(No Model.)

A. D. AUSTIN.

DEVICE FOR DRIVING TUBE WELLS.

No. 348,813. Patented Sept. 7, 1886.

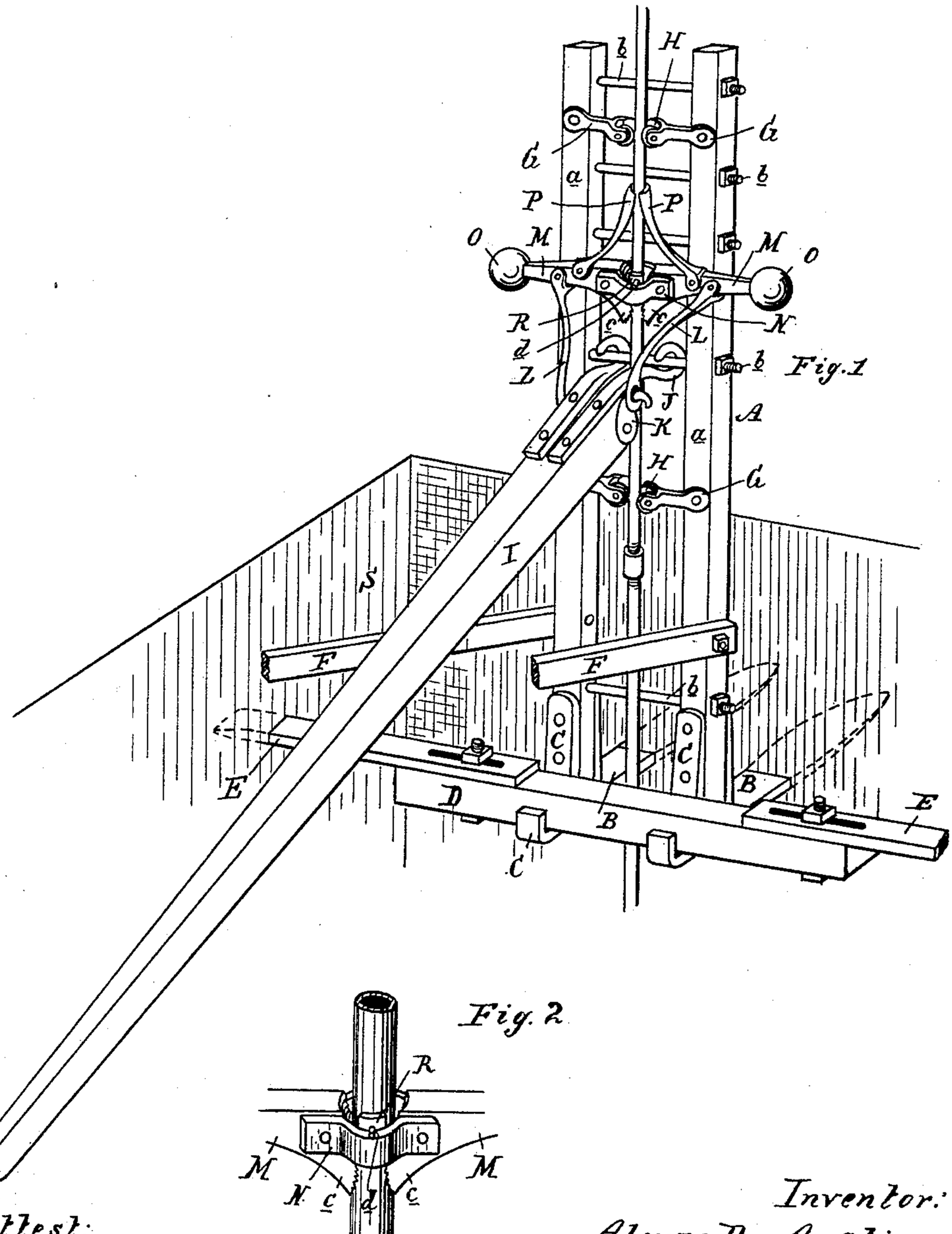

Fig. 1

Fig. 2

Attest:
John Schuman
[illegible]

Inventor:
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by his Atty
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UNITED STATES PATENT OFFICE.

ALONZO DAYTON AUSTIN, OF JACKSON, MICHIGAN, ASSIGNOR OF ONE-HALF TO NORTON M. TERRY, OF SAME PLACE.

DEVICE FOR DRIVING TUBE-WELLS.

SPECIFICATION forming part of Letters Patent No. 348,813, dated September 7, 1886.

Application filed May 27, 1886. Serial No. 203,424. (No model.)

To all whom it may concern:

Be it known that I, ALONZO DAYTON AUSTIN, of Jackson, in the county of Jackson and State of Michigan, have invented new and useful Improvements in Devices for Driving Tube-Wells; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in devices for driving tube-wells; and the invention consists, first, in the construction of devices for securing the frame-work of the machine in the desired position; second, in the construction and operation of the mechanism employed for driving the tubing by means of a direct pressure instead of by blows; and, third, in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter set forth.

In the accompanying drawings my improved device is shown in perspective in Figure 1, and Fig. 2 is a detail of the clutch, in which—

A represents the frame-work which supports the operating parts of the machine. This frame-work consists of two posts, *a*, secured together by the rounds or girts *b*. The lower ends of these posts *a* have rigidly secured to them, upon one side, anchor-arms B.

C are brackets secured to the side of the posts *a* of the frame, opposite to the anchors B. The brackets are to support a bed-piece, D, to the top of which, at each end, are adjustably secured anchor-plates E.

F are braces pivotally secured at one end to the frame-work *a*, as shown.

G are brackets secured rigidly to the frame A in pairs, one pair near the top and another pair at about the center of the frame. In the free ends of these brackets are journaled grooved rollers H.

I is the operating-lever, provided with the hooks J, to engage with one of the rounds *b* of the frame. Upon the sides of the lever are secured the eye-irons K, which engage with the lower ends of the rods L, the upper ends of which are pivotally connected to the levers M. The inner ends of these levers terminate in grip heads *c*, the faces of which are serrated or toothed and concave in cross-section. The heads are pivotally secured to the connecting-plates N, and the outer ends of the levers M are provided with weights O.

P are spring-arms, the lower ends of which are secured to the levers M, the upper ends of such spring-arms being provided with concave faces.

R are removable guide-plates with concave faces, and are provided with a lug, *d*. These guide-plates are designed to be hung upon the plates N, so as to prevent a side swaying of the tube while being driven.

In practice, a well, as at S, is dug, into which the machine is set, being secured in place by driving the anchors B into one wall of such well and the anchors E into the side walls at right angles to B, while the braces F rest against the wall of the well opposite to the anchors B. The operating-lever with its connections is now hung upon one of the rounds *b* of the frame A. The tubing to be driven is then placed vertically between the guide-rollers H and between the toothed heads of the levers M, the guide-blocks R being in place. By now raising the outer end of the lever I the levers M slide up the pipe. Depressing the lever I will now cause the toothed heads of the levers M to grip the pipe and press the pipe into the ground.

It will readily be seen that this device can advantageously be employed for withdrawing well-tubing by merely reversing the position of the operating-lever and grips. The springs P assist in keeping gripping-levers in their proper positions.

Where the well S is dug in hard ground the anchors E may be dispensed with, as the anchors B will be sufficient to hold the frame in place.

What I claim as my invention is—

1. In a device for the purposes described, the frame A, carrying the operating mechanism and provided with the anchor-plates B, substantially as described.

2. In a device for the purposes described, the frame A, provided with the anchors B and adjustable anchors E, substantially as set forth.

3. In combination with the frame A, the anchors B, brackets C, and adjustable anchors E, as described.

4. In combination with the frame A, the anchors B, brackets C, adjustable anchors E, and braces F, constructed, arranged, and operating in the manner and for the purposes described.

5. In a device for the purpose described, the frame A and lever I, in combination with the grip-levers M and connecting-rods L, substantially as described.

6. In a device for the purpose described, the combination of the frame A, lever I, connecting-rods L, levers M, and plates N, as set forth.

7. In a device for the purpose described, the combination of the frame A, lever I, connecting-rods L, levers M, connected by the plates N, springs P, and guide-rollers H, the parts being constructed, arranged, and operating in the manner and for the purposes set forth.

ALONZO DAYTON AUSTIN.

Witnesses:

E. A. CLEMENT,

CALVIN WING.