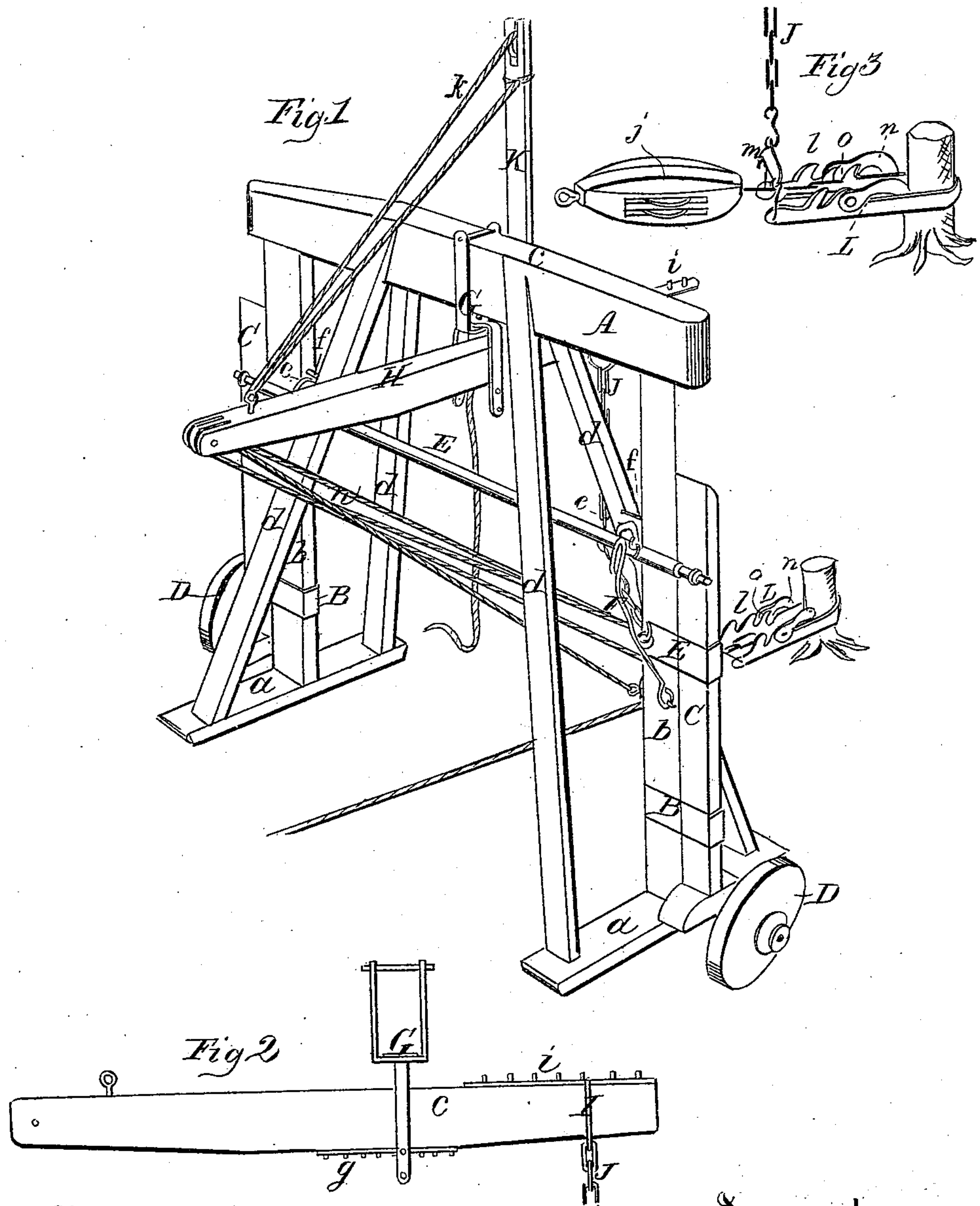


Kaussler & Cook,
Stump Extractor.
No. 94,217. Patented Aug. 31. 1869.



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JOHN A. KAUSSLER AND HORACE B. COOK, OF WHITE PIGEON,
MICHIGAN.

Letters Patent No. 94,217, dated August 31, 1869.

IMPROVED STUMP-EXTRACTOR.

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

To whom it may concern:

Be it known that we, JOHN A. KAUSSLER and HORACE B. COOK, of White Pigeon, in the county of St. Joseph, and State of Michigan, have invented a new and useful Improvement in Stump and Grub-Extractors; and we 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.

Figure 1 is a perspective view of our invention.

Figure 2 is a detached view of the lever and swivel.

Figure 3 is a view of the adjustable grapnel.

Like letters refer to like parts in each figure.

The nature of this invention relates to an improved construction of an apparatus for extracting heavy stumps or comparatively lighter grubs; and consists of a suitable frame, so attached to a carriage that it may be brought into use when required, or elevated upon the trucks for transportation; also in an adjustable lever, suspended by means of a proper swivel to the top cross-bar of the frame, in such a manner that the fulcrum-point may be changed, thereby giving the operator the necessary leverage to do the required work; also in a suitable device for raising the outer end of the lever, when desired; also in a novel clamp for grasping grubs, when the apparatus is used for grubbing, and in a new, novel, and ingenious arrangement of all its various parts, as more fully hereinafter described.

A, in the drawing, represents a suitable frame, composed of the bottom plates *a*, upright posts *b*, cross-bar *c*, and braces *d*, properly put together and secured.

To the upright posts *b* are secured the metallic straps B, in such a manner as to form loops or guides, within which the standards C have a vertical movement.

To the foot of these standards are secured, upon proper axles or journals, the wheels D.

Journalled at each end, to these standards C, is the rock-shaft E, to which are secured the cams *e*.

A semi-rotation of this rock-shaft is obtained by means of the compound lever F, which is properly fastened for that purpose to one of the upright posts *b*, and to the rock-shaft.

This partial rotation compels the cams *e* to engage with and against the pins *f*, which are driven into the inner faces of the upright posts *b*, thereby raising the whole frame from off the ground and upon the standards and wheels, ready to be transported to any desired point.

Suspended from the cross-bar *c*, by means of double swivel clevis G, is the lever H, provided, upon its under side, with a series of pins, *g*, or suitable notches,

by means of which, when it is desired to change the fulcrum-point, the cross-bar may be held in place on the bottom bar of the lever part of the double swivel clevis.

At one end of this lever is secured, by proper sheaves and blocks, the rope or chain *h*, by means of which the power is applied.

The top face of the opposite end of the lever is provided with notches or pins, *i*.

A suitable clevis, I, is passed over this end of the lever, and held in any desired position by the notches or pins *i*.

From this clevis is suspended a proper chain or rope, J, the lower end of which is designed to be passed around a stump to be extracted from the ground.

Then the hook in the bottom of the block *j* is secured to the chain near the stump, and power being applied, by means of the rope *h*, the stump is lifted from out the ground.

When the fulcrum-point is changed from the centre to a point nearer one end of the lever, it becomes necessary to adopt some device to raise the longer arm of the lever. This is done by erecting upon and securing to the cross-bar *c* a proper standard, K, provided at its top with a sheave, over which runs the rope *k*, which is secured to the longer arm of the lever in such a manner that it can easily be raised, when desired, by pulling upon the rope *k*.

When the apparatus is designed for pulling small stumps or grubs, which vary in size, and still are so small that the chain J cannot conveniently be secured to them, a clamp, L, may be attached to the chain in such a manner that the clamp may be passed around the grub.

This clamp is constructed of a strap of iron, made in the form shown in the drawings, and its upper edges provided with serrations or teeth *l*, and the clamp or grapnel is secured to the chain by the triangular link *m*.

After this clamp has been placed around the grub, the stop *n*, provided with bail *o*, is placed on top of the grapnel, the stop *n* being next the two, while the bail *o* engages with any of the series of teeth *l*, to hold the stop in place.

The hook in the bottom of the block *j* is then secured to the bail *o*, and the power applied as in pulling larger stumps.

The grapnel or clamp, constructed in the manner described, can be adjusted, by means of the teeth and stop, to fit any-sized grub.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The clamp L, when constructed and operating substantially as and for the purposes described.
2. The rock-shaft E, cams *e*, compound lever F, and

pins *f*, or their equivalents, in connection with the frame A, standards C, and wheels D, when arranged and operating substantially as and for the purposes herein specified.

3. The arrangement of the parts A, B, C, D, E, F, G, H, I, J, K, L, *a, b, c, d, e, f, g, h, i, j, k, l, m, n,* and *o*, or their known equivalents, when combined,

constructed, and operating substantially as and for the purposes herein set forth and shown.

J. A. KAUSLER.
H. B. COOK.

Witnesses:

JAS. I. DAY,
H. F. EBERTS.