D. C. Smith,

Stump Elevator.

No. 34,169. Patented Jan. 14, 1862.

Fig. 3

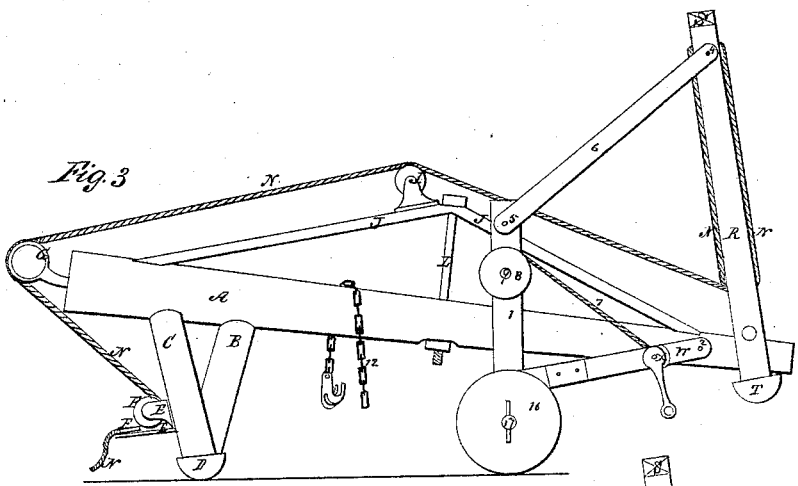


Fig. 2

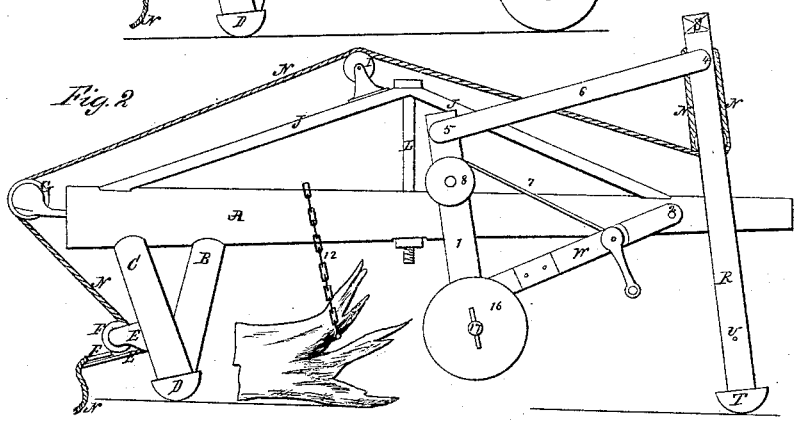
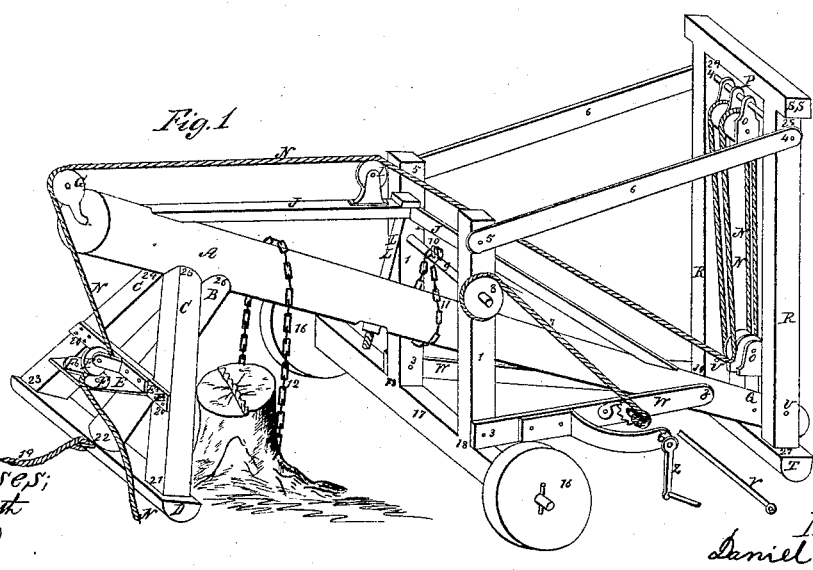


Fig. 1



Witnesses;
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UNITED STATES PATENT OFFICE.

DANIEL C. SMITH, OF ADRIAN, MICHIGAN.

IMPROVEMENT IN STUMP-EXTRACTORS.

Specification forming part of Letters Patent No. **34,169**, dated January 14, 1862.

To all whom it may concern:

Be it known that I, DANIEL C. SMITH, of the city of Adrian, in the county of Lenawee and State of Michigan, have invented a new and useful Improvement in Stump-Pullers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

The nature of my invention consists in the combination, with a lever, of a tackle and shore mounted on two wheels and an axle in such a manner that the whole weight of the machine may be thrown on or off the wheels at pleasure.

The drawing is a perspective view exhibiting its several parts—viz., beam or lever A, shore B, braces C, shoe D, plate E, sheaves F, F, F, G, and I, truss J J, bolt L, rope N, tackle-blocks O O, cap S, shoe T, post R R, pin V, bars W W, windlass X, ratchet-pawl Y, crank Z, posts 1 1, king-bolt 2, braces 6 6, rope 7, drum 8, windlass 9, lug 10, chain 11, chain 12, wheels 16 16, axle 17, and rope 19. The axle and wheels are attached to the beam or lever A by means of king-bolt 2 and bars W W, said bars being bolted to the axle at 3 3. The posts 1 1 are bolted to the axle at 18 18. The shoe T, posts R R, and cap S are bolted together at the numerals 27, 28, 29, and 30. The braces 6 6 are bolted to posts R R and 1 1 at 4 4 and 5 5 with round bolts which serve the double purpose of bolt and hinge. The truss J J is attached to beam A by means of bolt L. The beam A, shore B, braces C C, and shoe D are all bolted together at the numerals 21, 22, 23, 24, 25, and 26. The plate E is bolted to braces C C at 20 20.

I will describe the operation of my machine as follows: When the operator wishes to place the machine over the stump, he places the pin V in hole W. He then turns crank Z, that in turn gives simultaneous motion to windlass X, rope 7, drum 8, and windlass 9, which in turn winds chain 11 around windlass 9 by means of lug 10, by which means the machine is raised from the ground to any height desired, and held there by means of pawl Y, as is clearly seen in Fig. 3. The whole weight of the machine then hangs on chain 11 on a poise, or nearly so, the forward end of the machine being heavy enough to cause shoe D to bear on the ground sufficient to keep the wheels 16 from making a serpentine track, the shoe T, posts R, and cap S being held from the ground by means of pin V passing through holes U and over beam A. When it is raised from the ground, as above described, the operator hitches his team to rope 19 and draws the machine to the stump intended to be pulled and swings the machine to the right or left, as the case may be, until beam A is over the stump. He then throws back pawl Y and unwinds windlass X by means of crank Z until shoe T rests on the ground. He then removes pin V from holes U and attaches the stump to beam A by means of chain 12, as is seen in Fig. 1. He then detaches the team from rope 19 and attaches it to rope N. When the team draws on rope N, the tackle-blocks O O, which are attached to beam A at Q and cap S at P, raises beam A until blocks O O meet, the stump being raised at the same time by means of chain 12, as is clearly seen in Fig. 2. The team can draw on the rope N at any angle that the circumstances may require by means of sheaves F, attached to plate E. When the rope N has been drawn out, the weight of the machine will draw it back into the blocks O O as soon as the team is detached therefrom.

After having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a tackle-block and rope, of a beam A, with a shore B and shoe D attached thereto, the whole being mounted on two wheels and axle, as above described, for the purposes set forth and described.

2. The combination of the sheaves F F F for the purpose of allowing the team to draw at any angle, as above described.

3. The combination, with the chain 11, of the windlass 9, drum 8, rope 7, windlass X, crank Z, and pawl Y, for the purposes set forth and described.

In witness whereof I have hereunto set my hand and seal this 31st day of October, 1861.

DANIEL C. SMITH. [L. S.]

In presence of—
R. B. ROBBINS,
W. A. WHITNEY.