

*L. P. Pease,
Stump Elevator,*

No 39,744,

Patented Sept. 1, 1863.

Fig. 1.

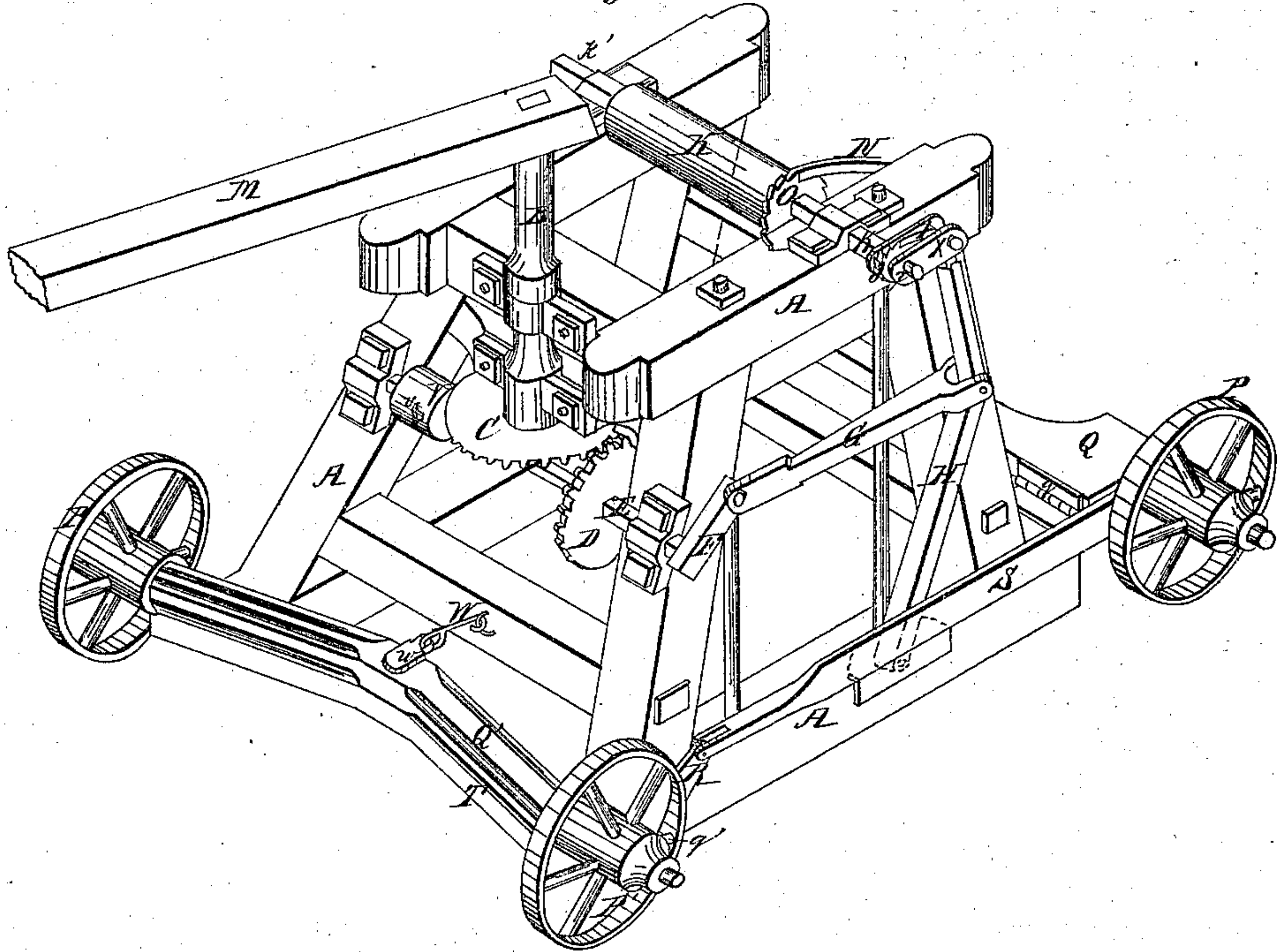
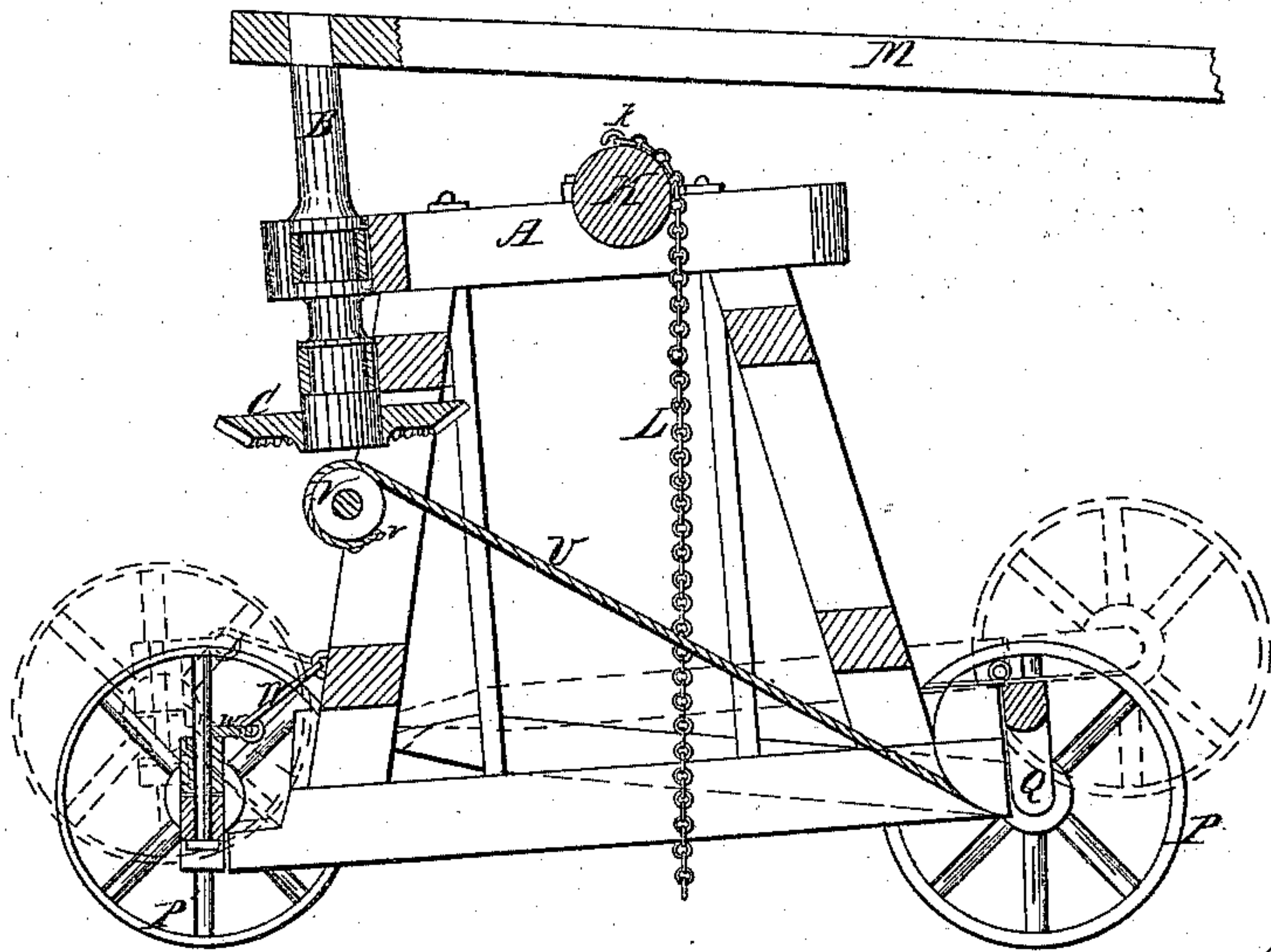


Fig. 2.



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UNITED STATES PATENT OFFICE.

LEWIS P. PEASE, OF McCORDSVILLE, INDIANA.

IMPROVEMENT IN STUMP-EXTRACTORS.

Specification forming part of Letters Patent No. 39,744, dated September 1, 1863.

To all whom it may concern:

Be it known that I, LEWIS P. PEASE, of McCordsville, in the county of Hancock and State of Indiana, have invented a new and Improved Stump-Machine; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved machine in its operating position. Fig. 2 is a vertical section of the same, representing it elevated on its wheels for hauling from place to place.

Similar letters of reference indicate corresponding parts in both views.

The subject of my said invention is a machine constructed with gearing operating through a toggle-joint lever to rotate a windlass, upon which is wound the chain for drawing the stump, as hereinafter explained.

The machine further relates to a novel device for elevating the machine on wheels when it is to be moved from place to place.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

A A represent various parts of a strong frame, in which the operating parts are mounted.

B is a vertical shaft, carrying at its lower end a bevel-wheel, C, which gears with a second bevel-wheel, D, on a horizontal shaft, E.

F is a crank on the end of the shaft E.

G is a connecting-rod or pitman extending from the crank F to the hinge of a toggle-lever or jointed rod, H. The said toggle-lever is pivoted at its lower end to the frame A, and at its upper end to the outer end of an arm, X, pivoted at x to the main frame, or upon the windlass-shaft. I is a feed-hand or pawl on the arm X, taking into a ratchet-wheel, J, on the windlass K.

k is the hook to which the draft-chain L is attached.

M represents a portion of the sweep to which the team is attached for driving the machinery through the vertical shaft B. A retrograde motion of the windlass K is prevented by a detent-pawl, N, engaging in a ratchet-wheel, O. One end of the windlass-shaft may be

formed with a square, as shown at k' , for the application of a hand-crank, when it is desired to rotate the windlass more rapidly and with less power.

The above constitutes the mechanism for drawing stumps.

For moving the machine from place to place it is provided at each end with a pair of wheels, P P P' P', the former of which, P P, are mounted near the lower edge of the rear axle, Q, which is hinged at q by its upper edge to the main frame and is of sufficient width or depth to support the frame entirely clear of the ground by placing the axle in a vertical position, as shown in Fig. 2, and to lower the frame onto the ground by placing the axle in a horizontal position, as shown in Fig. 1, and in red lines in Fig. 2. The wheels P' P', which support the front end of the machine, are afforded similar vertical adjustment by mounting their axle Q' on a bolster, T, which is journaled at its ends in bell-crank levers R, pivoted at q' to the main frame, and connected by rods S to the axle Q at the respective ends of the latter, near the lower edges thereof.

U is a rope or chain attached at one end to the under side of the axle Q, and at the other end looped over a hook, v , formed upon a pulley, V, rigidly secured on the horizontal shaft E, so that the chain may be readily detached.

W is a link attached at its respective ends to the cross-beam at the lower front part of the machine, and to an arm, w , on the upper side of the axle Q'.

Operation: The machine being drawn over the stump which it is desired to extract, the parts are lowered to the position shown in Fig. 1. The draft-chain L on the windlass K is then fastened to the stump and the windlass revolved by a hand-crank until the chain is tightened, when the sweep M is drawn around by the team and the stump quickly extracted. When it is desired to remove the machine to another place, the chain U is attached, as before explained, to the under side of the axle Q and to the pulley V. By one-fourth of a revolution of the sweep the rear axle, Q, is then caused to assume its vertical position, and in so doing communicates motion to the bell-crank levers R through the medium of the rods S. The machine is thus elevated upon its wheels, and may be so held by a catch of any suitable form.

The above-described apparatus provides a simple means of applying the great force required for the extraction of stumps. The peculiar combination of crank and toggle imparts a uniform motion to the windlass-shaft, owing to the crank being at its dead-points when the toggle is in position to move the arm X most rapidly, and vice versa.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. Transmitting motion from the sweep M to the windlass-shaft K through the medium of a crank, F, and toggle H, combined and operating in the manner and for the purposes set forth.

2. The combination of the toggle H, arm X, feed-hand I, ratchet-wheels J O, windlass-

shaft K, and detent-pawl N, constructed, arranged, and operating in the manner and for the purposes set forth.

3. The rear axle, Q, hinged at its upper edge to the main frame in the described combination with rods S, bell-crank levers R, and bolster T, for raising the machine upon its wheels.

4. The combination of the pulley V and cord U with the axle Q and rods S, for elevating the machine by a partial revolution of the sweep.

The above specification signed this 20th day of March, 1863.

LEWIS P. PEASE.

Witnesses:

OCTAVIUS KNIGHT,
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