

(Model.)

J. A. WOODWORTH.

STUMP EXTRACTOR.

No. 412,819.

Patented Oct. 15, 1889.

Fig 1.

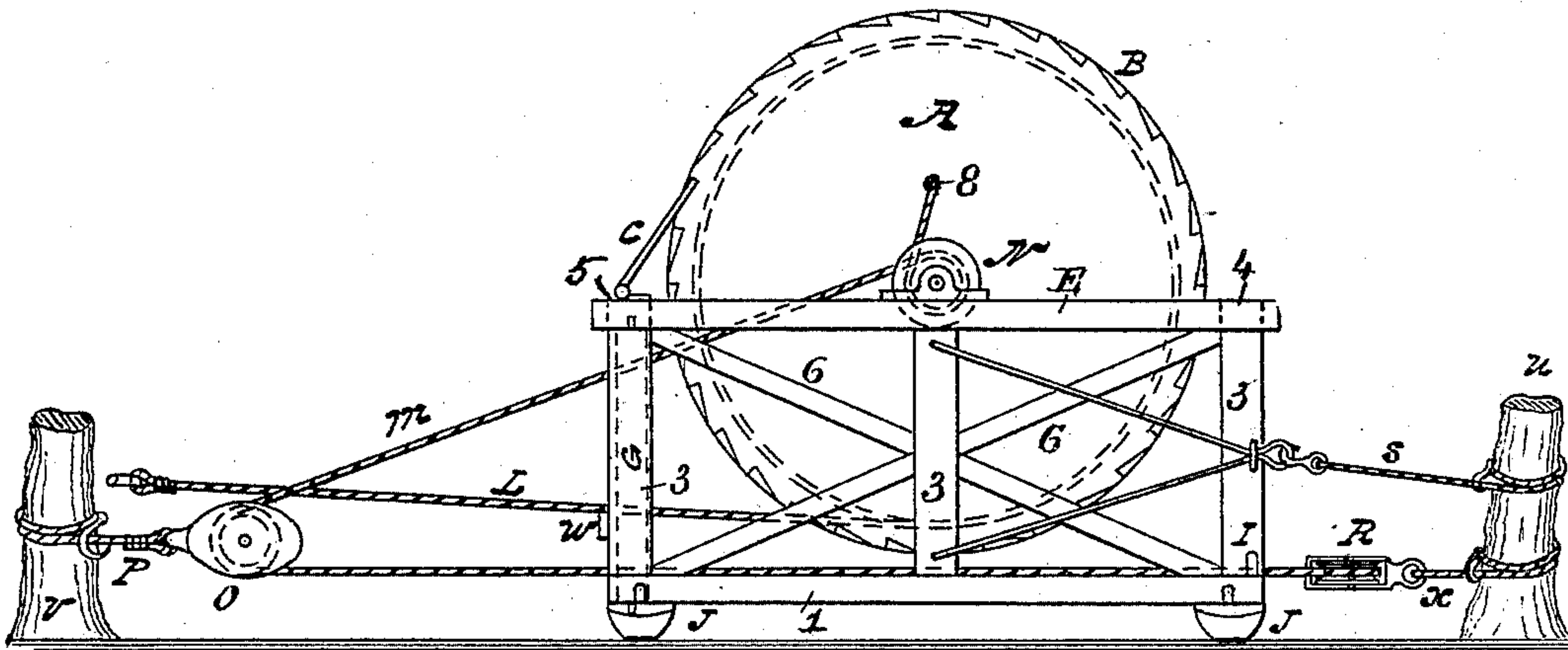
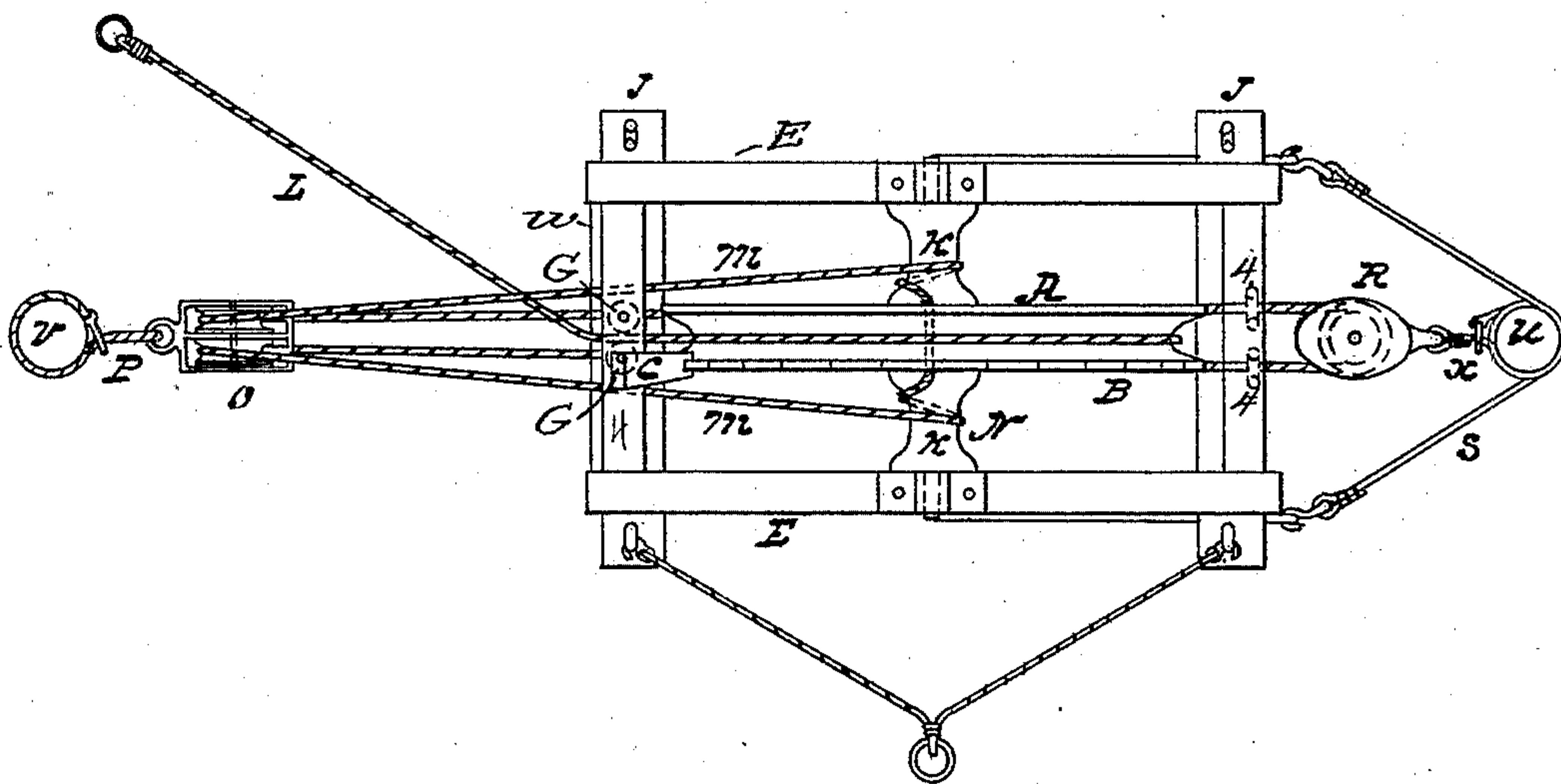


Fig 2.



Witnesses.
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JASPER A. WOODWORTH, OF SAUGATUCK, MICHIGAN.

STUMP-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 412,819, dated October 15, 1889.

Application filed May 15, 1889. Serial No. 310,913. (Model.)

To all whom it may concern:

Be it known that I, JASPER A. WOODWORTH, of Saugatuck, Allegan county, Michigan, have invented a new and useful Improvement in Stump-Extractors; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings.

My invention relates to the construction of a stump-extractor, with a block and tackle so arranged that a double-strand rope or chain is employed to render available the power, and whereby simplicity of construction and ease in use are secured.

In the drawings, Figure 1 is a side elevation of my machine. Fig. 2 is a plan thereof.

Like letters refer to like parts throughout the several views.

The frame of my machine is constructed of the sills 1, upon which rest the uprights 3 3 3, Fig. 1, supporting the side plates E and end plates 4, Fig. 1. End plate 5, similarly supported, being the end next the stump to be extracted, rests upon the side plates E, with a view to giving support to the pawl c in best position to engage the ratchet B, hereinafter described. The frame is stayed on the sides by the braces 6 6. The frame rests upon semi-roller-shaped runners J J, rounded off at the ends as well as at the sides, so as to present less resistance in moving the frame from place to place in the field. The wheel A is rigidly secured to the shaft N, which is journaled at the upper portion of the frame. The wheel A is grooved on its periphery to a sufficient depth to receive the rope L, one end of which is fastened in the groove while the other is free, the said rope L being wound within the groove, so that when it is taken up the free end will be brought to a convenient distance from the end of the frame toward the stump to be extracted. The wheel A is provided with ratchet-teeth B, to engage pawl c, which is attached to end plate 5 of the frame.

G G are anti-friction rollers working on spindles in end of frame. These rollers serve to guide rope L as it is run off wheel A, and enables the pull to be made more or

less deflected from a right line from the wheel beyond the rollers. This is desirable when working in cramped space. To keep the rope L in place when the pull is made and prevent it from rising above the height at which a horse, as usually harnessed, can get the best power, the cross-piece w is attached to the end of the frame, its edge, against which rope L plays, being brought sufficiently near to the sill to accomplish the end in view.

I I are guides for the rope or chain M M, which is a continuous rope or chain passing through a hole located in wheel A, thus placing the wheel between the two strands of said rope or chain. The said rope or chain passes over the double block O and single block R. The frame may be anchored by any convenient means—as by the chain or rope s—to the stump u. The block R should be fastened to the anchor, as by the rope x. The frame of double block O, carrying rope P, is fastened to the stump v to be extracted. On applying power to the free end of rope L, which has been previously wound in the groove of wheel A, the wheel is revolved and the strands of the rope or chain M M are taken up equally on each side of wheel A in the depressions K of the shaft N, Fig. 2, exerting power upon the stump v to be extracted. The strain will fall equally on either side of the wheel A on the shaft N, distributing the strain more nearly throughout the entire length of the shaft than if a single strand were used, thus enabling the shaft, and in consequence the entire frame, to be more lightly constructed.

In my patent, No. 88,596, I used a single strand and found by experience that any rope or chain that would stand the power available was too unwieldly for practical use. The use of two strands will obviate this difficulty and proportion the tensile capacity of rope or chain M M to the power available.

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

In a stump-extractor, the combination of the frame, the single and double blocks, the

fastenings carried by said blocks, the grooved
and ratcheted wheel mounted on a shaft
 journaled on top of the frame, the pawl, the
rope having one end secured in the groove of
5 the wheel and adapted to have power applied
at its other end, and the continuous rope
passing through said wheel and through the

single and double blocks and adapted for
winding on the shaft at each side of the
wheel, substantially as shown and described. 10

JASPER A. WOODWORTH.

Witnesses:

A. W. WOODWORTH.

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