

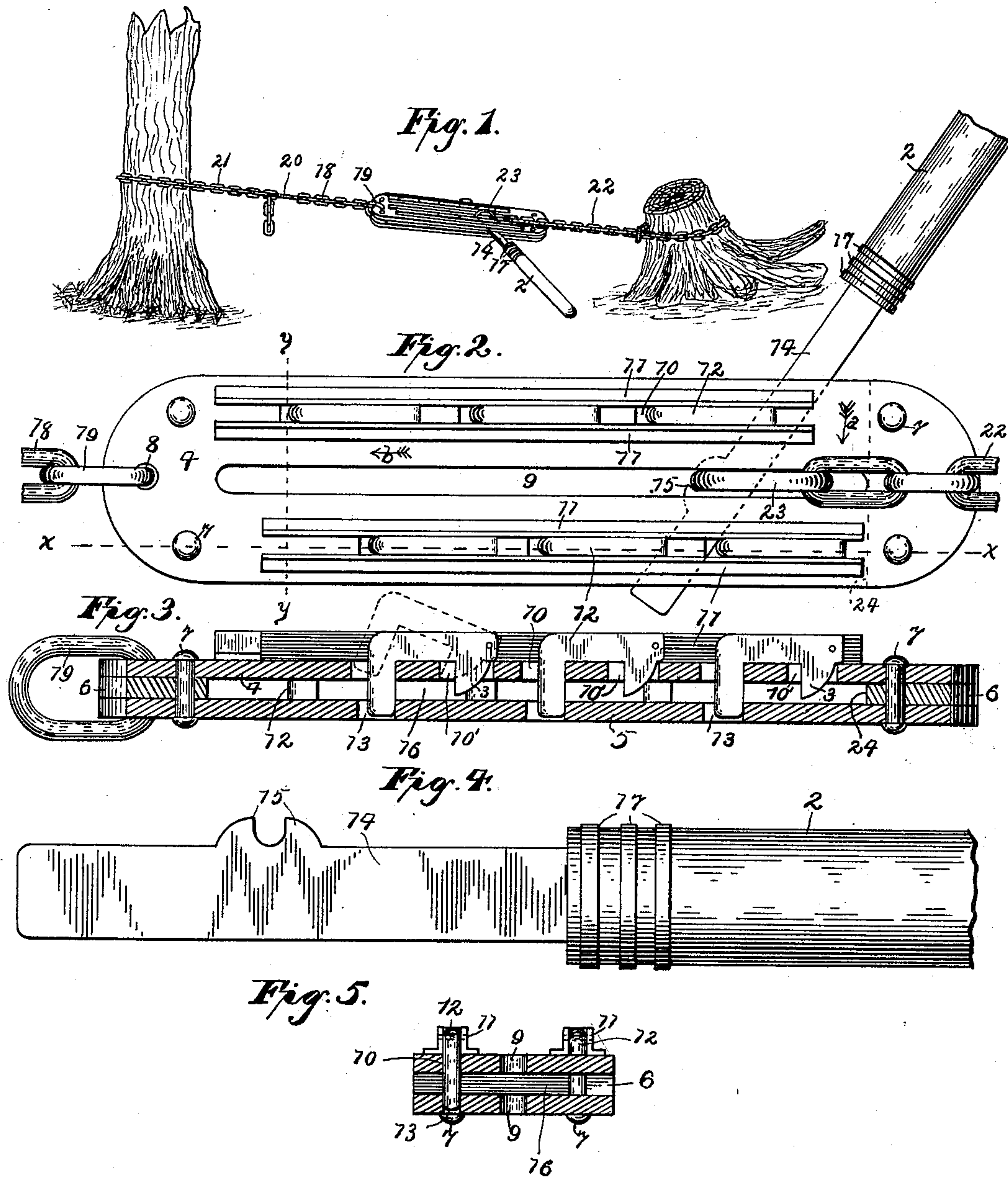
No. 614,510.

Patented Nov. 22, 1898.

W. H. SPANIER.
GRUBBING MACHINE.

(Application filed Jan. 12, 1898.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

WALDEMAR HUGO SPANIER, OF DEVIL'S LAKE, NORTH DAKOTA, ASSIGNOR
OF ONE-HALF TO JOHN W. MAHER, OF SAME PLACE.

GRUBBING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 614,510, dated November 22, 1898.

Application filed January 12, 1898. Serial No. 666,410. (No model.)

To all whom it may concern:

Be it known that I, WALDEMAR HUGO SPANIER, a citizen of Sweden, residing at Devil's Lake, in the county of Ramsey and State of North Dakota, have invented certain new and useful Improvements in Grubbing-Machines; and I 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to grubbing-machines of that class that are usually employed in pulling up stumps, grubs, small trees, &c.; and the objects of my invention are to provide an improved apparatus of the class described which will be simple in construction, easy to operate, and comparatively cheap of manufacture.

With these objects in view my invention consists in the construction and combination of parts shown in the accompanying drawings and described in the following specification.

In the drawings, Figure 1 is a perspective view showing the machine in operation and the manner of applying it. Fig. 2 is a top plan view of the machine complete with lever applied. Fig. 3 is a longitudinal sectional view taken on the line $x x$ of Fig. 2. Fig. 4 is a plan view of the lever which forms a part of the machine, a portion of the handle being broken away. Fig. 5 is a transverse sectional view taken on the line $y y$ of Fig. 2.

Referring to the drawings, 4 and 5 are two oblong plates of similar form, having placed between their ends cross plates or bars 6, thereby forming the frame of the machine. The said top and bottom plates and the cross plates or bars are rigidly secured together by bolts or rivets 7, and in one end is formed an opening 8, which passes entirely through said plates and one of the cross-bars. The frame above described is preferably composed of metal, although any other suitable material may be employed, and the top plate 4 is provided with an oblong central longitudinal

slot 9, and upon each side of said slot are arranged a series of short longitudinal slots 10 and 10', said slots 10 being formed between the angle-strips 11, which are secured upon the upper face of said plate 4, on either side of said slot 9, and between which the L-shaped levers 12, which depend through the slots 10, are pivoted. The bottom plate 5 is also provided with a central longitudinal slot 9 and has a series of slots 13 upon either side thereof immediately below the slots 10 in the plate 4. The pivoted levers 12, which depend through the slots 10 and corresponding slots 13, are pivoted between the angle-strips 11, immediately above the slots 10' in the plate 4, and are provided with depending lugs 3, which extend downwardly through said slots 10' into the open space 16 between said plates 4 and 5. By referring to Fig. 3 it will be seen that the lever 14, passing through said opening 16 and engaging the depending lug 3, will cause the pivoted levers 12 to lift, as indicated by the dotted lines in said figure, thereby lifting the depending end of the lever 12 out of the slot 13 and clearing the opening 16 both of the pivoted lever 12 and the lug 3, thereby permitting said lever 14 to pass said pivoted levers, and while it is possible to raise said pivoted levers by pressing against said lugs it will be seen that any pressure directed against the front of the lever 12 will only press it more firmly against the edges of the plates 4 and 5, which form the walls of the slots 10 and 13.

It will be understood that an equal number of slots 10 and 10' are employed upon either side of the top plate 4, but are placed so as to alternate with each other. In connection with said frame I employ a lever 14, consisting of a flat bar of metal, (steel being preferably used,) and near one end, at the edge, are formed two small shoulders 15. The opposite end of the lever is provided with a handle 2, preferably of wood, which may be of any desired length and into which the bar 14, which constitutes the lever, is inserted, said handle being provided with metal bands or ferrules 17, the object of which is to prevent the splitting of the handle. A strong chain 18 is secured to a ring 19, which passes through the opening 8 in the end of the frame, and to the opposite

end of which is secured a hook 20. This hook 20 is adapted to be secured to an anchor-chain 21, which is passed around a firm object, such as a tree or stump. A chain 22, having a large
 5 ring 23 at one end, is adapted to be passed around the stump, grub, or stone which is to be removed. The ring 23 is passed into the central slot 9 in the plates 4 and 5 and the lever
 10 14 inserted through said ring in the opening 16 between the plates 4 and 5, with the ring resting between the shoulders or projections 15 on said lever, as illustrated in Fig. 2.

In operation the lever or bar 14 is passed through the opening 16 between the plates
 15 4 and 5 and through the ring 23 at the right-hand end of the apparatus, as shown in Fig. 2, or at the point indicated by the arrow *a*, with the back of said lever resting against the bar 6 at 24. In using the plate or bar 6
 20 as a fulcrum the handle end of the lever is moved backward until the opposite end engages the first lug 3, thereby raising the pivoted lever 12 and permitting said lever 14 to pass, when said lever 12 drops into its normal
 25 position and in turn serves as a fulcrum, while the handle end of the lever is moved forward until the pivoted lever on the opposite side has been raised and again drops into place, when it in turn serves as a fulcrum until the
 30 outer end passes the next pivoted lever on the opposite side. It will thus be seen that the lever 14 gradually moves step by step in the direction indicated by the arrow *b* until it traverses the entire length of the frame, and
 35 by so doing shortens the distance between the fixed point to which the anchor-chain 21 is attached and the stump or grub, thereby drawing said stump or grub from the ground.

It will be understood that the frame of the
 40 apparatus, composed of the plates 4 and 5 and their connected parts, may be made of any desired length and that the bar or lever 14 may also be made of any desired length, and it will further be seen that great power may
 45 be exerted by means of said bar or lever sufficient to pull out any ordinary stump or grub. In the drawings I have illustrated but three of the pivoted levers 12 on either side of the central slot 9, this being done for the purpose
 50 of more clearly illustrating the operation of the lever and bar; but in practice any desired number of said pivoted levers may be employed and the length of the plates 4 and 5 regulated accordingly.

55 It will be apparent that modifications and changes in the construction of my improved grubber can be made without departing from the spirit of my invention or sacrificing any of its advantages, and I reserve the right to
 60 make such modifications therein as rightfully come within the scope of my invention.

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

65 1. A device or apparatus for pulling stumps or grubs, consisting of two oblong plates, rigidly secured at their opposite ends, suitable

cross heads or bars separating said plates, there being a central longitudinal slot in each
 70 of said plates, and an opening at one end thereof extending through both plates and the cross-bar, a pair of angle-plates secured to one of said oblong plates upon either side of
 75 said central slot, each of said plates also having a plurality of short longitudinal slots 10 and 13 upon either side of its central longitudinal slot, said short slots 10 and 13 in each
 80 of said oblong plates being placed opposite each other, a series of suspended levers, having depending lugs upon their rear ends, pivotally mounted between said angle-plates,
 85 and adapted to swing in one direction within said short slots in said plates, and the bar or lever, adapted to be passed between said plates and engage said pivoted levers, said
 90 bar having shoulders or projections 15 upon one edge near the end, substantially as shown and described.

2. A device or apparatus for extracting
 90 stumps, comprising two parallel plates or bars 4 and 5 each provided with a central longitudinal slot 9, and each also provided at either side of said central longitudinal slot with a
 95 plurality of short slots or openings 10, and 10', and 13, arranged in rows, the number of short slots in the upper one of said plates being double the number of those in the lower plate,
 100 said plates rigidly connected at their opposite ends by means of bolts or rivets 7, suitable cross-heads 6, separating said plates at each end, the angle-plates 11, secured upon
 105 the upper plate 4 on either side of the rows of short slots 10 and 10', the series of L-shaped levers 12, pivotally mounted between said angle-plates, said levers having a depending
 110 portion extending downwardly through the short slots 10 and 13 in both plates 4 and 5, and the depending lugs 3 upon their rear ends extending through the openings 10' in
 115 the plate 5, the bar or lever 14, having shoulders 15 on one edge thereof, passing between said oblong plates 4 and 5 and adapted to engage the depending lugs 3 of the levers 12, a
 120 ring 23, connected with a chain, entering the central longitudinal slots 9 in the plates 4 and 5, and adapted to receive said bar or lever 14 and engage the shoulders 15 thereof, substantially as shown and described.

3. In a device or apparatus for pulling
 120 stumps or grubs, the combination with the plates 4 and 5 rigidly connected at their opposite ends and separated by suitable cross heads or bars 6, said plates each provided
 125 with central longitudinal slots 9, said plate 4 provided with a series of short longitudinal slots 10 and 10' upon either side of said central slot, and a pair of angle-plates 11, mounted
 130 on either side of said rows of short longitudinal slots 10 and 10', and said plate 5 provided with a series of short longitudinal slots 13 on either side of said central slot 9; the angle-plates 11, and a series of L-shaped
 135 levers 12, pivotally mounted between said angle-plates 11, said levers being movable

in one direction and normally depending
through said short slots 10 and 13 in said ob-
long plates, and having lugs 3 upon their rear
ends depending through the slots 10' to en-
5 gage the lever 14; of the lever 14, having
shoulders 15 upon one edge near the end, and
a suitable handle 2, and a ring 23 adapted
to enter said longitudinal slots 9 and engage
the lever 14, substantially as set forth.
10 4. In a grubbing-machine of the class de-
scribed, having two oblong plates 4 and 5,
rigidly secured together at their outer ends
and separated by means of suitable cross-bars
6, each provided with a central longitudinal
15 slot 9; said plate 4 provided with a series of
short longitudinal slots 10 and 10' and said
plate 5 provided with a series of slots 13 upon
either side of their central slots, the combina-

tion of the angle-plates 11 and the L-shaped
levers 12, pivotally mounted between said 20
angle-plates secured to the oblong plate 4,
upon either side of the slots 10 and 10' and
depending into the slots 10 and 13, and hav-
ing the rear depending lugs 3 extending
through the slots 10', with the lever 14, hav- 25
ing the shoulders 15 formed upon one side
thereof near the end to engage the ring 23;
and the ring 23, adapted to enter the central
longitudinal slots 9, substantially as shown
and described. 30

In testimony whereof I affix my signature
in presence of two witnesses.

WALDEMAR HUGO SPANIER.

Witnesses:

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W. P. ROGERS.