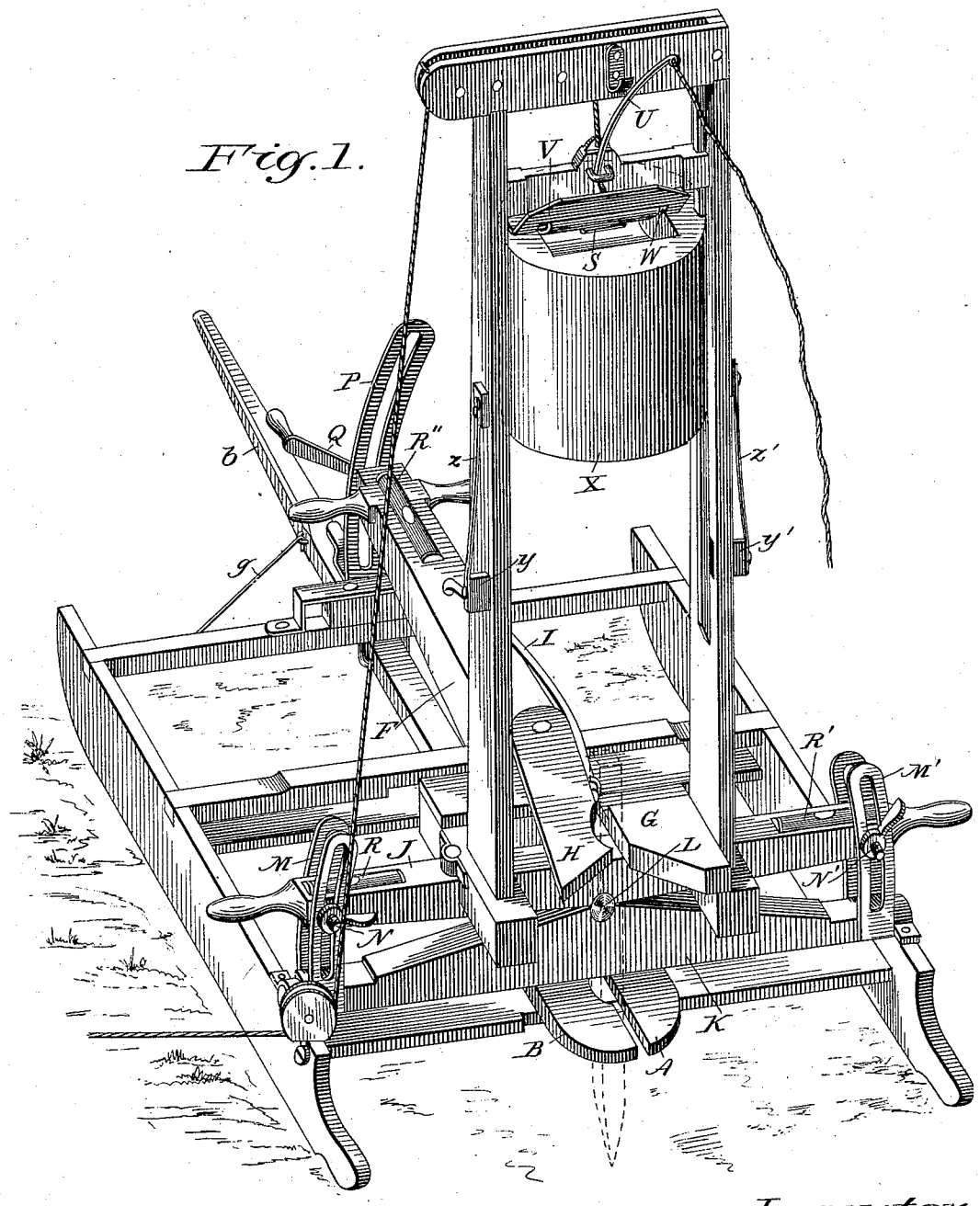
(No Model.) 2 Sheets—Sheet 1.

E. HIATT.

POST DRIVING MACHINE.

No. 286,816. Patented Oct. 16, 1883.

Fig. 1.



Witnesses.
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(No Model.) 2 Sheets—Sheet 2.

E. HIATT.

POST DRIVING MACHINE.

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Fig. 2.

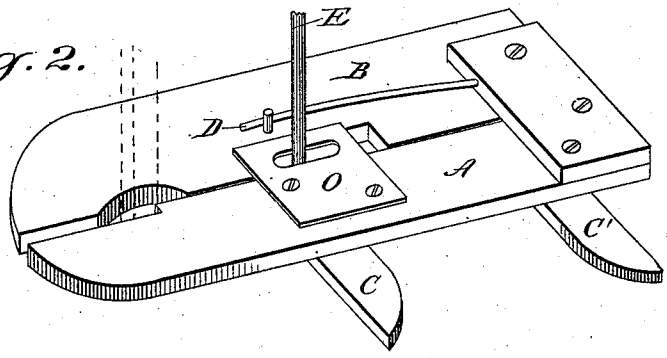


Fig. 4.

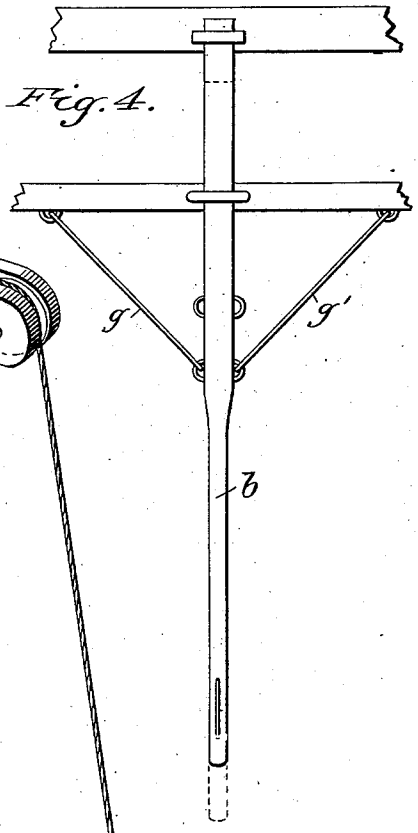
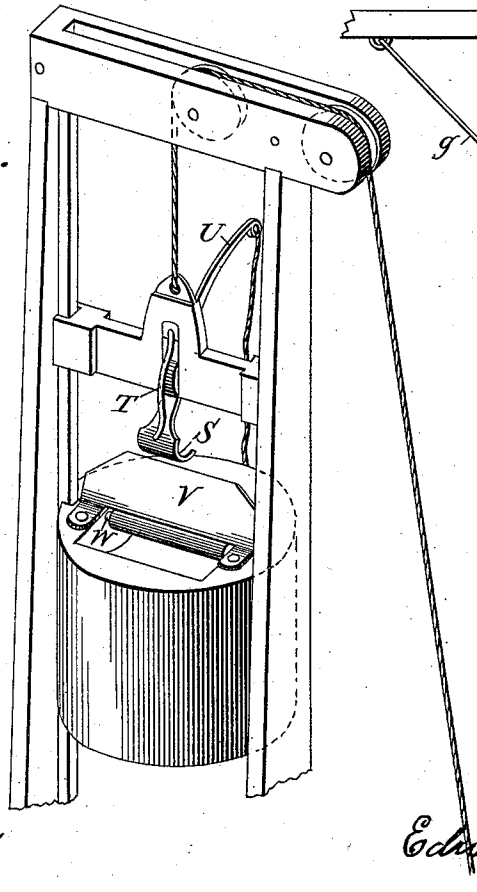


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDWIN HIATT, OF NEW CASTLE, INDIANA.

POST-DRIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 286,816, dated October 16, 1883.

Application filed May 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWIN HIATT, a citizen of the United States, residing at New Castle, in the county of Henry, in the State of Indiana, have invented a new and useful Machine for Driving and Fixing Fence Posts and Stakes into the Earth, of which the following is a specification.

My invention relates to improvements made by me in a machine known as a "pile-driver," so as to adapt it to the use and purpose of driving and setting fence-posts in the earth. I attain this object by mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the entire machine. Fig. 2 represents the clamping arrangements for securing the post in position. Fig. 3 represents the grappling-hook for lifting the driving-weight and the part connected therewith. Fig. 4 is a view in detail of the tongue and its attachments.

Similar letters refer to similar parts throughout the several views.

The upright frame is an ordinary pile-driving frame, with its guiding-cleats and cross-bars, the frame resting upon a base or substructure, which consists of a sled of two wide board runners, with cross-bars combining and holding the runners together, and upon these rest the other parts of the machinery, as hereinafter explained. The upright frame is attached to a movable adjustable bolster, J, by two cross-beams at right angles to the bolster and at equal distances from the ends thereof. Across the forward end of these cross-beams is bolted a cap or cross-piece parallel with the bolster, underneath which piece and between said cross-beams, and fastened thereto, is a beam, F, extending at right angles to and forward of said bolster J, toward front end of sled. On the under side of this beam F, near the rear end thereof, a lever, E, vertical to the under surface thereof and extending vertically downward, properly braced, works at its lower end in a slot in the metal plate O, fastened to the upper surface and inner edge of the clamping-bar A, by which lever E the clamping-bars A B are moved to the right or left as the top part of the machine, by means of the adjustable bolster J, is moved to the left or right, so as to hold and maintain the post to be driven in a position adjusted to the surface of the earth into which it is to be driven.

A and B are two clamping-bars working between and on top of the two lower cross-bars of the sled and under the bolster K and the middle upper cross-bar of the sled, being kept in position by two cleats or guides, C C', attached at right angles to the under surface of the clamp-bar A, so that their outer edges work between and against the edges of said lower cross-bars of the sled. The clamp-bar B works on a pivot at the front end, and is kept pressed firmly in position against the post to be driven by the spring D pressing the post against the clamp-bar A. The bars A B are connected at the front end by a cross-beam, in which is the pivot of B and the front end of the spring D. Both A and B move at the same time and to the same extent by the action of the lever E. The front ends of the bars A and B work in a slot between the upper and lower middle cross-bars of the sled.

Attached to the frame-work upon which the derrick stands are the cross-beams on the bolster J. On the right hand is a stationary clamp-bar, G, and attached to the beam F, about its center, by a pivot is a movable bar, H, which is held in position and pressing toward G by the spring D. These two bars hold in position and safely clamp the top of the post, while the bars A B, above described, hold in position and clamp the lower part of the post to be driven. The bar A and the stationary bar G serve as a guide for the face edge of the post and keep the same in line while being driven into the earth. The post, being firmly held at the upper and lower ends, and both the upper and lower clamps being adjustable, as herein shown, may be set at any angle or perpendicularly upon any inclined surface. The inner edges of the rear ends of the bars A B G H are cut at such a bevel that the post can be readily slipped into position from behind, and rounded beveled notches in the edges of the bars B H clasp and hold the post against the bars A G, yet not so tightly as to interfere with the driving the post downward into the ground. The bolster K extends across the sled near the rear end, and the ends of the bolster are formed into journals working in the boxes on top of the runners, which permits the bolster to turn forward or

backward. This bolster K is connected with the upper bolster, J, by the adjustable hinge-roller joint L, and the two bolsters being thus connected, the center of the lower bolster being some inches higher than the ends, the upper side being beveled off toward each end, permits considerable motion to the bolster J up and down upon said joint as a pivot.

On each side of the bolster K, at each end thereof, are bolted upright standards M M′, with slots therein, opposite and facing each other. Between these upright slotted standards the ends of the bolster J work. Through these slots and the ends of said bolster a rod with head on one end and screw on the other passes, while a nut with tail or handle screwed upon the screw end of the rod clamps the bolster firmly in any position desired between the standards.

N N′ represent the rods above described, and shown in the drawings. At one or both ends of the upper side of the bolster are small spirit-levels R R′, by which a horizontal position can be readily determined. On the beam F is also a spirit-level, R″, inserted in the upper side for the same purpose.

Attached by a pivot to the front edge, at the center of the front cross-bar of the sled, is a slotted standard, P.

In the end of the beam F is a rod with set-screw working in the slot of the standard P, by which the end of F may be raised or lowered and secured in position, bringing the top of the derrick and other parts of the machine into plumb forward or backward.

The motion and adjustments effected and allowed by the standards M, M′, and P, enable us to place the machine in a vertical position upon all kinds of inclined surfaces, and also to set and drive posts at different angles or perpendicularly, as may be desired, and make the machine completely adjustable in all directions.

In order to further adjust the machine in moving from post to post, the tongue *b* is attached to the front part of the sled by sliding through and into staples on the under side of the front cross-bar and the lower middle cross-bar of the sled, and is secured in position by two braces, *g g′*, hooking into staples in the front cross-bar of the sled, and into staples on each side of the tongue. Two other staples, a few inches in the rear of those in the tongue, above described, enable the tongue to be pulled forward out of the hinder staple, the braces being placed in the rear staples of the tongue, whereby it (the tongue) is readily converted from an immovable to a movable or limber tongue.

The hammer or driving-weight X, for driving posts into the earth, may be of any size and heaviness desired, with guide-grooves upon the sides working as in ordinary pile-drivers. The lifting bar or bail of the weight X is a rod, W, extending across the top of the weight, covered with a tube or sheath, which rolls upon the rod W as its axis. The grappling-hook S is guided under the bail W by the guide V, and the sheath thereon, when the hook is tilted and disengaged, rolls off the hook easily and without much friction. A spring, T, fastened to the guide-bar to which the grappling-hook is attached, presses forward upon the lower end of the grappling-hook S and forces it under the bail W. The arm U, in operating the machine, presses against the plate at top of the derrick, and throws the hook S backward and disengages it from the bail W, and allows the weight X to fall upon the top of the post to be driven, and forces it into the ground. The same effect is produced by pulling upon the rope or cord attached to the upper end of the arm U, so that the weight X can be disengaged at any desired height above the post, by which a light or heavy blow can be given at will.

On each side of the derrick-frame, at suitable height, are resting-blocks Y Y′, operated by springs and cords attached thereto, as shown in the drawings at Z Z, by which the weight X may be held in position at will. Upon raising the weight the resting-blocks are withdrawn from under the weight by force of the springs.

I am aware that prior to my invention pile and post driving machines have been made and used for driving posts into the earth by lifting, disengaging, and letting fall a heavy weight upon the top of the post to be driven, and that devices have been made and used for adjusting same to uneven surfaces, and I recognize the patent to T. W. Loveless, No. 20,883, issued July 13, 1858, entitled "Pile-Driver," and I claim nothing therein contained. I therefore do not claim such a combination, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a post-driving machine, of the movable and adjustable clamping-bars A B and spring D, for the purpose of clamping and holding the lower end of the post to be driven in proper position, and the lever E, attached to the under side of the beam F and vertical to the under surface thereof, and extending downward until lower end of said lever is received into the slot in metal plate O, fastened to upper surface of clamping-bar A, the said several parts, the beam F, and the bolster J so arranged and connected, as described in the foregoing specification, that the lower end of said lever E, working in said slot, simultaneously moves the clamping-bars A B to the right or left as the top of the uprights are moved to left or right by lowering or raising one or the other ends of the bolster J, whereby the post to be driven is adjusted, substantially as and for the purposes set forth.

2. The combination, in a post-driving machine, of the stationary clamp-bar G, the movable bar H, and the spring D, for clamping, ad-

justing, and holding in position the upper end of the post to be driven, substantially as and for the purposes set forth.

3. The combination, in a post-driving machine, of the bolsters J K, the connecting adjustable hinge-joint L, the slotted standards M M′, the levels R R′, and the clamping rods and screws N N′, for the purpose of adjusting the machine sidewise to uneven and hilly ground, substantially as and for the purposes set forth.

4. The combination, in a post-driving machine, of the beam F, the slotted movable standard P, the set-screw Q, and the level R″, with the bolster J, for the purpose of adjusting the machine forward and backward to adapt it to use on uneven or hilly ground, substantially as and for the purposes set forth.

5. The combination, in a post-driving machine, of the grappling-hook S with the spring T, the arm U, the guide V, and the bail W, with rolling sheath or cover, by which friction is lessened, for the purpose of grappling and raising the weight X and loosening and letting the same fall upon the top of the post to be driven, substantially as and for the purposes set forth.

6. The combination, with the upright of a post-driving machine, of the rests Y Y′, the springs Z Z′, and the cords *a a′*, for the purpose of keeping the hammer or weight X suspended at will, substantially as and for the purposes set forth.

7. The combination, in a post-driving machine, of the adjustable tongue *b*, with two staples or eyes on the two edges thereof, at suitable distances apart and at suitable distances from the rear end thereof, the staples on the front edge of the front cross-bar of the sled, the staples on the under sides of the said front cross-bar and the lower middle cross-bar of the sled, into one or both of which two last-named staples the tongue may be inserted, according as a movable or immovable tongue is desired, the braces *g g′*, fastened by hooks on their ends into the eyes on the sides of the tongue *b*, and the eyes on front edge of front cross-bar of sled, so as to hold said tongue from moving sidewise, forward, or backward, and by means of which several parts and staples and eyes the said tongue may be readily and easily converted into a movable or immovable tongue, substantially as described, and for the purposes set forth.

8. The combination, in a post-driving machine, of the beam F, bolster J, lever E, slotted metal plate O, and clamping-bars A B, arranged and connected in the manner described, for the purpose of moving the clamping-bars A B simultaneously to the right or left, so as to adjust post to position desired, substantially as and for the purposes set forth.

EDWIN HIATT.

Witnesses:
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