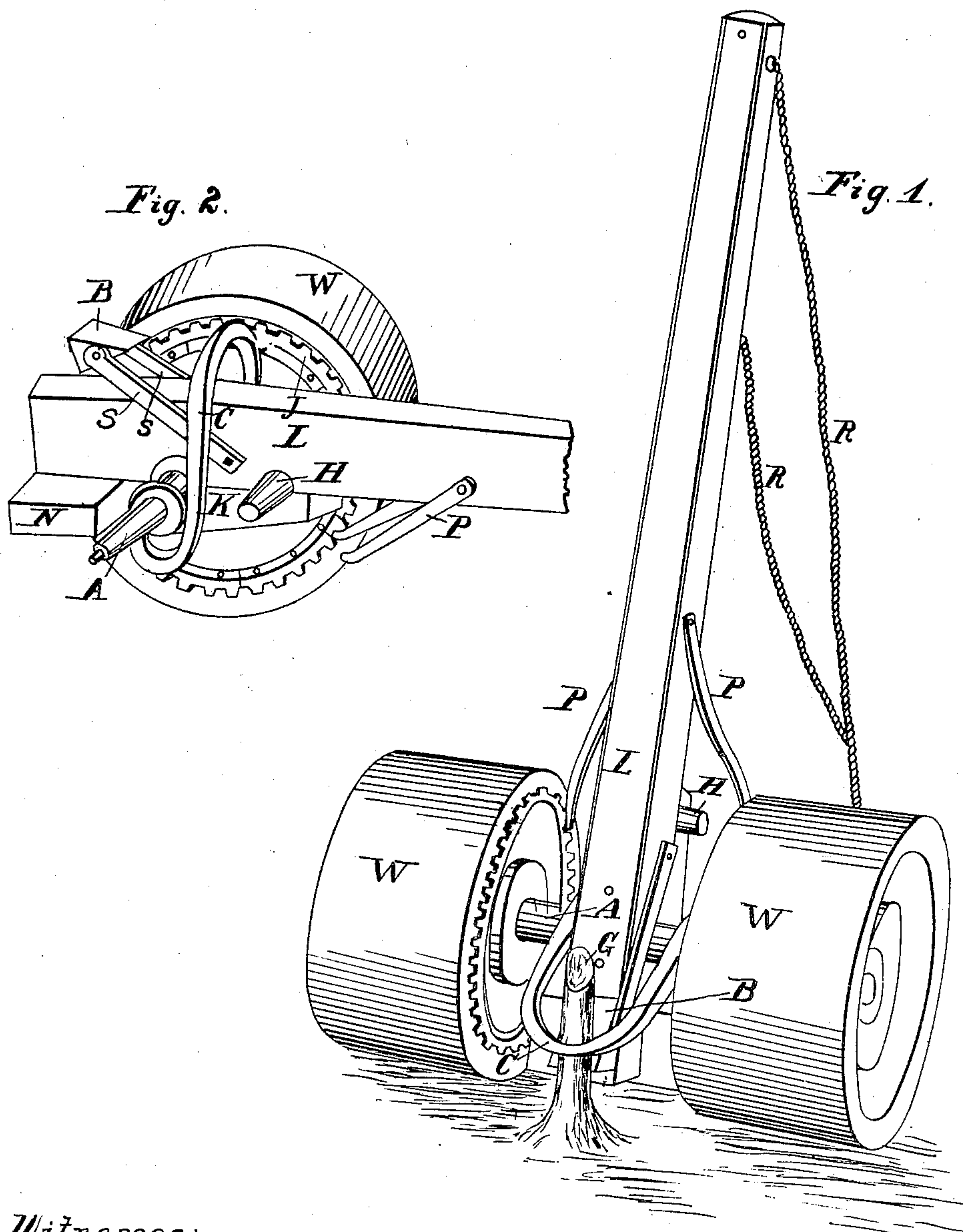


D. A. DANFORTH & W. A. WILKINSON.
STUMP EXTRACTOR.

No. 32,684.

Patented July 2, 1861.



Witnesses:
C. H. Kirkendall
Hallet Kilbourn
Albert Heath

Inventors:
D. A. Danforth.
Wm. A. Wilkinson

UNITED STATES PATENT OFFICE.

D. A. DANFORTH AND WM. A. WILKINSON, OF ELKHART, INDIANA.

STUMP-EXTRACTOR.

Specification of Letters Patent No. 32,684, dated July 2, 1861.

To all whom it may concern:

Be it known that we, DELOS A. DANFORTH and WILLIAM A. WILKINSON, in the county of Elkhart and State of Indiana, have invented a new, useful, and Improved Machine for Removing Stumps and Grubs from the Earth, which we name "The Elkhart Grubber;" and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure one (1) in said drawing is a perspective view thereof, and Fig. two (2) is a transverse view of a section of said machine and is a transverse view of the rollers or wheels axle levers &c. &c. all appearing in the drawing.

"W W" are the wheels or rollers, which are broad and constructed of wood, being a log turned bored out so as to make them lighter, revolving upon the axle "A A". The wheels in connection with axle form the fulcrum also materially assisting the removal of the machine from one grub to another as well as extracting the roots from the earth when the lever is in a horizontal position and the team moving. "L" is lever which is placed upon the axle and is secured thereto (between the wheels) by a wooden cap bolted securely through lever, which cap is marked "K". The cap is better seen in the transverse view.

"B" is a revolving bit or check fastened to the lever by two straps of iron marked "S S" which are movable in order the better to adjust the hook and check to different sized grubs or stumps. The three edges of the bite or bit being of different lengths, "G" the grub, "H" a cross pin securely fastened to the main lever, placed there to attach the hook "C" to, provided it becomes convenient or necessary to attach the hook higher up the body of the tree or grub than can be done by hooking the same over the axle; "P P" braces to drop into the cog wheels "J". The cog wheels and braces will cause the wheels "W W" to turn at the same time with the movement of the lever;

"R" rope or chain attached to the end of lever and thence to the team; "N" (seen in the transverse view) a block at the back side of the lower end of the lever, placed there to hold the lever straight on the axle. The block is between the wheels nearly touching them.

In the transverse view the cog wheels "J" are better seen—also the construction, and the manner of the working of the movable check or bit "B" and the shape of the hook "C" the construction and manner of working being, a hook dropping over the axle "A" or pin "H", can be readily and rapidly detached from the machine placed around the tree or grub and attached to the machine while the tree or grub is standing or after the top of the same is cut off.

When the machine is placed against the tree the hook is placed around the tree and dropped over the axle or pin fastening the same firmly to the machine. The machine is then fully adjusted without the use of, and more rapidly than by the use of a clevis pin. The braces "P P" are movable hanging loose at the lever, so that as the power is applied upon the lever they (the braces) drop into the cogs and move the wheels with the movement of the lever, and when the lever is pulled down to a horizontal position the braces drop out of the cogs thereby not impeding the removal of the machine to other grubs or trees.

The end of the axle "A" is seen plainly and the manner of its construction, also the cap securing the lever upon the axle, also the block at the lower end of lever which is to prevent a side motion of the same.

The machine can be cheaply constructed and trees and grubs can (by using it) be as easily removed from the earth as stumps thereby saving the expense of cutting the trees trimming and burning before the grubbing is completed.

The manner of the working of the machine and its construction can be readily seen in the drawings. When the tree is out of the earth the machine moves as a loaded cart—moving away the tree.

One horse or a span of horses will remove

from the earth from two to four green grubs or small trees from one to ten inches in diameter per minute.

What we claim as our invention and desire to secure by Letters Patent is—

The arrangement of the lever "L" and braces "P P" in connection with cog wheels "J", movable check or bit "B" and hook "C" all being arranged and secured as set

forth in this application and described in 10 the drawings.

D. A. DANFORTH.
WM. A. WILKINSON.

Witnesses:

C. H. KIRKENDALL,
ALBERT HEATH,
HALLET KILBOURN.