(No Model.)

D. W. SMITH.

SAWING MACHINE.

No. 334,297. Patented Jan. 12, 1886.

Fig. 4.

Fig. 1.

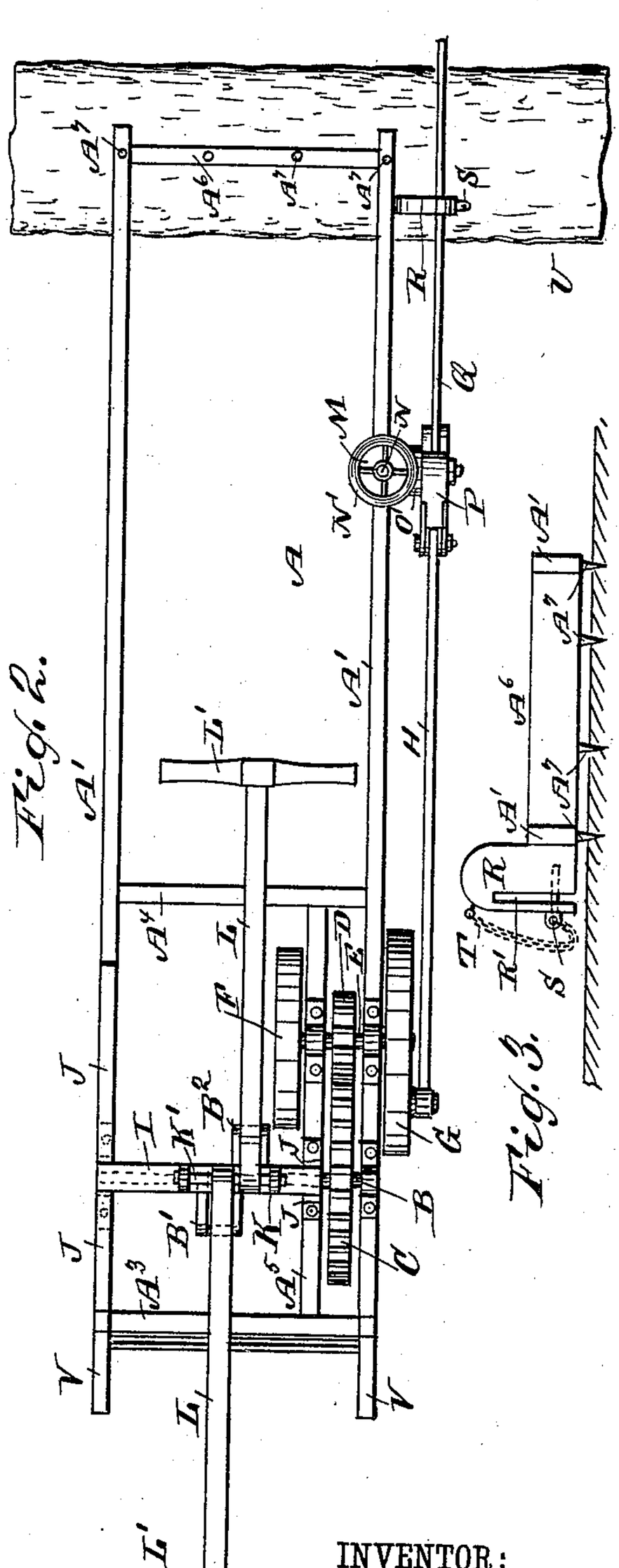

Fig. 2.

Fig. 3.

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DANIEL WEBSTER SMITH, OF LONG LAKE, MICHIGAN.

SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 334,297, dated January 12, 1886.

Application filed August 29, 1885. Serial No. 175,652. (No model.)

To all whom it may concern:

Be it known that I, DANIEL WEBSTER SMITH, of Long Lake, in the county of Grand Traverse and State of Michigan, have invented a new and Improved Sawing-Machine, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved sawing-machine which is simple in construction, effective in operation, and easily attached to the logs to be sawed.

The invention consists in the peculiar construction and arrangement of parts, all as hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improved sawing-machine. Fig. 2 is a plan view of the same. Fig. 3 is an end view of the device for attaching one end of the machine to the log to be sawed, and Fig. 4 is a vertical cross-section on the lines *x x* of Fig. 1.

The main frame A, upon which my sawing-machine is mounted, consists, chiefly, of the side beams, A′, the front standard, A^2, the cross-beams A^3 and A^4, the beam A^5, and the end cross-beam, A^6, which is provided with sharp prongs A^7, extending downwardly, and which are driven in the upper edge of the log to be sawed, so as to securely hold the machine and the log together while operating.

Upon the side beams, A′, and the beam A^5 is mounted the main shaft B, provided with two crank-arms, B′ and B^2, placed in opposite directions from each other. To the shaft B is also secured a gear-wheel, C, which meshes into the pinion D, attached to a shaft, E, mounted on one of the side beams, A′, and the beam A^5. The inner end of this shaft E is provided with the fly-wheel F, and to the outer end is secured the crank-wheel G, to which one end of the pitman H is pivotally attached. Centrally above the main shaft B is held the cross-beam I by means of the supports J, attached to one of the side beams, A′, and the beam A^5. The upper edge of the cross-beam I is provided with a suitable bearing, K, having a pin, K′, on which the inner ends of the levers L are pivotally attached. The levers L extend in opposite directions from each other and are provided with the handles L′. The rods L^2 connect the crank-arms B′ and B^2 with the respective levers L.

One side beam, A′, is provided near the rear end of the frame A with a slotted upright post, M, in the center of which is mounted the feed-screw N, having a hand-wheel, N′, on its upper end. The screw N is provided with a nut, O, which extends beyond the front edge of the post M, and on which is placed a washer, O′. To the nut O is pivotally attached a downwardly-extending arm, P, to the lower end of which is pivoted the other end of the pitman H and the handle end of the saw Q. To the rear end of the said beam A′ is also bolted the guide R, having a slot, R′, in which is guided the saw when commencing to cut on the log U. When the machine is not operating, the saw-blade can be held securely in the slot R′ by passing the saw-blade to the upper end of the slot R′ and inserting the pin S in a corresponding aperture in the guide R, so that the lower or toothed edge of the saw-blade rests on the pin S. The latter is attached to a chain secured to the guide R on the side beam, A′, so as to prevent the misplacing or loss of the pin S.

The operation of the machine is as follows: The machine is attached to the log to be sawed, as before described, and illustrated in Fig. 1. The levers L are moved up and down by two or more persons, whereby the shaft B is rotated by means of the connecting-rods L^2 and the double crank-arms B′ and B^2. The rotary motion of the shaft B is transmitted to the shaft E by the gear-wheel C and pinion D, thereby rotating the fly-wheel F and the crank-wheel G. A reciprocating motion is imparted to the saw Q by means of the pitman H, attached to crank-wheel G, and the rocking arm P. The saw is guided on the log by being placed in the groove R′ of the guide R when commencing to saw, and of course makes its own guide in the log U by cutting deeper in the log. The inner end of the saw is lowered or raised by turning the hand-wheel N′ on top of the slotted post M, which causes the lowering or raising of the nut O, and consequently that of the arm P. This can be done while the saw is in use.

The front ends of the side beams, A′, are provided with handles V to facilitate the moving about of the entire machine.

It will be seen that other machines—such as corn-shellers, root-cutters, cider-mills, &c.—may be driven by my machine by suitable connection with the crank-wheel G or the pitman H.

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

1. In a sawing-machine, the combination, with a supporting-frame, of the shaft B, journaled in the frame and provided with the cranks B′ B^2, and the gear-wheel C, the shaft E, journaled in the frame in front of the shaft B and provided with the crank-wheel G and pinion D, the levers L, pivoted to the frame above the shaft B, and extending in opposite directions, and the bars L^2, connecting the said levers to the cranks, substantially as herein shown and described.

2. In a sawing-machine, the combination, with a supporting-frame, a saw, a pitman, and means for operating said pitman, of a slotted bar secured to the supporting-frame, a screw working in said bar, a nut on the screw, and an arm having its upper end pivoted to said nut and its lower end pivoted to the said pitman and saw, substantially as herein shown and described.

3. A sawing-machine consisting of a supporting-frame provided at one end with means for securing it to the log being sawed, the double crank-shaft B B′ B^2, journaled in said frame, a gear-wheel on said shaft, the shaft E, journaled in front of the shaft B and provided with the fly-wheel F, crank-wheel G, and pinion D, the operating-levers L, pivoted to the frame above shaft B and projecting in opposite directions, connecting-rods L^2, the pitman H, the bar M, secured to the upper part of the frame, and the arm P, pivotally and adjustably connected to said bar M, and having its lower end pivoted to the pitman and saw, substantially as herein shown and described.

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Witnesses:
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