

(No Model.)

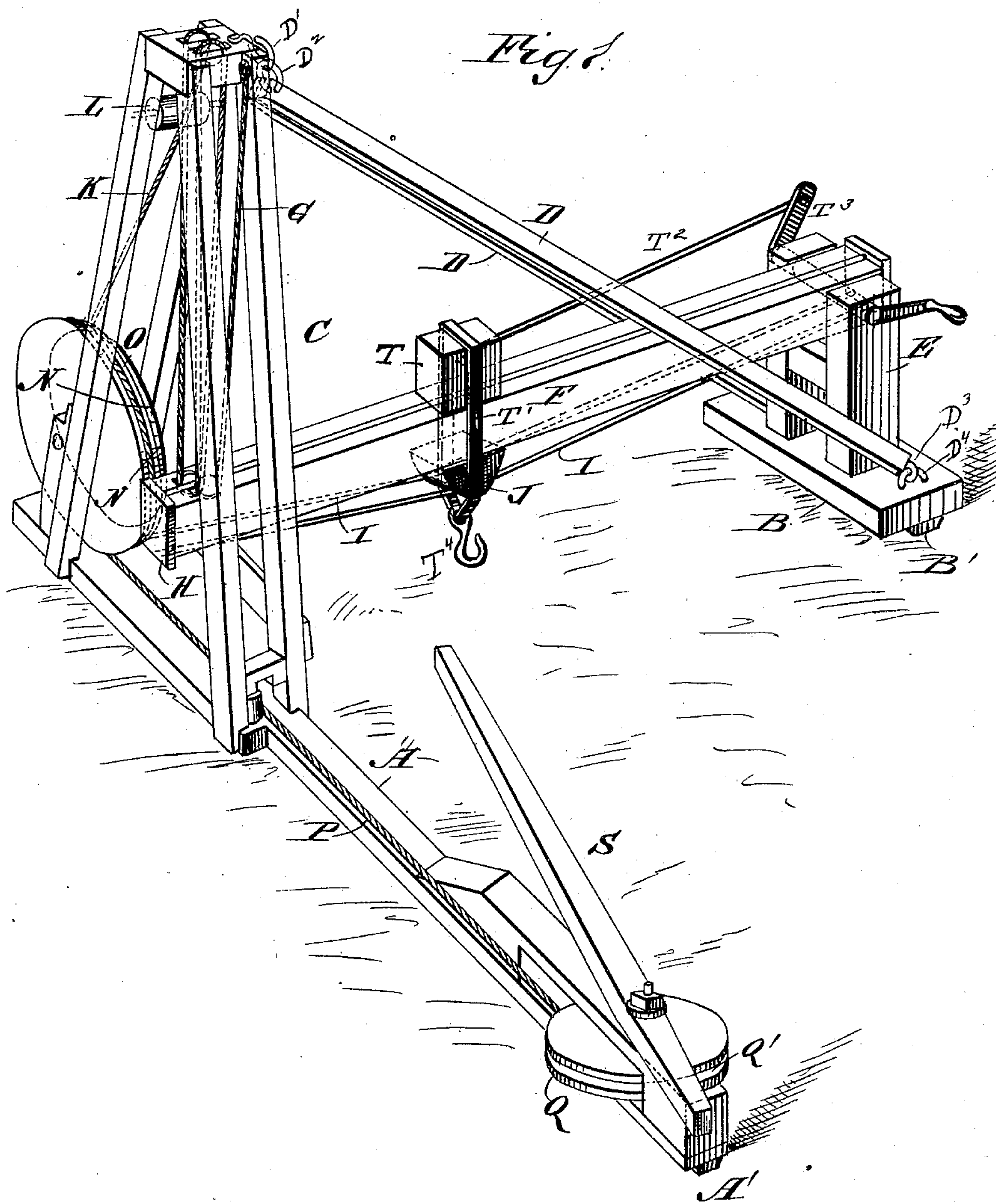
2 Sheets—Sheet 1.

J. M. MOORE.

STUMP PULLER.

No. 390,390.

Patented Oct. 2, 1888.



WITNESSES:

J. M. Ardle
C. Sedgwick

INVENTOR

J. M. Moore

BY

Munn & Co

ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

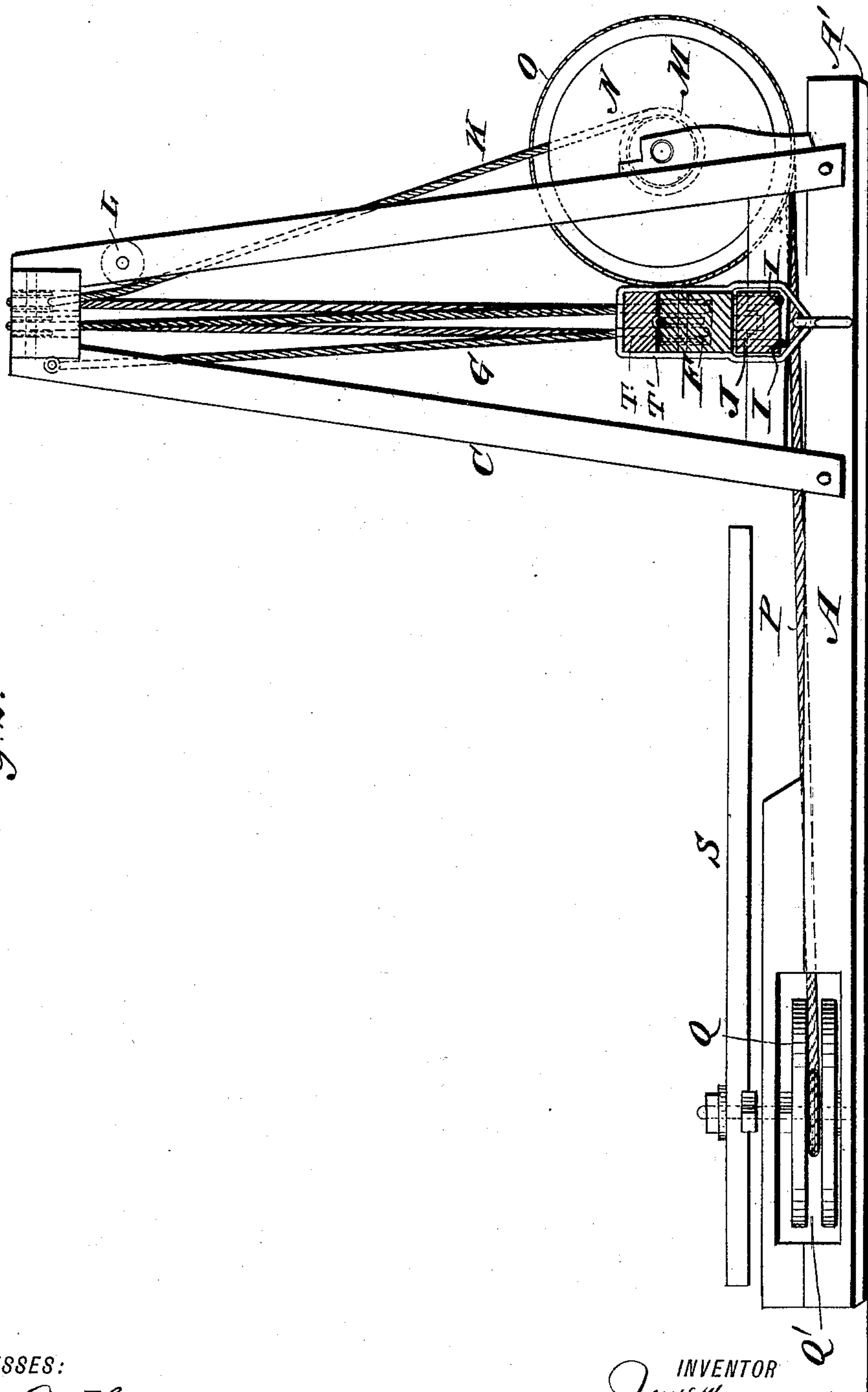
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Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES M. MOORE, OF UNION CITY, TENNESSEE.

STUMP-PULLER.

SPECIFICATION forming part of Letters Patent No. 390,390, dated October 2, 1888.

Application filed May 4, 1888. Serial No. 272,795. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. MOORE, of Union City, in the county of Obion and State of Tennessee, have invented a new and useful
5 Improvement in Stump-Pullers, of which the following is a full, clear, and exact description.

The main object of this invention is to provide a stump-puller whereby, with the application of a constant power, the effective force
10 exerted to uproot the stump will be greatest and the speed the slowest at the commencement of the work, or when the resistance is greatest, and as the work progresses and the resistance correspondingly lessens the effective
15 force will be correspondingly decreased and the speed increased, so that the work will be completed in the shortest time possible.

Further objects are to provide for the ready adjustability of the effective force in accordance with the resistance to be overcome, and to secure greater strength, efficiency, and portability than have been heretofore generally attained in devices of this character.

The invention consists of various novel features of construction and combinations of parts, substantially as hereinafter fully described, and as distinctly pointed out in the claims.

Reference is to be had to the accompanying
30 drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a perspective view of a stump-puller embodying my invention, and Fig. 2 is
35 a sectional side elevation of the said stump-puller.

The stump-puller shown is mounted to travel on two parallel sills, A B, of which the sill A is much the longer, and which are provided
40 with longitudinal runners A' B', respectively.

On the rear end of the main sill A is erected a rigid four-legged derrick, C, the top of which is connected to the respective end of the short sill B by brace-bars D, the ends of
45 which are jointed loosely to the said derrick and sill B, so that either sill may be adjusted without disturbing the other. In the present instance the brace-bars D are connected at their upper ends to the derrick by hooks D' and eyes D² and at their lower ends by screw-eyes D³ and staples or U-shaped bolts D⁴.

On the short sill B are erected rigid stand-

ard-bearings E, to and between which, as a fulcrum, is pivoted one end of a re-enforced beam-lever, F, the other end of which is suspended by power-multiplying hoisting-tackle
55 G, running over suitable pulley-blocks from the top and between the legs of the derrick C; and to metallic caps H, fixed to opposite ends of the beam-lever F, are rigidly secured
60 the corresponding ends of a pair of stay-rods, I, which extend along the bottom of the beam-lever, and between which and the said beam-lever is arranged a spreader, J. A block, T, from which is suspended by a strap, T', a hook
65 or fastening device, T¹, to which the stump is to be attached by chains or in any other suitable way, is mounted to slide lengthwise on the top of the lever F, and is connected by a
70 rod, T², with a crank-arm, T³, mounted to turn on the bearings E.

The construction and arrangement are such that the fastening-block T can be easily adjusted to any desired distance from the fulcrum of the lever, according to the resistance
75 which the stump will probably offer, and by means of the hoisting-tackle G the free end of the lever can be raised so as to draw out the stump therewith.

The draw-strand K of the tackle G is arranged to run over a pulley, L, journaled to the top of the derrick, into the peripheral groove M of a compound drum, N, which groove is so adapted to the size of the strand K that the latter will, when the compound
85 drum is rotated, be compelled to coil upon itself in a single layer, so that the effective force will decrease and the speed of winding increase as said groove becomes full. The compound drum N is also provided with another single-
90 width groove, O, in which is arranged to wind oppositely to the draw-strand K another rope, P, which is guided along the top of the sill A to the drum Q' of a windlass, Q, having a narrow groove, and which is arranged on the rear
95 end of the sill A, and is provided with an operating-sweep, S, which may be turned by animal power.

The arrangement is such that the groove O of the compound drum N will be full and the
100 groove M empty when the beam-lever is lowered for connection to the stump, and thus when the windlass Q is worked to revolve the compound drum by unwinding the operating-rope

P the latter will exert the greatest leverage on the drum and the draw-strand K, as before stated, the least, so that the greatest force will be exerted to draw the stump at starting, and
5 as the stump is raised and its resistance consequently decreased the compound drum will wind up the strand K, and thus draw the stump faster, the operating-rope P acting on a smaller effective diameter as it uncoils.

10 The stump-puller may be readily transported from place to place by attaching draft devices to the front ends of both sills A B.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—
15

1. In a stump-puller, the combination, with the main sill A, having a derrick, C, at its inner end, the vertical compound drum N, having single-width grooves M O, the drum being of
20 less diameter through the groove O than through groove M, and a horizontal drum, Q, at the outer end of the sill A, provided with a single-width groove, Q', of the windlass-strand P, approximately equal in diameter to
25 the width of the grooves M Q' and passing around the same, and the hoisting or stump-pulling strand K, connected to the top of the derrick, passing over pulleys thereon, thence around the groove O in a direction opposite
30 to the strand P, said strand K being approximately equal in diameter to the width of the

groove O, and the stump-fastener operated from the strand P, substantially as set forth.

2. The combination, in a stump-puller, of two sills, a derrick on one, a bearing on the
35 other, a beam-lever fulcrumed to said bearing, beam-lever-hoisting mechanism on the derrick, an adjustable block on the beam-lever, a strap, and a stump-attaching device suspended from said block, substantially as set
40 forth.

3. The combination, in a stump-puller, of sills having parallel runners, a derrick on one sill, a standard-bearing on the other sill, a
45 draft-beam lever fulcrumed to the standard-bearing, lever-hoisting tackle on the derrick, and a brace jointed loosely at its respective ends to the top of the derrick and to the other sill, substantially as described.

4. The combination, with the base and standards, of a crank-shaft journaled in said stand-
50 ards, a vertically-swinging beam-lever fulcrumed on said shaft between the standards, a sliding block or carrier on the beam, a rod connecting the said block with the crank-shaft
55 for moving it along the beam-lever, and a stump-fastener carried by said block, substantially as set forth.

JAMES M. MOORE.

Witnesses:

R. P. EVANS,
H. N. SHERRILL.