(No Model.)

J. D. HENSLEY.

STUMP EXTRACTOR.

No. 348,209. Patented Aug. 31, 1886.

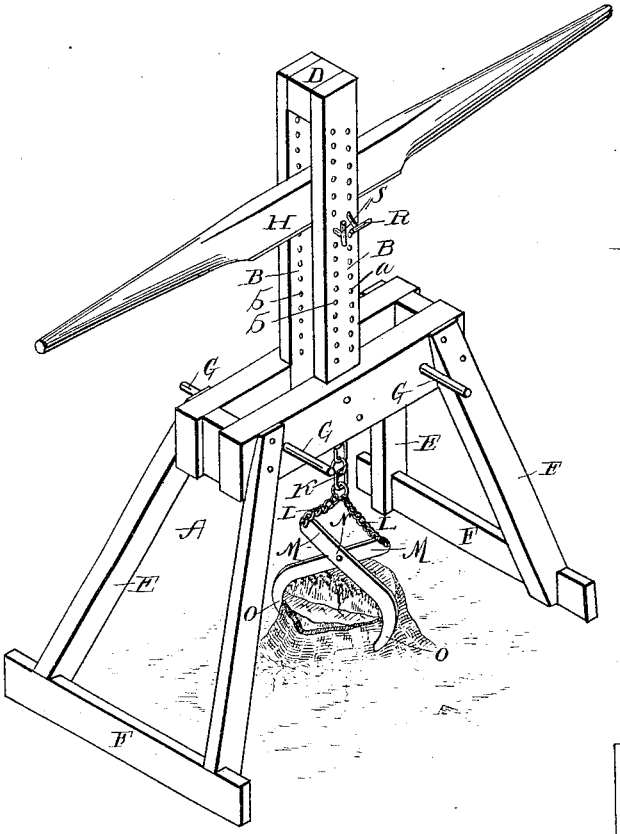

Fig. 1

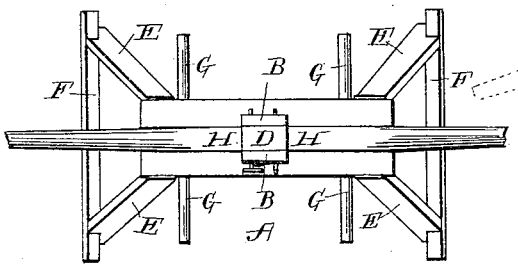

Fig. 2.

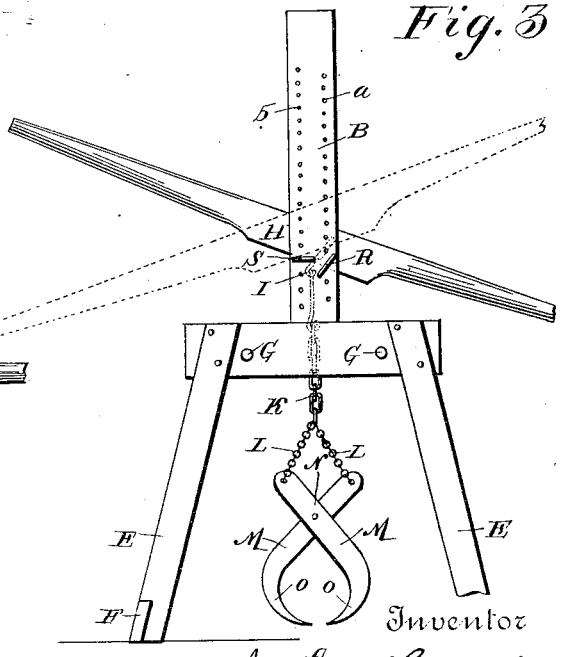

Fig. 3

Witnesses:
James McElroy
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UNITED STATES PATENT OFFICE.

JOSEPH DANIEL HENSLEY, OF ROGERS, ARKANSAS.

STUMP-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 348,209, dated August 31, 1886.

Application filed April 12, 1886. Serial No. 198,614. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH DANIEL HENSLEY, a citizen of the United States, residing at Rogers, in the county of Benton and State of Arkansas, have invented a new and useful Improvement in Stump-Extractors, of which the following is a specification.

My invention relates to an improvement in stump-extractors; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a side elevation of the same, showing the operating-lever in one position in solid lines and in another position in dotted lines. Fig. 3 is a side view of the same, the lever being shown in dotted and also full lines.

The object of my invention is to provide a cheap and simple apparatus for extracting the roots or stumps of trees from the ground; and this object I attain by the construction hereinafter described.

A represents the vertical frame, which is provided on its upper side, at its center, with vertical standards B, which are arranged at a suitable distance apart, and are each provided with two vertical series of openings, *a* and *b*, the series of one standard aligning with the corresponding series of the opposing standard. A cross-piece, D, connects the upper ends of the standards B. The frame is provided with diverging supporting-legs at its corners E, the lower ends of which are connected in pairs by means of runners F, which extend parallel to each other and transversely across the longitudinal axis of the frame. From opposite sides of the frame project handles G.

H represents a double-ended lever, which fits between the standards B, and is provided at its center with a depending hook, I, at the lower end of which is attached the elevating-chain K. To the lower end of the chain is attached a pair of connecting-chains L, which latter have their lower ends attached to the upper ends of the arms M of a grapple, N, having pivoted jaws O.

R and S represent a pair of pins, which are adapted to be passed through the vertical openings *a* and *b* of the standards.

The operation of my invention is as follows: The frame is moved so as to bring the standards directly in vertical line with the stump to be extracted, and the grapples are caused to engage with the stump. One of the pins is then passed through aligned openings *a* under the lever, the latter being raised sufficiently to draw the elevating-chain taut when the lever is in a horizontal position. The pin thus forms the fulcrum for the lever, and the latter is inclined to the position shown in solid lines in Fig. 2, which raises the lower side of the central portion above aligned openings *b* in the standards. The other pin is then inserted through the said openings and forms the fulcrum for the lever, the lower pin is withdrawn, and the lever is moved to the position indicated in dotted lines in Fig. 2, thereby partly elevating the stump. The disengaged pin is then inserted through aligned openings *a* under the lever, and the latter is moved or tilted in the direction indicated in solid lines in Fig. 2, when the operation before described is repeated until the stump has been entirely extracted from the ground. It will be observed that the vertical series of openings *a* and *b* and the pins adapted to be inserted in said openings form a series of vertically-ascending fulcrums for the lever, thus permitting the latter to be operated and constantly raised until it reaches the upper ends of the standards, as will be readily understood. As the distance from the resistance (indicated by the hook I) to the fulcrum formed by one of the pins is very slight, and as the outer ends of the lever are at a considerable distance from the center thereof, it will be seen that very great leverage may be exerted in raising the stump with very slight exertion on the part of the operator.

Having thus described my invention, I claim—

1. The combination of the frame having the vertical standards provided with the vertical series of openings *a* and *b*, the pins adapted to be inserted in the said openings, and thereby form a series of ascending fulcrums, and the double-ended lever arranged to operate on

the pins or fulcrums, for the purpose set forth, substantially as described.

2. The combination of the frame having the supporting-runners and the handles, and provided with the vertical standards having the vertical series of openings *a* and *b*, the pins adapted to be inserted in the said openings, the double-ended lever, the elevating-chain attached to the center thereof, and the grapple attached to the lower end of the chain, for the purpose set forth, substantially as described.

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

JOSEPH DANIEL HENSLEY.

Witnesses:

W. W. SIKES,

B. F. WATKINS.