W. O. JOHNSON.

Stump-Puller.

No. 166,384. Patented Aug. 3, 1875.

Fig. 1.

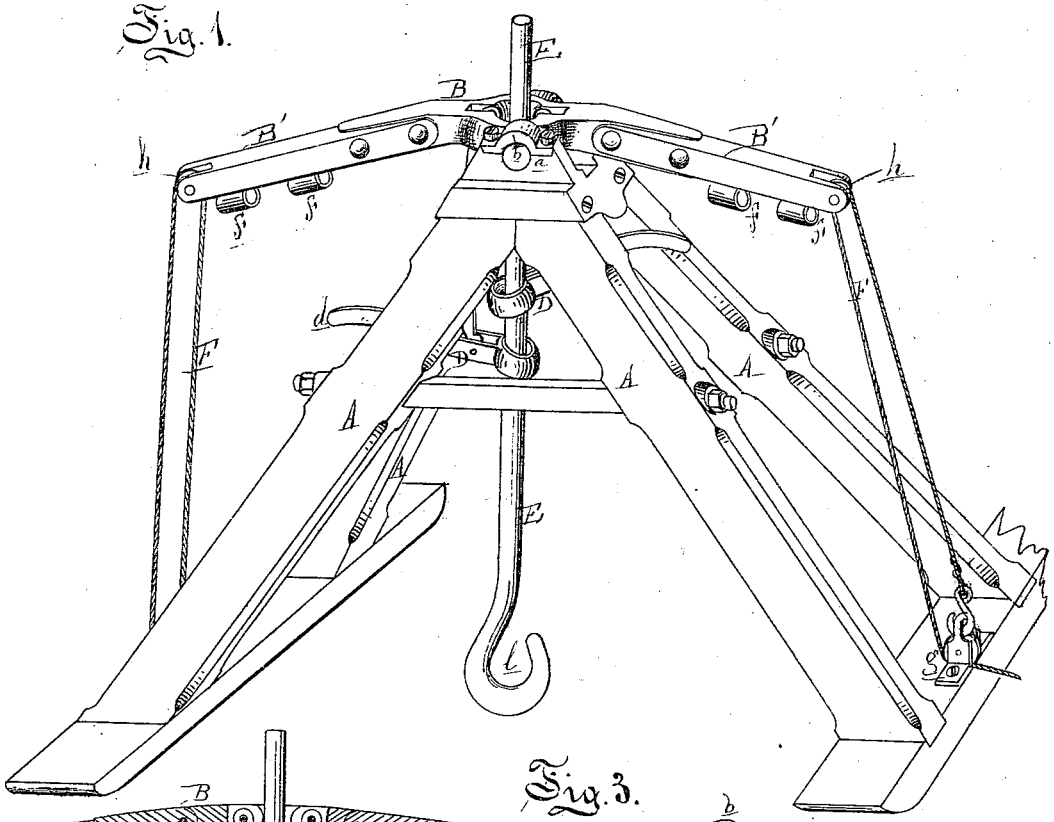


Fig. 2.

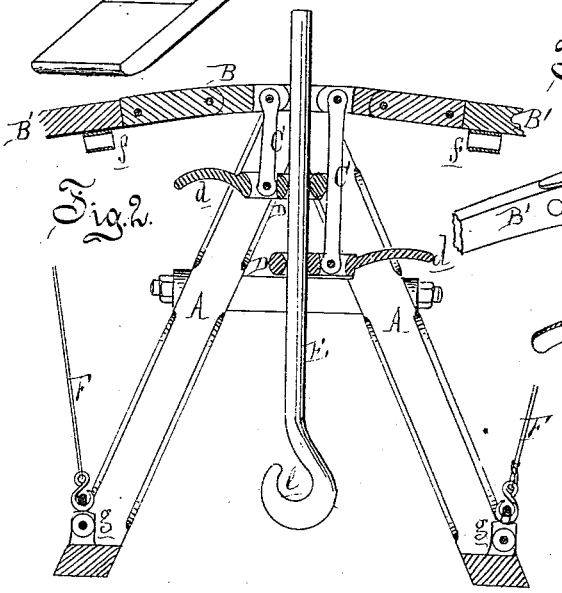
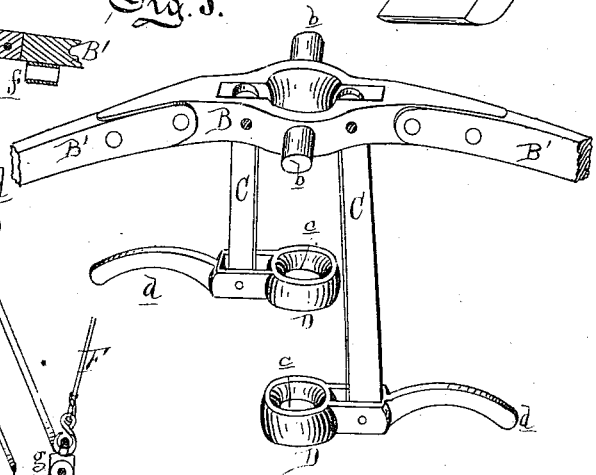


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM O. JOHNSON, OF ALMA, MICHIGAN.

IMPROVEMENT IN STUMP-PULLERS.

Specification forming part of Letters Patent No. **166,384**, dated August 3, 1875; application filed June 17, 1875.

To all whom it may concern:

Be it known that I, WILLIAM O. JOHNSON, of Alma, in the county of Gratiot and State of Michigan, have invented an Improvement in Stump-Pullers, of which the following is a description:

The nature of my invention relates to an improvement in stump-pullers of that class where a smooth pulling-rod is raised through, or by means of, gripers actuated by an oscillating lever or levers; and it consists in a novel and very simple combination of a pair of gripers and links with an oscillating beam at the top of a pyramid, which straddles the stump.

Figure 1 is a perspective view. Fig. 2 is a sectional elevation. Fig. 3 is a detached perspective view of the oscillating lever, links, and gripers.

In the drawing, A represents a pyramidal frame, the posts of each end being mounted on runners, on which it may be drawn about from stump to stump. In the top is a bearing, *a*, at each side, in a strong cast-iron saddle, each bearing having a trunnion, *b*, journaled in it, the said trunnions projecting laterally from an iron oscillating beam, B, having a vertical slot longitudinally extended each way from an enlarged opening or eye in the center. The lever is extended in length by a wooden arm, B′, mortised and bolted in each end. In each slot is hung a link, C, whose lower end is pivoted in a slot in a griper, D, which griper has a horizontal eye, *c*, forged in its inner end, and a handle, *d*, on its outer end. One of the links is longer than the other. E is a round pulling-rod, with a hook, *e*, on its lower end to receive the chain, which is made fast to the stump. The rod is passed up through the eyes of the gripers D D and the eye in the center of the oscillating beam. As the beam is oscillated the link on the lowering-arm drops with it, and its griper slides down the rod, being loosely fitted thereto. When that arm rises the eye-end of that griper tilts downward on the rod until it jams thereon. On continuing the upward movement the said griper draws up the rod, down which the other griper slips in the meantime. It will then be seen that the rod is raised at each oscillation of the beam. If the stump be light and comparatively easy to extract, the beam may be oscillated by hand-power, in which case hand-spikes may be inserted in the sockets *f f*, provided for that purpose; but to develop the full power of the apparatus, one end of a rope, F, is hooked into the top of a pulley-block, *g*, on each runner, led over and around a sheave, *h*, at the end of the arm above, thence down under the sheave in said block, and a horse is hitched to its end. The horses are alternately led to and from the apparatus to oscillate the lever-beam, traveling twice as far as the end of the latter moves, thereby getting a sufficient strain on the pulling-rod to extract any stump the machine can straddle. By depressing the handles *d* of the gripers the rod is freed at once and drops of its own weight.

What I claim as my invention is—

A stump-pulling machine wherein a single oscillating beam is journaled in the top of a pyramidal frame, the said beam extending on each side of the said frame, and oscillated by power applied alternately to its ends, and having pendent from it on each side of its bearings a link connecting with an eye-griper to actuate a pulling-rod, substantially as described and shown.

WM. O. JOHNSON.

Witnesses:

H. F. EBERTS,

WM. P. SPALDING.