

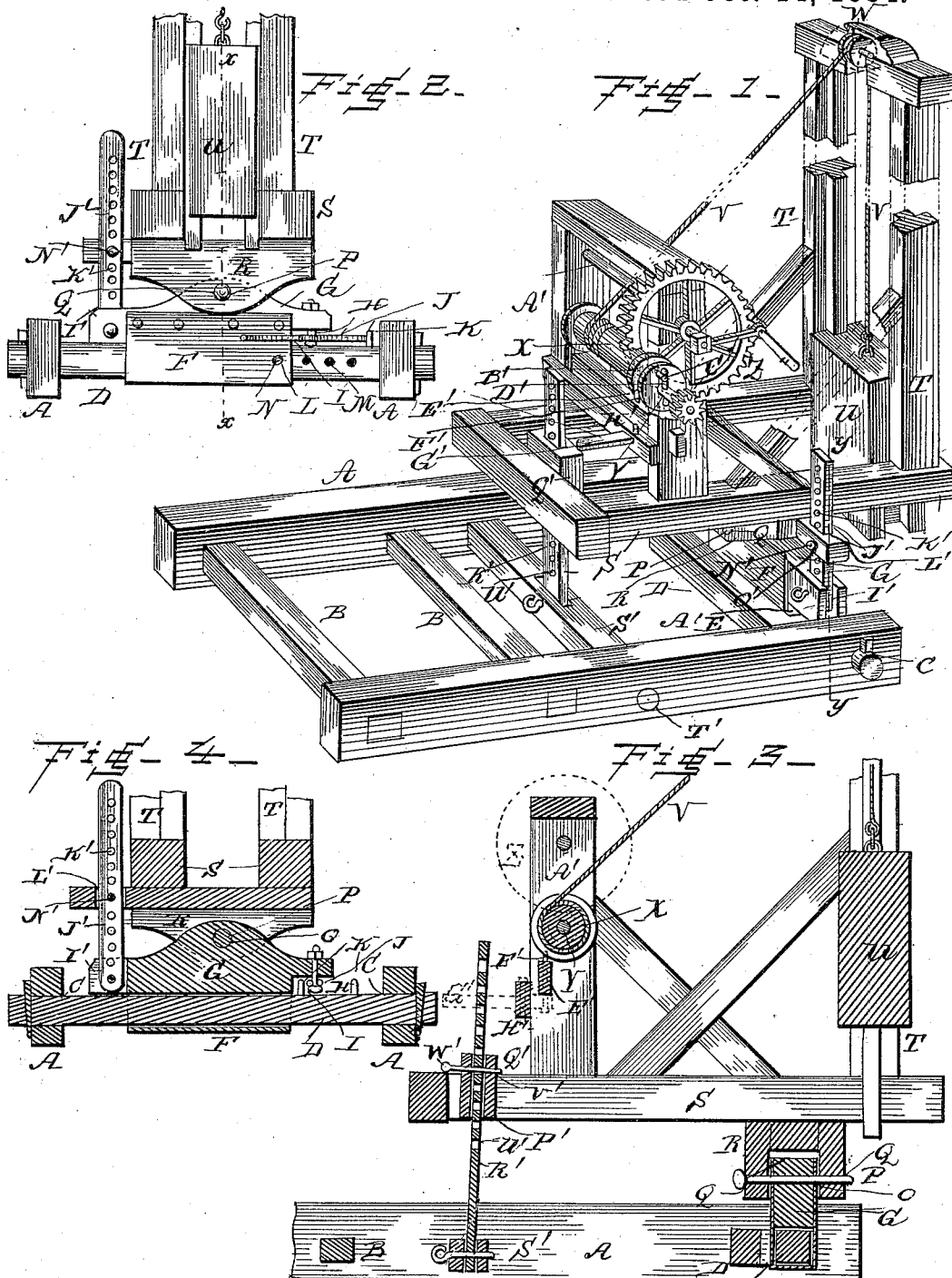
(No Model.)

2 Sheets—Sheet 1.

J. C. CRAWFORD.
POST DRIVER.

No. 306,587.

Patented Oct. 14, 1884.



WITNESSES:

Ad. G. Dietrich
Wm. J. Fisher

INVENTOR.

James C. Crawford
BY *Louis Bagger & Co.*
ATTORNEYS.

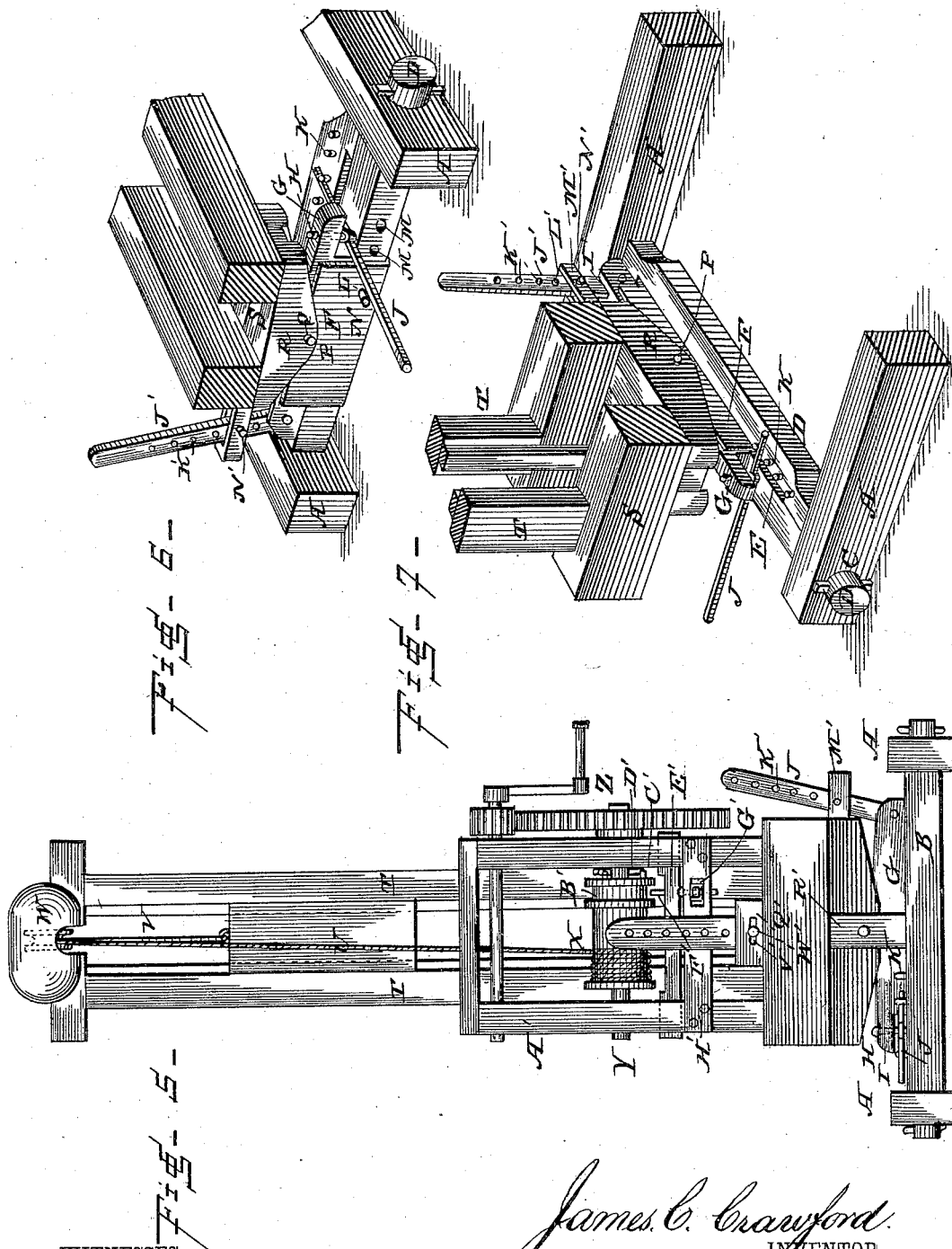
(No Model.)

2 Sheets—Sheet 2.

J. C. CRAWFORD.
POST DRIVER.

No. 306,587.

Patented Oct. 14, 1884.



WITNESSES:

Fred. L. Dieterich.
 J. L. Lecher

James C. Crawford.
INVENTOR.

Louis Ruggers & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES C. CRAWFORD, OF CANNON'S MILL, OHIO.

POST-DRIVER.

SPECIFICATION forming part of Letters Patent No. 306,587, dated October 14, 1884.

Application filed April 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. CRAWFORD, a citizen of the United States, and a resident of Cannon's Mill, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Post-Drivers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved pile-driver. Fig. 2 is a partial front view of the same. Fig. 3 is a partial longitudinal vertical section on line *x x*, Fig. 2. Fig. 4 is a partial cross-section on line *y y*, Fig. 1. Fig. 5 is a rear view, and Figs. 6 and 7 are perspective views, of a portion of the base-frame, the sliding bolster, and the lever operating the same.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of post or pile drivers in which the uprights which form ways for the monkey are secured upon the base or frame of the machine in such a manner that they may be adjusted to stand vertically regardless of the position of the frame; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the side bars or beams of the base or frame of the machine, which frame may be mounted on wheels, if desired, or be adapted to be transported in any other desirable manner, and the rear ends of the said bars are connected by means of suitable cross-pieces, B. The forward ends of the side beams have transverse bearings or perforations C, in which the ends of a rocking cross-piece, D, are journaled, and the said cross-piece has a longitudinal vertical slot, E, parallel with its forward edge, in which slot one side of a wide strap, F, slides, the said strap extending around the forward portion of the cross-piece, passing up at the forward side of the same, and secured at its upwardly-pointing ends upon a bolster, G,

sliding upon the upper side of the cross-piece. This bolster has a vertical bolt, H, in a recess, I, at one end of it, (the bolster,) and a lever, J, is pivoted upon the said bolt, and a number of upwardly-projecting pins or plugs, K, project from the upper side of the cross-piece to the rear of the slot in the same, which pins may be engaged by the inner end of the lever, while power is applied to the outer end of the lever, and in this manner the bolster may be moved laterally upon the cross-piece, the inner end of the lever being successively brought to bear against the several pins. The front side of the strap has a perforation, L, which corresponds to a series of perforations, M, in the front side of the rocking cross-piece, and a bolt or pin, N, may be inserted through these perforations, adjusting the bolster in its position upon the cross-piece. The bolster is highest at its middle, having its upper edge cut off inclined toward the ends, and it has a perforation, O, through its apex, through which perforation a pin or bolt, P, passes, which passes through perforations Q in two flanges or plates, R, projecting vertically from a frame, S, the said frame and flanges rocking laterally upon the said pin or bolt. The frame S is open at its forward end, and has the two upright posts T, which form ways between which the monkey U slides, secured at that end, and the said monkey is secured to a rope or chain, V, passing over a pulley, W, journaled between the upper ends of the uprights, and secured at its other end to a drum, X, journaled to turn and slide upon a shaft, Y, having suitable means for revolving it—shown in the drawings to consist of a pinion, a cog-wheel, and a crank, all lettered Z, and journaled transversely in an upright frame, A', secured upon the rear or inner end of the frame S. The drum has an annular groove, B', at one end, and a number of projections, C', upon one end, and the shaft has a flat bolt or bar, D', passed diametrically through it, which may engage with and bear against the projections upon the end of the drum when the latter is slid toward the bolt or bar. A bar, E', slides transversely in bearings under the drum, and has an upwardly-projecting arm, F', which projects into the groove in the drum, and a lever, G', is pivot-

ed to the rear of the sliding bar in a slot in a cross-piece, H', secured to the uprights of the windlass-frame A', and has its forward end pivoted upon the lower end of the arm F', which passes through the sliding bar, while the rear end of the lever forms a handle, by means of which the lever may be rocked in a horizontal plane, sliding the drum to either engage or disengage the projections upon its end with the flat bar in the shaft. One end of the bolster upon the rocking cross-piece of the base has a slot or recess, I', in which the lower end of an upright flat bar, J', having a series of perforations, K', is pivoted, and the said bar passes through a slot, L', in a bar, M', projecting laterally from the frame S at the ends of the downwardly-projecting flanges. A bolt, N', passes through perforations O' in the sides of the slot, and through a perforation in the upright bar; and it will be seen that the frame S and the uprights may be adjusted in a transverse plane by changing the bolt in the perforations in the upright bar, the frame rocking upon the bolt passing through the bolster and through the downwardly-projecting flanges. A cross-piece, P', is pivoted between the rear portions of the side pieces of frame S, its ends turning in transverse bearings in the same, and is provided with a slotted block or enlargement, Q', upon its middle, through which an upright bar, R', passes, which upright is pivoted at its lower end upon a cross-piece, S', pivoted with its ends in perforations or bearings T' in the side beams of the base-frame, and the said upright pivoted bar has a series of perforations, U', and the block or enlargement has a perforation, V', passing through its slot, through which perforation and one of the perforations in the upright bar a pin or bolt, W', may be inserted, adjusting the said block upon the bar, and thereby adjusting the angle of the frame S and of the uprights in a longitudinal plane. In this manner it will be seen that the frame upon which the uprights are secured may be adjusted in any angle, enabling them to always stand in a vertical position, regardless of the character and plane of the surface upon which the machine stands; and it will also be seen that the forward end of the frame and the uprights with it may be slid transversely or laterally upon the rocking cross-piece in the forward end of the frame by means of the sliding bolster and strap, the hand-lever, and the projections, thus enabling the machine to be adjusted perfectly true, causing the monkey to fall exactly square upon the head of the post or pile. It follows that, the drum turning and sliding freely upon the shaft, the said shaft may be continually rotated, when, by engaging the projections upon the end of the drum with the flat bar in the shaft, the drum is revolved

and the monkey raised, whereupon the projections of the drum may be disengaged by sliding the latter, allowing the monkey to fall, reversing the drum, and so forth.

I am aware that it is not broadly new to have pile-drivers adjustable, so as to place the uprights between which the monkey slides perfectly vertical; and I am also aware that it is not broadly new to have the rope raising the hammer or monkey in a pile-driver attached to a drum having means for disengaging it from the shaft upon which it turns, and to which the power is applied, and I do not wish to claim such construction, broadly; but I claim—

1. The combination of the windlass-shaft having the flat bar inserted transversely through it, and having means for rotating it, the drum turning and sliding upon the shaft, and having a groove near one end and projections at that end, the transverse sliding bar placed below the drum, and having the arm projecting into the annular groove in the same, and the lever pivoted to rock in a horizontal plane, and having one end pivoted to the transverse sliding bar, as and for the purpose shown and set forth.

2. The combination, in a pile-driver, of the frame having the upright ways, the monkey sliding in the said ways, the rope secured at one end to the said monkey, the windlass-shaft having the flat bar inserted diametrically through it, and having means for revolving it, the drum sliding and turning upon the shaft, having the rope attached to it, having an annular groove at one end, and having projections upon that end, the transverse bar sliding parallel with the drum, and having the arm projecting into the groove in the drum, and the lever pivoted with one end to the sliding bar, and pivoted to rock in a horizontal plane, as and for the purpose shown and set forth.

3. The combination of the forward cross-piece of the base-frame of a pile-driver, having a longitudinal vertical slot, the sliding bolster of the upright frame, having the vertical bolt or pin at one end, the strap secured at its ends to the said bolster, passing through the slot in the cross-piece around its forward side, sliding in the slot, the lever pivoted upon the vertical bolt in the end of the bolster, and the lugs or projections upon the upper side of the frame cross-piece, adapted to be engaged by the inner end of the lever, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JAMES C. CRAWFORD.

Witnesses:

DANIEL CRAWFORD,
CHARLES E. CROW.