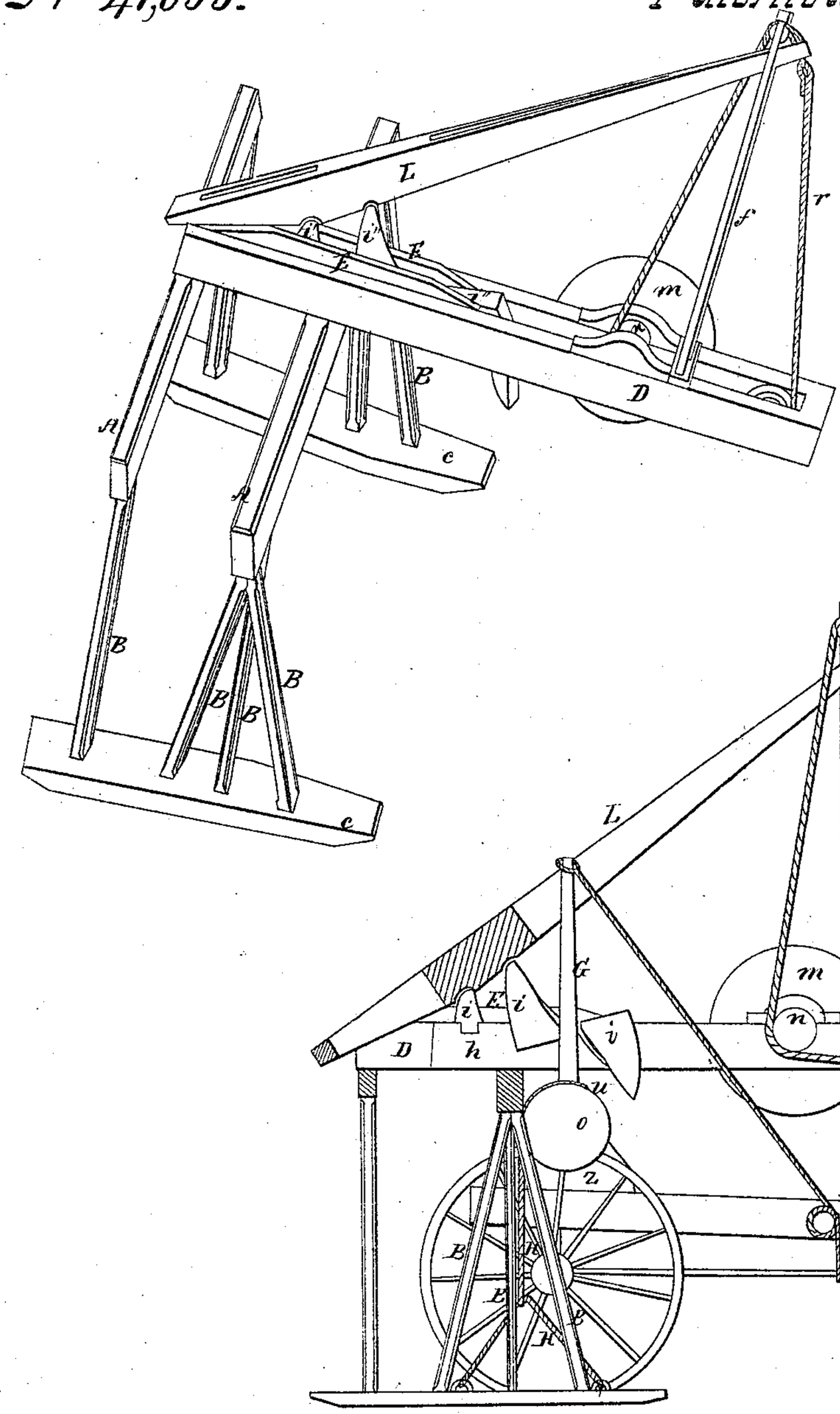
A. E. & G. R. Boynton,

Stump Elevator.

No. 41,055. Patented Jan. 5, 1864.



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UNITED STATES PATENT OFFICE.

A. E. BOYNTON, OF HARTFORD, WISCONSIN, AND GEORGE R. BOYNTON, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN STUMP-MACHINES.

Specification forming part of Letters Patent No. **41,055**, dated January 5, 1864; antedated November 16, 1863.

To all whom it may concern:

Be it known that we, AIKIN E. BOYNTON, of Hartford, county of Washington, State of Wisconsin, and GEORGE R. BOYNTON, of the city of Chicago, county of Cook, State of Illinois, have invented new and useful Improvements on a Stump-Pulling Machine, (for which Letters Patent of the United States bearing date April 7, 1863, have been to us granted;) 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 1 is a perspective view, and Fig. 2 a longitudinal elevation, of the wagon and loading apparatus, and also of the frame of the machine, and section of the lever L and frame D divided lengthwise through the center.

To enable others skilled in the art to make and use our invention, we will proceed to describe the construction and operation of the same.

A A, Fig. 1, are two beams supported on posts B B, said posts resting firmly upon sills C C, the whole being secured firmly together by rods from the sills C C through the beams A A, secured on the top with nuts.

The frame D is formed of two planks, a cross-tie being framed across the front end, the back ends being bolted to the beams A A. The distance between the two sides of the frame D is just sufficient to receive the pillow-blocks E E and the bed *h*, the pillow-blocks resting upon both beams, while the bed *h* rests only upon the principal beam, being of sufficient length to form a seat for the two fulcrums *i' i''*, or the bed *h* may occupy the whole space between the sides of the frame D, the bed resting upon both beams, with an opening through it back of the fulcrum *i'* to admit the passage of a cable to which the stump may be attached. The fulcrum *i'* is fixed in its seat in the bed *h*, and is to be used when great power is required. *i''* is used for the purpose of gaining speed when the full power of the machine is not necessary, and may be hung or used in any manner so it may be removed when not in use.

The frame D extends forward to support the lifting-frame *f*, wheel *m*, axle *n*, and roller *p*.

The frame *f* is used as a guide to the end of the lever L, and also to raise the same to a proper position for use. This is effected by means of a rope or chain cable, *r*. Said rope is secured to the end of the lever L, on the under side, passing over the pulley *p*, back to the axle *n*, taking several turns around said axle, (being secured to it near the center of its length,) thence over the roller near the cross-head of the frame *f*, and again attached to the end of the lever L, on the upper side.

The wheel *m* is secured to the journal *n* in the usual manner, (the whole being fastened on the top of the frame D,) and is used to apply power to and also operate the lever L by means of the rope, *r*, working on the axle *n*, raising or depressing the end of the lever as the motion of the wheel *m* is reversed. The pulley *p* serves as a leader for the rope *r*, and also to aid in loading said machine.

The two fulcrums *i' i''* are gaged in height, so that when the lever is raised to the full height *i''* may be placed in position, as seen at Fig. 2. The end of the lever L being then brought down will rest upon the fulcrum *i''*, then upon the lever being raised again *i''* may be removed and the lever will then work upon *i'*.

Fig. 2 is a longitudinal elevation of the wagon and apparatus for loading and carrying said machine, also a section of the lever L and frame D divided lengthwise through the center, showing plainly the internal arrangement of the same. For the purpose of loading and carrying said machine, we place upon an ordinary wagon-rack a light frame, S, to carry the end of the frame D, and upon the back end of the rack is placed pillow-blocks or bolsters *z*, of sufficient height to carry an axle clear of the hind wheels of the wagon. Upon the two outer ends of this axle is secured two wheels, *o*. To the sills C is fastened at one or more points a rope or chain, *x*, or it may be secured to the center one of the posts B B B, thence passing over the wheels *o*, and secured to the periphery of said wheels at *w*. The hand-lever G is attached to the axle upon which the wheels *o* are fixed, and when raised to the position as seen at Fig. 2 the chains *x* are hooked onto the wheels *o* at *w*, then upon bringing down the lever G to a horizonta-

position the machine is lifted to a height proportionate to the size of the wheels *o*, and the lever being secured thus, the machine is easily transported. The lever G may, if necessary, be operated by a small rope working over a pulley attached to the rack of the wagon.

What we claim as new and useful, being our invention, is—

1. The use of two or more fulcrums or their equivalents, when used for the purpose, and substantially the same as herein specified.

2. The method of operating the lever L by a rope or cable in any manner substantially the same, when used for the purposes herein specified.

3. The manner of loading said machine for transportation on two or more wheels, by attaching the chain *x* to any part of said machine, so that it may be lifted in any manner equivalent to our specification.

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