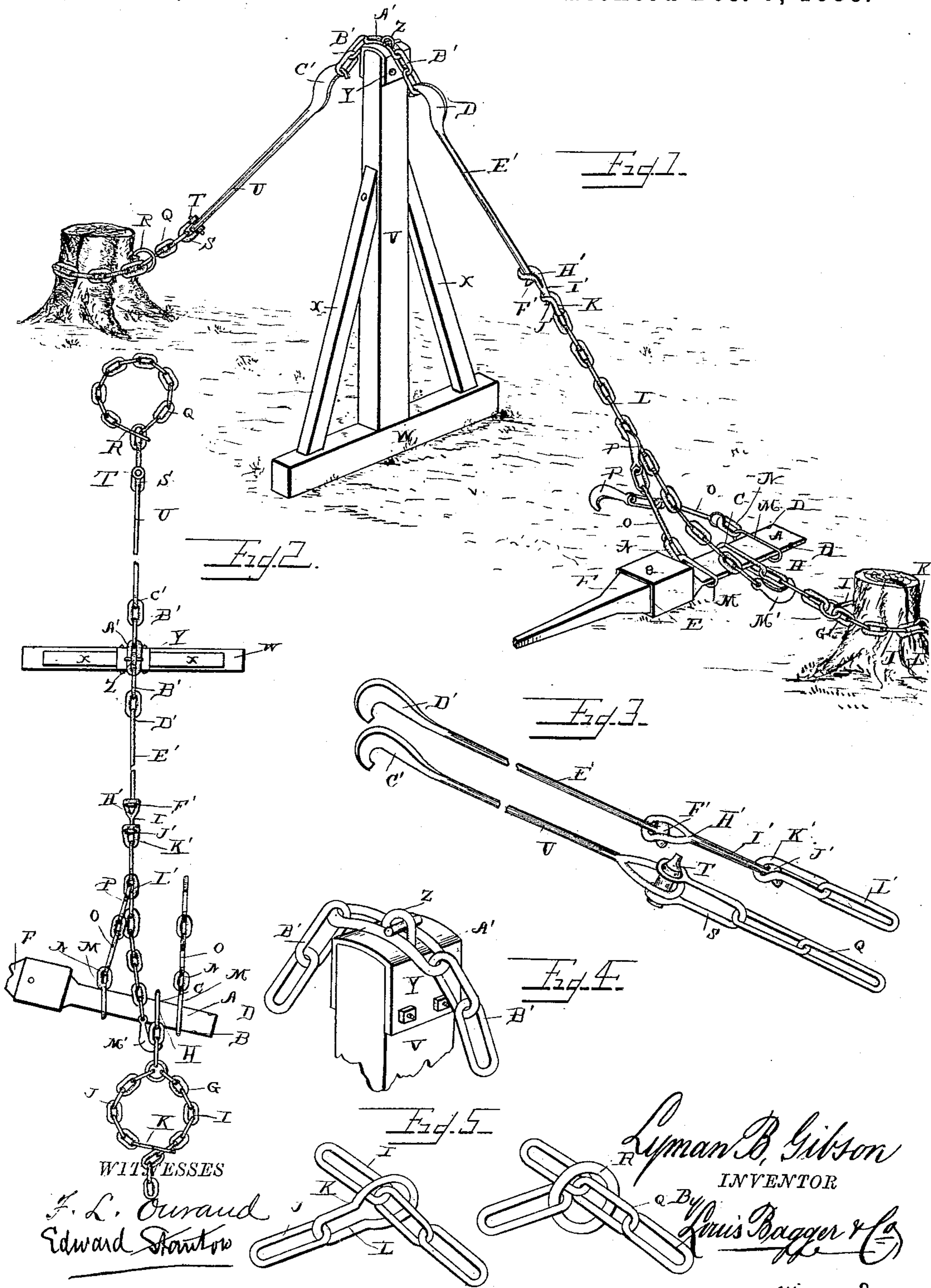


(No Model.)

L. B. GIBSON.  
STUMP PULLER.

No. 354,054.

Patented Dec. 7, 1886.



# UNITED STATES PATENT OFFICE.

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## STUMP-PULLER.

SPECIFICATION forming part of Letters Patent No. 354,054, dated December 7, 1886.

Application filed May 20, 1886. Serial No. 202,785. (No model.)

*To all whom it may concern:*

Be it known that I, LYMAN B. GIBSON, a citizen of the United States, and a resident of Addison, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Stump-Pullers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved stump-puller, showing it applied. Fig. 2 is a top plan view of the same. Fig. 3 is a perspective view of the hooked coupling-bars used at the brace. Fig. 4 is a perspective detail view of the upper end of the brace and the curved link upon the same; and Fig. 5 is a similar view showing the coupling for the chains used at the anchor and at the stump.

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

My invention has relation to that class of stump-pullers in which a chain is attached to a stump acting as an anchor, or to an anchor secured in the ground, and has a link at its end acting as a fulcrum for a lever, to which two links at the ends of two chains are pivoted at equal distances from the fulcrum, the said chains having hooks, which, as the lever is rocked, may alternately be moved from one link to another upon a chain having suitable connection to the stump to be pulled, so that by rocking the lever and moving the hooks upon the chain the stump may be pulled out of the ground; and it consists in the improved construction and combination of parts of such a stump-puller, contemplating certain improvements upon the stump-puller for which Letters Patent No. 307,038 were granted to me on the 21st day of October, 1884, as herein-after more fully described and claimed.

In the accompanying drawings, the letter A indicates a flat strong metallic bar, formed with four (more or less) notches, B, in one edge, and with two (more or less) notches, C and D, in the other edge, the said notches, which I will denominate "fulcrum-notches," being one near the end of the bar and the other

a distance farther in; and this bar is formed at its inner end with a socket, E, within which a lever or beam, F, is secured, the draft, which may be produced by a team, hand, or machine power, being attached to the outer end of this lever.

The anchor-chain G is provided at its inner end with a long link, H, which is slipped upon the bar and rests with its end in one of the fulcrum-notches, and at the outer end the chain is provided with two branch chains, I and J, one, J, of which is provided at its end with a large link, K, one end of which is compressed to form a narrow loop, L, within which the links of the other branch chains may be held, while the remainder of the link is sufficiently large to allow the chain to pass freely through it, so that the branch chains may be drawn around a stump or tree and be drawn together until tight, when a link may be slipped into the narrow portion of the large link and be held by the end of the following link bearing against the sides of the said narrow portion.

The long links M M, upon the inner ends of two links, N N, secured at the eyed ends of two rods, O O, slide upon the bar and engage the notches upon the edge opposite to the fulcrum-notches, and the outer eyed ends of these rods have links attached to them, to which links hooks P P are attached.

The stump-chain Q has a large link, R, at one end, through which the chain is passed, forming a running loop, and the other end of the chain is provided with an open link, S, having a bolt, T, passing through the eyed ends of the link, and the eyed end of a rod, U, is pivoted upon this bolt.

V is a brace formed with a skid, W, at its lower end, and side braces, X X, and the upper end of the brace is provided with a cap, Y, having a staple, Z, projecting upward. A curved link, A', fits upon the upper curved chafing-cap of the brace, having the staple projecting through it, and this link is provided with two pairs of links, B' B', at its ends, to one of which the hook C', at the upper end of the rod U, is secured. The hooked end D' of a rod, E', is hooked into the other link at the end of the curved link, and the other end of this rod is formed with an oblong cross-head, F'. This cross-head is engaged by the rect-

angularly-bent end of a link, H', formed at the end of a rod, I', having a similar cross-head, J', at its other end, the inner side of the bent end of the link bearing against the rounded edges of the ends of the cross-head, the cross-head being inserted edgewise into the link and thereupon turned. The cross-head at the end of the link-bearing rod is engaged into a similar bent link, K', at the end of a take-up chain, L', having a hook, M', at its other end.

When the extractor is to be used, the anchor-chain is secured around a strong stump or tree, or to any suitable anchor which will withstand the strain, and the stump-chain or extractor-chain is secured around the stump and drawn tight, the chain tightening around the stump as the draft is applied to it, and the brace is placed against the ground, with the hooked rod from the extractor-chain and the hooked rod from the take-up chain engaging the end links at the curved link. The hooks upon the drawing-chains are now engaged with the take-up chain, drawing all the chains taut, whereupon draft is applied to the end of the lever, drawing one draft-chain back and allowing the hook of the other chain to be engaged farther in upon the take-up chain. In this manner, by alternating the draft upon the lever from one side to the other, or rocking it, the hooks may gradually draw the take-up chain toward the anchor, tilting the brace toward the anchor and causing an upward and lateral pull upon the stump, which will thus be drawn out of the ground.

When it is desired to stop the draft upon the lever without allowing the chains to slacken, the hook at the end of the take-up chain is hooked into a link of the anchor-chain, when the lever may be released. The cross-heads upon the hooked rod and upon the rod having the link engaging the bent links will act as detachable swivels, allowing the chain to be twisted or untwisted, as desired, by turning the bent links upon the round shanks of the cross-heads, and the cross-heads may be removed from the bent links by turning them in a plane with the openings in the links and drawing them out.

When the stump is loose in the ground and not much power is required to pull it out of the ground, the links of the drawing-chains may be moved out to the notches farthest from the fulcrum, and when the stump is extraordinarily heavy or firmly rooted in the ground the fulcrum may be shifted to the fulcrum-notch near the end of the bar and the links of the drawing-chains to the notches at both sides of the same; or the fulcrum may be in the notch near the end of the bar and the inner drawing-link may be at one of the inner notches, when that chain will have a considerable sweep before stopping.

The outer drawing-chain may have its link changed to the outer fulcrum-notch and may engage the anchor-chain, when the pull will be doubled and the chains held while the lever

is returned by engaging the hook upon the take-up chain in the anchor-chain.

It will be seen that the extractor-chain will be tightened upon the stump as the draft is applied, the chain sliding through the large link at the end of the chain, and the brace will serve to give an upward draft as well as a lateral draft upon the extractor-chain and upon the stump, so that the stump will be drawn upward as well as tilted out of the ground.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a stump-extractor, the combination of a lever having a bar at one end formed with notches in its edges, an anchor-chain having a long link adapted to slide upon the flat bar and to engage one of the fulcrum-notches, drawing-chains having long links upon the flat bar engaging the notches upon the other edge and provided with hooks at the free ends, an extractor-chain having a loop at one end for passing around the stump, and provided with a hooked rod, a brace having a link sliding upon its top, having the hooked end of the rod engaging it at one end, and a take-up chain having a hooked rod at one end attached to the other end of the link upon the brace and having its other end engaged by the hooks of the drawing-chains, as and for the purpose shown and set forth.

2. In a stump-extractor, the combination, with a lever, an anchor-chain pivotally attached to the said lever, forming a fulcrum for the same, drawing-chains pivotally attached to the lever at both sides of the fulcrum and having hooks at their free ends, and an extractor-chain, of a take-up chain attached to the extractor-chain and provided at its end with a hook for engaging the anchor-chain, as and for the purpose shown and set forth.

3. In a stump-extractor, the combination of an extractor-chain having a hooked rod, a brace having a rounded chafing-cap at its upper end provided with a staple, a curved link sliding upon the staple and having links at its ends and having one link engaged by the hooked rod of the extractor-chain, and a take-up chain having a hooked rod engaging the link at the other end of the curved link and having means for drawing it toward an anchor, as and for the purpose shown and set forth.

4. In a stump-extractor, the combination of a take-up chain having means for drawing it toward an anchor, and provided at its inner end with a link having its end bent at a right angle, with a rod connected to the extractor-chain and formed with an oblong cross-head at its end, as and for the purpose shown and set forth.

5. In a stump-extractor, the combination of a rod connected to the extractor-chain and having a flat cross-head at one end, a rod having a similar cross-head at one end and having a link at its other end bent at the end at a right angle and engaging the cross-head, and a take-up chain having means for drawing it toward

an anchor, and provided with a link bent at a right angle at the end and engaging the cross-head of the rod having the bent link, as and for the purpose shown and set forth.

- 5 6. In a stump-extractor, the combination of a lever having a flat bar formed with notches in its edges, an anchor-chain having a flat link upon the bar engaging a fulcrum-notch upon one edge, drawing-chains having flat links at 10 their ends upon the bar engaging notches upon the other edge and provided with hooks at their free ends, an extractor-chain having a loop passed around the stump and having a rod at its other end formed with a hook, a 15 brace having a cap and a staple at its upper end, a curved link sliding upon the cap and staple and having links at its ends, one link being engaged by the hooked rod, a rod hav-

ing a hook engaging the link at the other end of the curved link and having a cross-head at 20 the other end, a rod having a bent link engaged by the cross head and having a cross-head at the other end, and a take-up chain provided at one end with a bent link engaging the cross-head of the rod having the bent link, 25 and having a hook at its other end for engaging the anchor-chain being engaged by the hooks of the drawing-chains, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as 30 my own I have hereunto affixed my signature in presence of two witnesses.

LYMAN B. GIBSON.

Witnesses:

RUSH P. JONES,

EDWARD M. WILLIS.