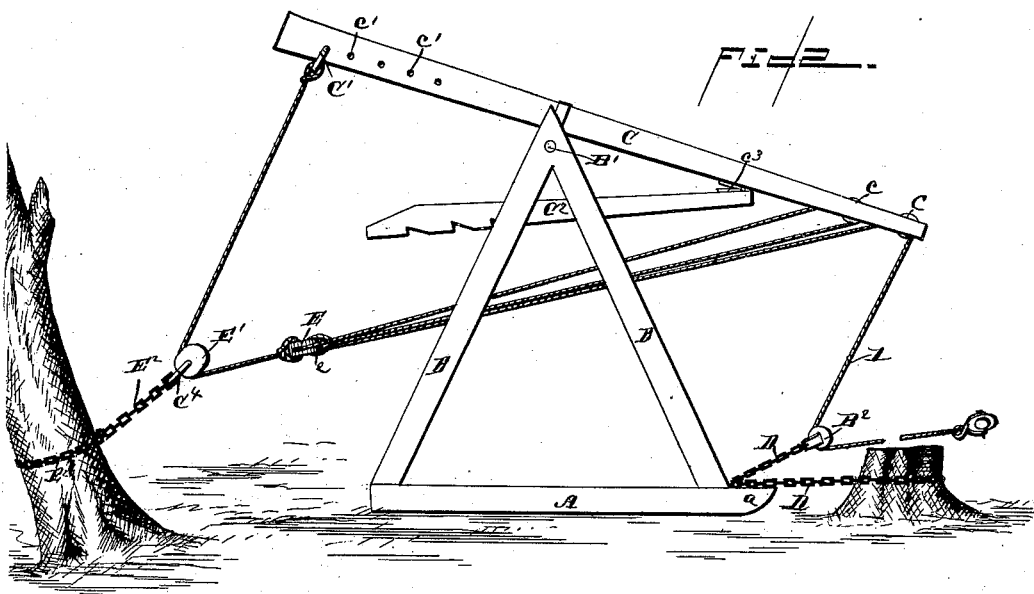
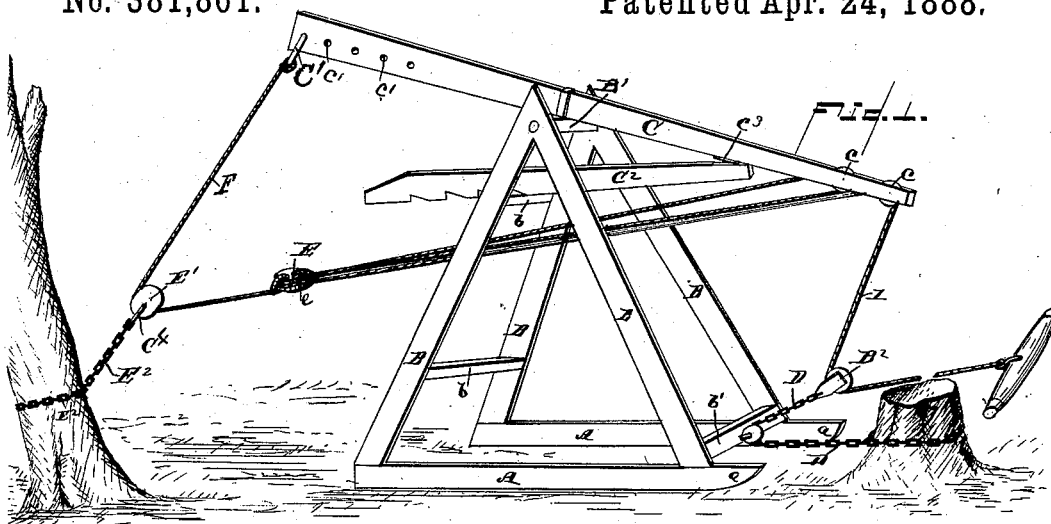


(No Model.)

G. M. STROUP.
STUMP EXTRACTOR.

No. 381,861.

Patented Apr. 24, 1888.



Witnesses.

W. H. Humphrey
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UNITED STATES PATENT OFFICE.

GEORGE MARION STROUP, OF PHILOMATH, OREGON.

STUMP-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 381,861, dated April 24, 1888.

Application filed July 26, 1887. Serial No. 245,362. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MARION STROUP, a citizen of the United States, residing at Philomath, in the county of Benton and State of Oregon, have invented a new and useful Improvement in Stump-Extractors, of which the following is a specification.

My invention relates to stump-extractors; and it consists in the construction and arrangement of the parts of the same, which will be more fully set forth hereinafter, and pointed out in the claims.

The object of my invention is to provide a stump-extractor which is simple and effective in its construction and operation, strong and durable, easily handled and operated, and readily understood. I attain this object by the mechanism illustrated in the accompanying drawings, wherein like letters of reference indicate similar parts in the several views, and in which—

Figure 1 is a perspective view of my improved stump-extractor, showing the same arranged in operative position. Fig. 2 is a side elevation of the same.

A indicates the base-beams, which are formed with forward turned-up ends, *a*, whereby the parts may be easily drawn over the ground when transported from one position to another. To the forward and rear portions of the said beams A upright inclined beams B B are secured, which are united at their top portions and connected by a suitable rocking beam, B', running transversely across the entire device. The rear edges of the rear beams B are braced by suitable cross-beams, *b b*, and the front beams B in like manner braced by a cross-beam, *b'*. Connected to the rocking beam B' is a sweep, C. The one end of the sweep C has two sheaves or pulleys, *c c*, mounted therein, and the opposite ends of the said sweep are constructed with a series of apertures, *c'*, which are adapted to receive a link, C', which may be adjusted from one aperture to another, as may be desired.

To the forward cross-beam, *b'*, a chain, D, is secured at its central portion, to the one end of which chain a sheave or pulley, B², is connected, the other end of the said chain being adapted to be secured around the stump to be removed. A rope or cable passes through the

sheave B², to one end of which rope 1 the animal is attached by means of a whiffletree or similar device, while the other end of the said rope is passed through the outer sheave or pulley *c* in the sweep C, and thence extends back to the frame-work of the extractor and passes through a pulley or sheave, E, and thence back over the second pulley *c* in the sweep C, and thence back to the pulley E, and is secured to a central hook, *e*. The pulley E is secured to the end of a rope or cable, F, which passes through a sheave or pulley, E', and which is connected at its end to the adjustable link C'. The pulley E' is secured to one end of a chain, E², which at its opposite end is attached to a suitable place of securement, which will afford a resistance against the action of the extractor.

To the longer side of the under portion of the sweep C a ratchet-lever, C², is secured by means of a hinge, *c³*. The said lever C² extends through the supporting-frame of the device, and the teeth thereof are adapted to engage with the top edge of the upper cross-beam, *b*. By this means a brake is provided, the use of which will be readily understood.

When the animal exerts a draft on the rope 1, the said rope draws on the sheave or pulley E, the pulley E', and the rope or cable passing therethrough and connected to the link C', and balances the sweep C in the position shown in Fig. 1. The chain D being arranged as hereinbefore set forth, the tendency will be to draw the stump backward through the arrangement of the rope 1, as hereinbefore set forth, and at the same time draw it upward out of the ground. The heavier the draft applied to the rope 1 the greater will be the force exerted upon the stump, and as the said rope is drawn outward by the animals it will shorten the length of the rope between the sheaves or pulleys *c c* in the end of the sweep C and the pulley E, as will be readily understood, and as the said decrease in the length of rope between the two pulleys takes place the tendency of the extractor will be to have a movement toward the rear in the direction of its point of securement by the sheave or pulley B². Thus it will be seen that considerable power will be exerted upon the stump being extracted—a pulling as well as a lifting effort being employed.

When the extractor is in operative position, the sweep C can be arranged in a vertical position between the beams thereof and made more compact for transportation.

5 It will be observed that my improved stump-extractor involves the use of the mechanical lever of the first class. The sweep C forms the lever, the cross rocking beam B' the fulcrum, the link C' and its connecting cables the resistance, and the rope 1, connected and in engagement with the forward part of the said sweep and attached to the draft-animals, will form the power.

15 It will be observed that the fulcrum of the sweep is nearest the resistance, and by this means a greater power can be brought to bear upon the stump being extracted than if the fulcrum were mounted in the central portion of the sweep, as will be readily understood by those skilled in the art.

20 The novelty and utility of my improved stump-extractor being obviously apparent and appreciable, it is unnecessary to further enlarge upon the same herein.

25 Having thus described my invention, I claim—

1. In a stump-extractor, the combination of the upright beams B B, the rocking bar B', the sweep C, secured to the rocking bar and provided with the sheaves c c at one end and the link C' at the other end, the pulley E', secured to a fixed support, the rope F, passing around the pulley E' and secured to the link C' at one end, and provided with the pulley E at its other end, the chain D, to be secured

to the stump and provided with the pulley B', and the rope 1, provided at one end with a whiffletree and secured at its other end to the pulley E', its intermediate portion passing around the pulleys c c, E, and B', substantially as described. 40

2. The combination of the supporting-frame, the sweep mounted in the upper end of the same and having the pulleys c c at one end and the series of perforations c' at its other end, the chain E', attached to a suitable place of securement and provided with the pulley E', the rope F, having the link C' at one end engaging the perforations c', and provided at its other end with the pulley E, its intermediate portion passing around the pulley E', the chain D, secured to the stump end, having its end provided with the pulley B', the intermediate portion passing around a pulley secured to the bottom portion of the supporting-frame, and the rope 1, provided at one end with a whiffletree or similar device, and then passing around the pulley B' and up to and around the outer pulley c, thence to and around the pulley E, and then to and around the inner pulley c, and back to the pulley E, where it is secured, substantially as specified. 55 60

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

GEORGE MARION STROUP.

Witnesses:

J. H. WILSON,
B. W. WILSON.