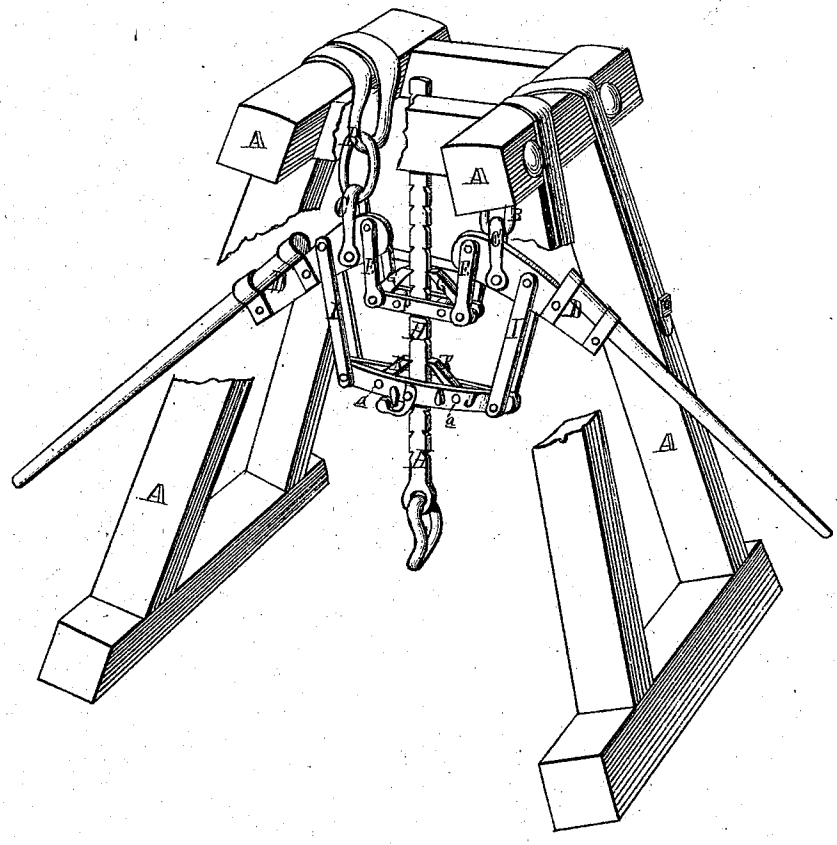
W. O. Johnson,

Stump Elevator.

No. 100,770. Patented Mar. 15. 1870.



Attest
N. S. Sprague.
Jas. I. Day.

Inventor
W. O. Johnson
Per his Atty.
Thos. S. Sprague.

United States Patent Office.

W. O. JOHNSON, OF ALMA, MICHIGAN.

Letters Patent No. 100,770, *dated March* 15, 1870.

IMPROVEMENT IN STUMP-EXTRACTORS.

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

To whom it may concern:

Be it known that I, W. O. JOHNSON, of Alma, in the county of Gratiot, and State of Michigan, have invented a new and useful Improvement in Stump-Extractors; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon and being a part of this specification.

The nature of this invention relates to an improvement in the construction of that class of machines employed in extracting stumps from the ground, and lifting heavy bodies; and consists in a peculiar arrangement of compound levers, dogs, rack-bar, and proper support, as more fully hereinafter described.

In the accompanying drawings—

A represents a proper frame, which is designed to straddle the article to be raised, and which sustains, by suspension, the working parts of the machine.

B are links, suspended from opposite sides of the top of the frame, and to which are, in turn, suspended the clevises C, which are pivoted at their lower ends to the levers D.

To the outer ends of these levers are pivoted the connecting-rods E, the lower ends of which are in turn pivoted to the yoke F.

Between the ends of this yoke, and by means of the same bolts by which it is pivoted to the rods E, are pivoted the dogs G, the opposite ends of which are designed to engage with the teeth on either side of the rack-bar H, alternating in their engagement as the levers D are alternately elevated or depressed.

In the rear of the clevises C are pivoted other connecting-bars, I, to the levers D, so that the point where the clevises are pivoted to said levers D shall be midway between the points where the connecting-rods E and I are pivoted to the said levers D.

The lower ends of the latter-named connecting-bars are in turn pivoted to the yoke J, through which, as well as the yoke F, the rack-bar H passes, and has a reciprocating motion.

Between the sides of the yoke J, at *a*, are pivoted other dogs, K, which are also designed to engage with the teeth on either side of the rack-bar H, to the lower end of which should be secured a chain or rope, by means of which to make fast to the object to be lifted.

The levers, connecting-rods, yokes, and dogs should all be so arranged, as shown, that three of the dogs, when the machine is in operation and a weight attached to the rack-bar, shall be in engagement with its teeth at all times, thereby giving the operator an additional leverage over the machines now in use, and entirely preventing any danger of slipping.

I am aware that a pair of levers operating a pair of dogs, in connection with a rack-bar, are now in use for the purpose of lifting weights and extracting stumps. I disclaim any part of that invention, but

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

The construction of an apparatus for extracting stumps and lifting heavy bodies, wherein the frame A, links B, clevises C, levers D, connecting-rods E and I, yokes F and J, dogs G and K, and rack-bar H, are arranged and operate substantially as herein described.

W. O. JOHNSON.

Witnesses:

THOS. J. TANN,

ALFRED S. ATWOOD.