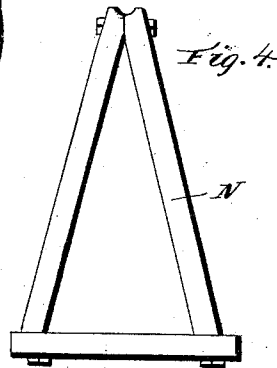
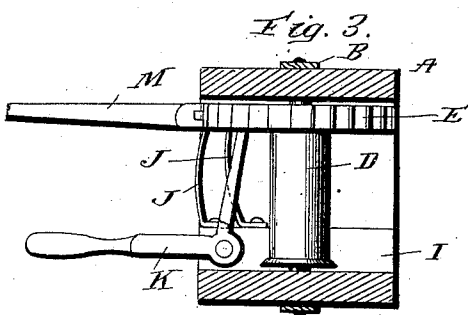
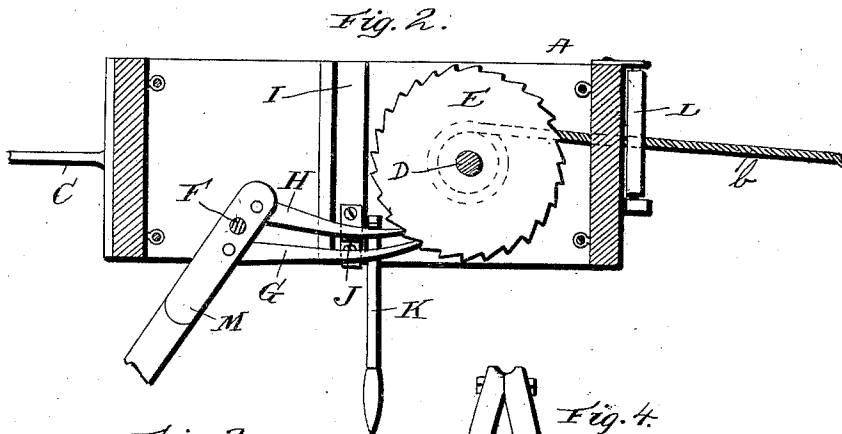
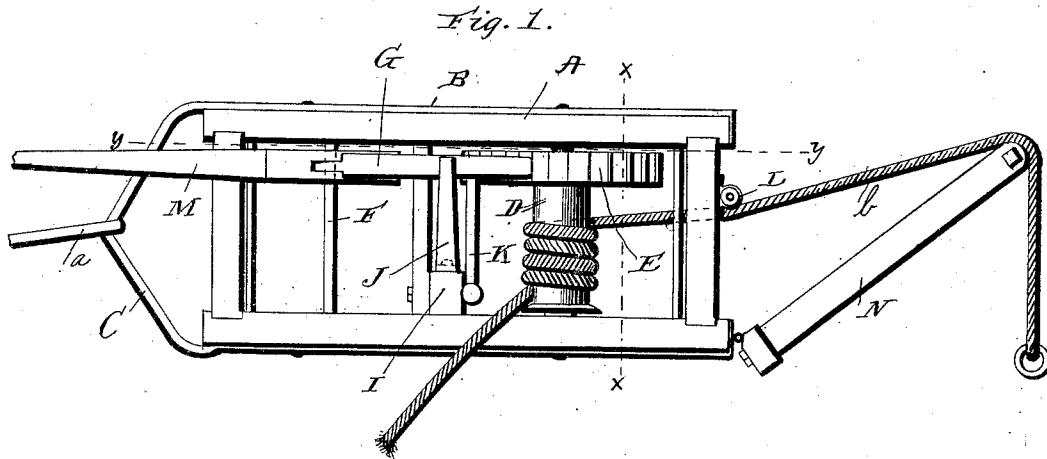


(No Model.)

T. & A. PINARD.
STUMP EXTRACTOR.

No. 466,833.

Patented Jan. 12, 1892.



Witnesses:
C. H. Sanders
W. G. Matthews

Inventors
Theophilus Pinard &
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Attorney

UNITED STATES PATENT OFFICE.

THELESPHAR PINARD AND ADOLPHUS PINARD, OF CHEHALIS, WASHINGTON.

STUMP-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 466,833, dated January 12, 1892.

Application filed July 7, 1891. Serial No. 398,703. (No model.)

To all whom it may concern:

Be it known that we, THELESPHAR PINARD and ADOLPHUS PINARD, citizens of the United States, residing at Chehalis, in the county of Lewis and State of Washington, have invented certain new and useful Improvements in Stump-Extractors; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention has relation to improvements in stump-extractors; and it consists in the construction, novel combination, and adaptation of parts hereinafter specified, and particularly pointed out in the claims appended.

In the accompanying drawings, Figure 1 is a side elevation of our improved stump-puller in an operative position. Fig. 2 is a horizontal section taken in the plane indicated by the line *y y* on Fig. 1. Fig. 3 is a vertical transverse section taken in the plane indicated by the line *x x* of Fig. 1, and Fig. 4 is an elevation of our improved guide-frame for the cable.

In the said drawings similar letters designate corresponding parts throughout the several views, referring to which—

A indicates the main frame of our improved machine, which is of a general rectangular form, and comprises the base and top plates and the vertical connecting-plates adjacent the ends of the said base and top plates. Connected to the outer sides of the base and top plates of the frame and extending the full length thereof are metallic straps B, which merge at their forward ends into a bail C, to which one end of the anchor-chain *a* is connected during operation, and which also serves for the attachment of a draft-animal when it is desired to haul the machine from place to place. Suitably journaled in the base and top plates of the frame is the shaft of a windlass D, which is provided adjacent the top plate with a horizontal ratchet-wheel E, which is suitably keyed or fixed upon said shaft, and is designed to be engaged to effect the rotation of the windlass, as will be presently described.

Fixed in the base and top plates of the frame at a suitable point in advance of the windlass is a pivot or fulcrum-post F, to which

a lever M is pivotally connected, as better illustrated in Fig. 2 of the drawings. This lever M, which rests in the same plane as the ratchet-wheel E, has two pawls G and H pivotally connected to it, one on each side of the pivot-post F, as better shown in Fig. 2, which pawls are designed to engage and rotate the ratchet-wheel and windlass when the lever M is manipulated, as will be presently described.

I indicates a transverse bar which is connected to the upper side of the base-plate immediately in advance of the ratchet-wheel, as illustrated.

Connected by bolts, screws, or the like to the upper side of the bar I are the short angular branches of upwardly-extending curved springs J, which bear upon the outer sides of the respective pawls G and H and serve to insure the normal engagement of said pawls with the teeth of the ratchet-wheels, as is desirable.

Pivotally connected to the forward side of the transverse bar I is a bell-crank lever K, the upright branch of which rests against the inside of the inner pawl H, whereby it will be seen that when the horizontal branch of the said lever is pressed downwardly both of the pawls will be disengaged from the ratchet-wheels as is necessary when it is desired to slacken or unwind the drawing-cable *b* from the windlass.

L indicates a friction-roller for the cable, which is journaled at a suitable elevation in bearings extending rearwardly from the rear vertical connecting-plate of the frame, and N indicates a triangular guide-frame for the cable, which has its horizontal branch flexibly connected to the rear end of the base-plate and normally rests in the position illustrated in Fig. 1, the upper ends of its converging branches being provided with a curvilinear groove, as illustrated, to conform to the cable which rests therein. By the employment of this frame N, in conjunction with the machine, it will be readily seen that the leverage of the windlass will be increased, and it is obvious that, if desirable, a friction-roller may be employed at the converged ends of the said frame, so as to decrease frictional wear of the cable.

In operation the frame is anchored in a suitable manner, and the drawing-cable is suitably connected to the stump which is to

be extracted. The operator then reciprocates the lever M, each rearward stroke of which serves to turn the windlass a certain distance.

Although the lever M is designed more especially to be operated by hand, yet it is obvious that when the machine is employed for very heavy work a draft-animal may be hitched to the outer end of said lever to manipulate the same, as has been described.

10 Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a stump-puller, the combination, with the main frame, the windlass journaled therein, and the ratchet-wheel fixedly connected to said windlass, of a lever mounted upon a pivot-post and resting in the same plane as the ratchet-wheel, pawls pivotally connected to the said lever and adapted to engage the ratchet-wheel, and vertical curved springs connected to the main frame and bearing against the outside of the pawls, substantially as and for the purpose specified.

2. In a stump-puller, the combination, with the main frame, the windlass journaled therein, and the ratchet-wheel fixedly connected to said windlass, of the triangular guide-frame for the cable having its horizontal branch flexibly connected to the rear end of the base-plate of the frame, the friction-roller journaled in bearings extending rearwardly from

the rear connecting-plate of the frame, a lever mounted upon a pivot-post in advance of the windlass and resting in the same plane as the ratchet-wheel, pawls pivotally connected to the said lever and adapted to engage the ratchet-wheel, and vertical curved springs connected to the main frame and bearing against the outside of the pawls, substantially as and for the purpose specified.

3. In a stump-puller, the combination, with the main frame, the windlass journaled therein, the ratchet-wheel fixedly connected to said windlass, a lever mounted upon a pivot-post and resting in the same plane as the ratchet-wheel, and pawls pivotally connected to the said lever and adapted to engage the ratchet-wheel, of the vertical curved springs connected to the main frame and bearing against the outside of the pawls, and a pivotally-mounted bell-crank lever having one of its branches adapted to bear against the inner side of the inner pawl, substantially as and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

THELESPHAR PINARD.
ADOLPHUS PINARD.

Witnesses:

J. E. WILLIS,
M. L. G. WHEELER.