(No Model.) 2 Sheets—Sheet 1.

S. R. ANDERSON.

POST DRIVER.

No. 434,620. Patented Aug. 19, 1890.

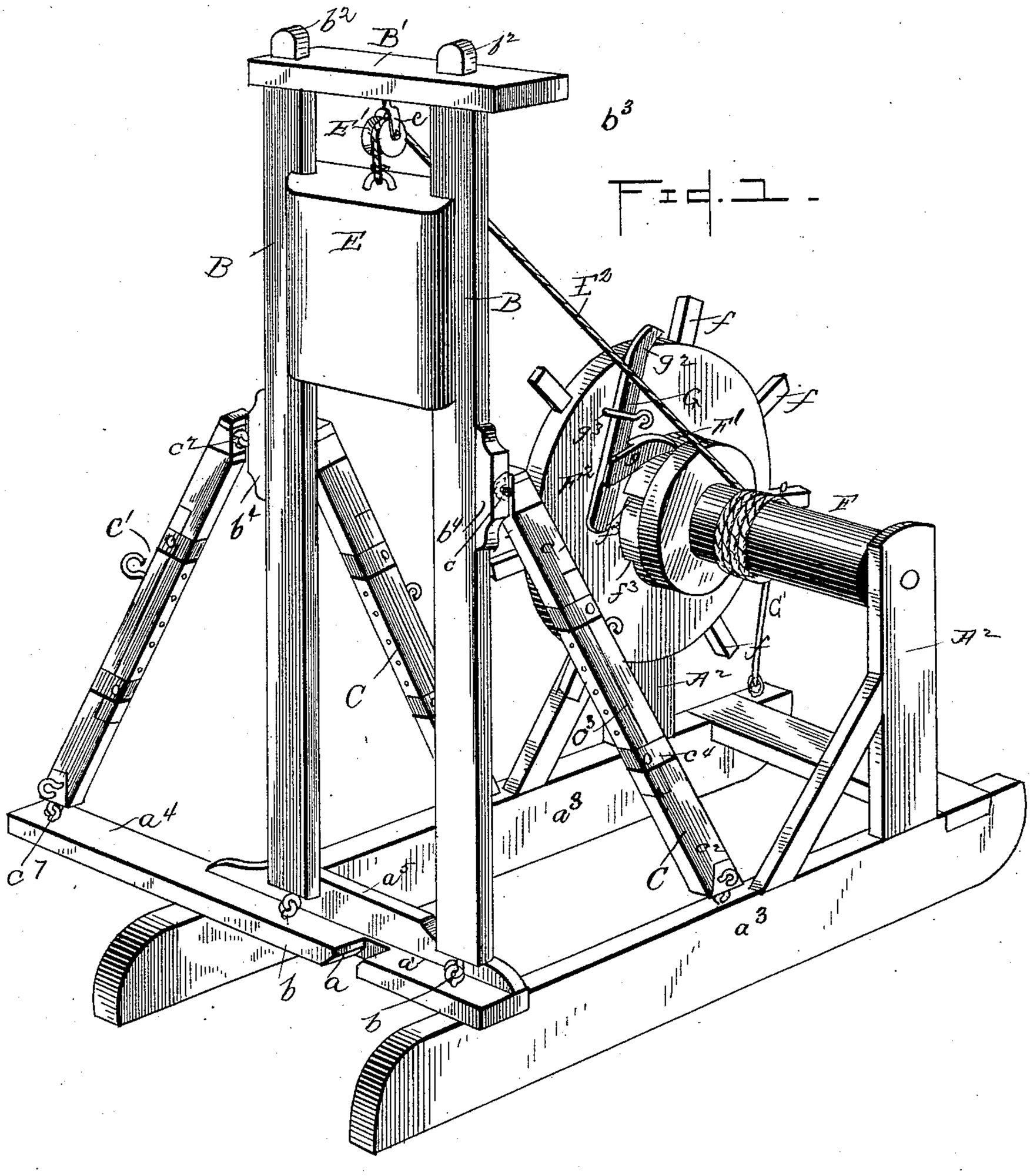

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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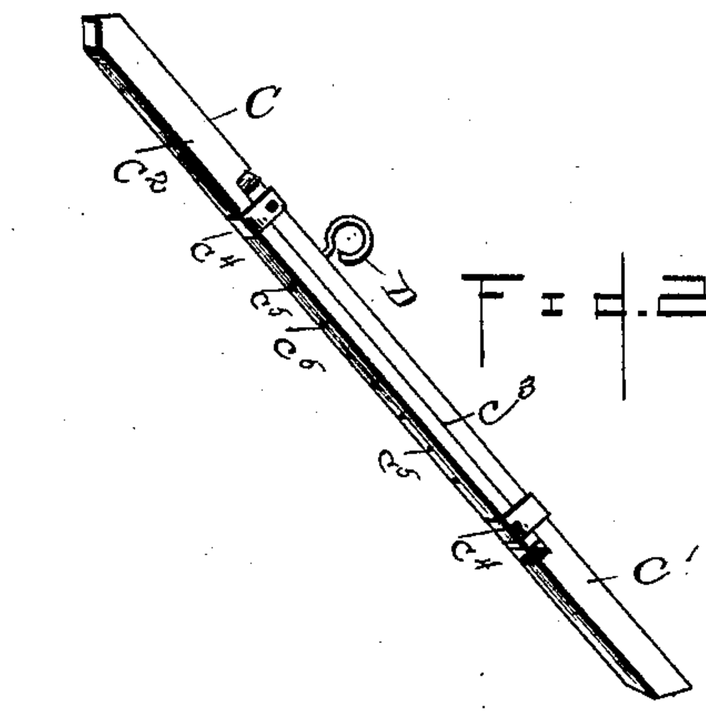

FIG. 2.

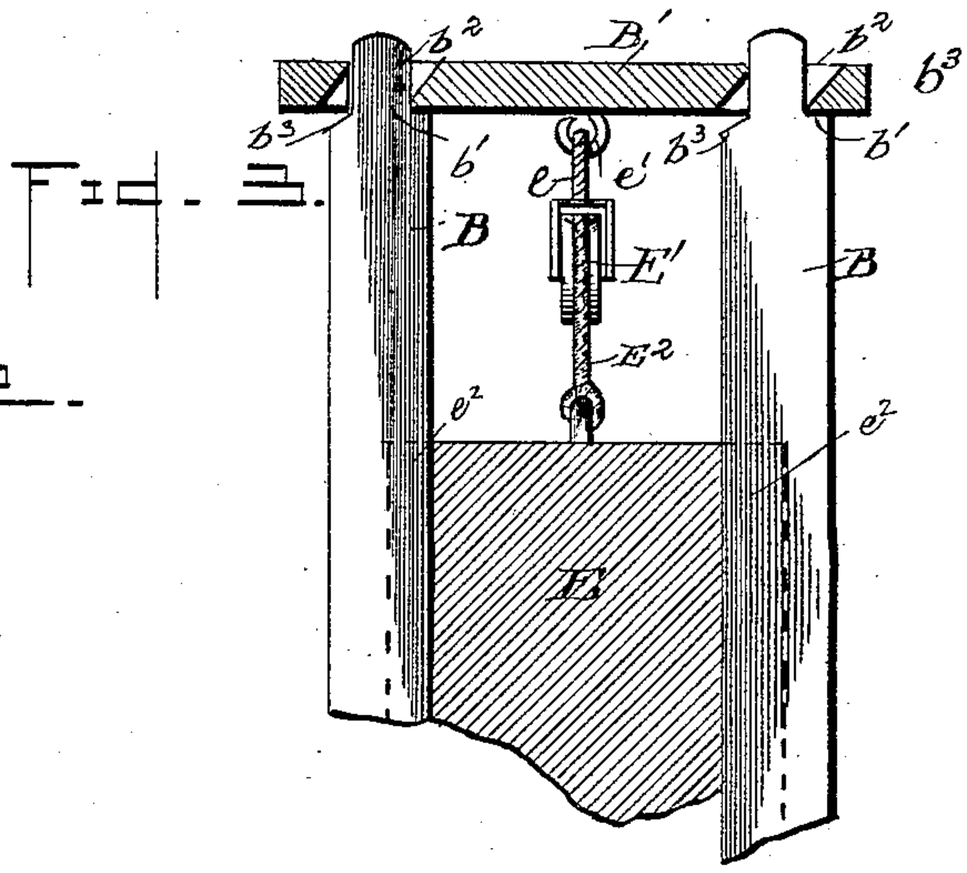

FIG. 3.

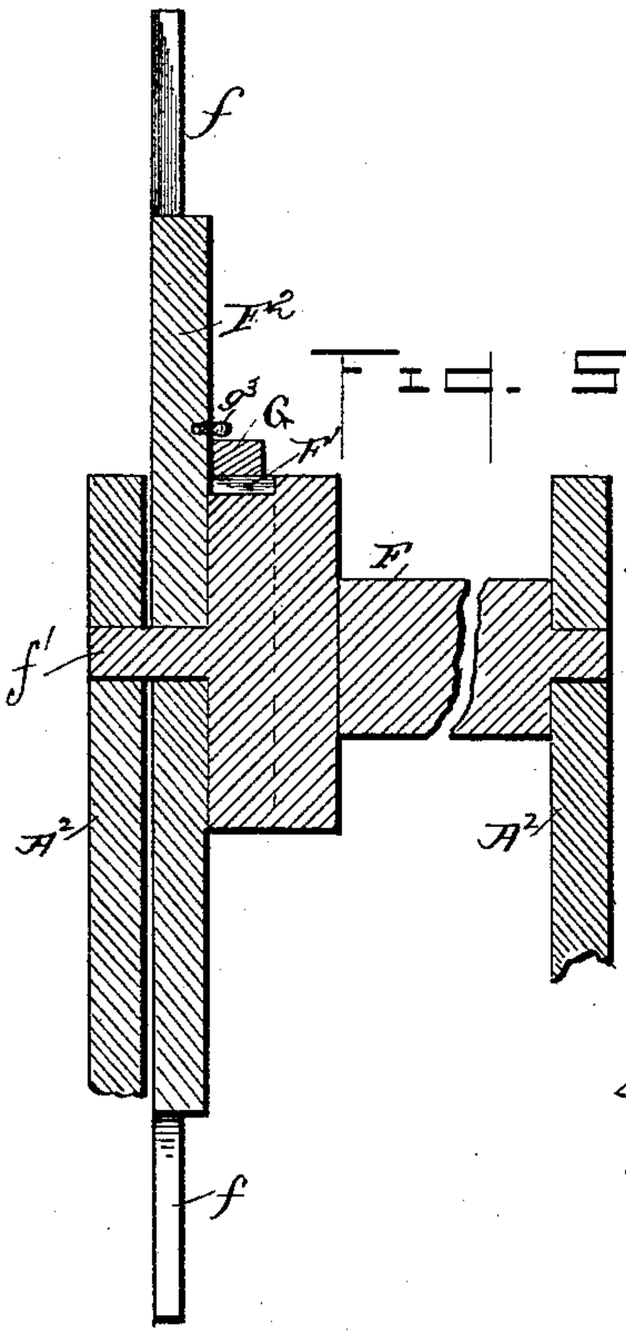

FIG. 5.

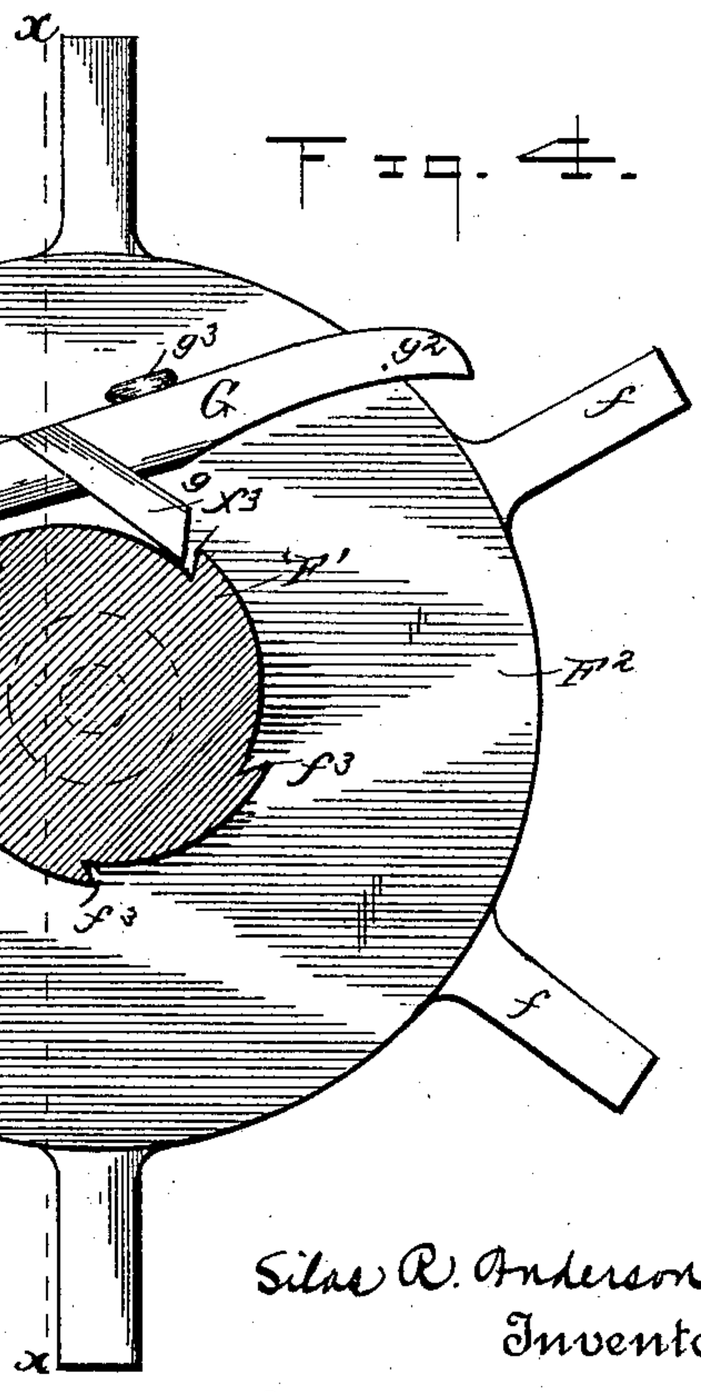

FIG. 4.

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UNITED STATES PATENT OFFICE.

SILAS R. ANDERSON, OF ERDICE, PENNSYLVANIA.

POST-DRIVER.

SPECIFICATION forming part of Letters Patent No. 434,620, dated August 19, 1890.

Application filed May 19, 1890. Serial No. 352,284. (No model.)

To all whom it may concern:

Be it known that I, SILAS R. ANDERSON, a citizen of the United States, residing at Erdice, in the county of Jefferson and State of Pennsylvania, have invented certain new and useful Improvements in Post-Drivers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain improvements in post-drivers; and it has for its object to provide means whereby a post may be driven perpendicularly upon the side of the hill by the repeated blows of a falling maul, and for these purposes it consists of a suitable frame-work having uprights mounted thereon, the base of the said uprights being universally pivoted to the frame-work, and serving as guides for the maul, and of drum connected by a ratchet with a wheel, whereby it may be rotated in one direction, it being free to rotate in the opposite direction upon withdrawing the ratchet; and it also consists of the construction, combination, and arrangements of the several parts, of which it is composed, as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, in which corresponding parts are designated by similar letters, Figure 1 is a perspective view of my invention. Fig. 2 is a detail view of one of the braces. Fig. 3 is a section of the cap-piece and parts contiguous thereto. Fig. 4 is a cross-section through the drum. Fig. 5 is a vertical longitudinal section on line $x\ x$ of Fig. 4.

In the drawings, the frame-work upon which the superstructure is mounted is shown in the form of a sled for greater convenience in transportation from the place of one post to the place of another. Each of the uprights B is attached to the rear end of the sled by two eyebolts b, one of the said uprights being on each side of the longitudinal axis of the sled, while the guide-notch a is cut in the cross-brace a' in the center thereof to serve as a guide for the post. A cap-piece B′ extends from one upright to the other, the upper ends of the said upright being cut away, as at b', and inserted in the mortises b^2 of the cross-piece, the opposite ends of the mortises being beveled in the same direction, as will be seen from an inspection of Fig. 3, thus permitting the uprights to be thrown toward that side of the sled or cap-piece marked b^3, while the opposite ends of the guide-recess a are correspondingly beveled, as will be seen by an inspection of Fig. 1.

Extension-braces C are attached at their upper ends by means of two eyebolts c to the forward sides of the cleats b^4, secured to the outer sides of the uprights B and, extending forward, have their lower end secured to the runners a^3 of the sled in a similar manner. Each of these extension-braces consists of two pieces c' and c^2, having their continuous ends reduced in thickness, as at c^3, and brought together, a clip c^4 being attached to each of the said pieces and encircling the other. The two said continuous ends of the pieces c' and c^2 are thus rendered capable of sliding upon each other, and it will be evident that by extending the said braces that position of uprights will be altered in respect to sled, being thrown forward, rendering it possible to maintain the uprights in a vertical position when the sled is upon grounds slanting from the rear to the front, while if the braces are contracted the uprights will assume a position at right angles with the sled, as is shown in Fig. 1, in which case the device is adapted for use in level ground. In order to lock the pieces c' and c^2 in any desired position, thus retaining the uprights at the angle corresponding thereto, pins D may be inserted in the holes c^5 formed in the said pieces.

In order to permit the uprights being inclined toward the side b^3, an extension-brace C′, corresponding in construction to those heretofore mentioned, is secured at its top by two eyebolts $c^7\ c^7$ to the outer side of the cleat b^4, attached to that upright which is upon the opposite side of the longitudinal axis of the sled from the side b^3, the base of the said brace C′ being attached to an extension a^4 of the cross-piece a' in a similar manner. A rest a^5 is secured to the rear part of the cross-piece a', its ends extending over the runners a^3, whereby it is strengthened and adapted to serve as a seat for the maul E when the latter is not in use.

A pulley E′ is loosely swung by the hook e from the eye e' on the middle part of the

lower surface of the cap-piece B′ and carries the rope E^2, the rear end of which is attached to the hammer or maul E, sliding between the uprights B. As the distance between the two uprights varies, being greater where they are vertical and above the longitudinal axis of the sled and less where they are inclined to one side, I provide a plurality of mauls, having vertical slots e^2 therein of varying depths, so that a maul of proper width between the slots may be inserted between the uprights, which serve as guides therefor; but it will generally be found that two such mauls will be sufficient. In order to raise the maul, the forward end of the rope is brought forward and connected to the drum F, mounted in standards A^2 arising from the forward end of the frame. A ratchet-wheel F′ is rigidly attached to one end of this drum and a disk F^2, having spokes *f* projecting beyond its circumference, (which serve as handles,) is loosely mounted upon the reduced bearing *f′*, formed upon the same end of the drum F as that upon which the ratchet-wheel is secured.

A lever G is pivoted to the inner side of the disk F^2 and has secured to the central portion of one side a nose *g*, the end of which is adapted to engage the ratchets f^3 of the wheel F′. The ratchets f^3 of the said wheel are made with slightly-acute angles at their base, as is shown in Fig. 4, being exaggerated in this figure for the purpose of the better illustration of my invention, while the projecting end *g′* of the nose *g* is beveled in a corresponding manner, so that the nose when engaged by the ratchet will be locked therein, the free end g^2 of the lever G serving as a handle by which the said parts may be disengaged. In order to lock the nose *g* against a ratchet f^3, a pin g^8 may be inserted in the inner side of the disk F, thus preventing the movement of the lever G. A link G′, attached at one end of the sled, is also provided, the opposite end of the said link being adapted to engage one of the spokes *f* on the disk F^2, holding the latter against rotation.

The use of my invention is obvious; but it may be here stated that this sled being in the proper position the hammer is first raised by causing the nose *g* to engage one of the ratchets f^3 of the wheel F′, when upon rotating the disk F^2 the drum will partake of the same movement, winding up the forward end of the rope and raising the maul, and the parts may now be locked in that position by inserting the pin g^3 and hooking the link over one of the spokes *f*. The pile is then placed in the recess *a*, and the pin g^3 being withdrawn the handle g^2 is moved outwardly, disengaging the nose *g* from the ratchets f^3 and freeing the drum F and permitting the maul to fall upon the post. The maul may now be again raised by causing the nose *g* to engage with the ratchets f^3 and rotating the disk F^3. When the maul has reached the top of the uprights, the nose is again withdrawn in the manner already described, and this may be continued until the post is driven to the desired distance.

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

In a post-driver, the combination, with a frame-work, of uprights attached to one end thereof by universal joints, a cross-piece extending to one side of the said frame-work, a cap-piece having slots with beveled ends therein, within which slots the upper ends of the uprights are mortised, extension-braces attached to the said uprights and extending from the said uprights forward and connected to the said frame-work, an extension-brace also attached to one of the said uprights and extending downward and sidewise therefrom and connected to said cross-piece, a maul mounted in the said uprights, a pulley attached to the said cap-piece, a drum mounted in standards on the forward part of the frame-work and having a ratchet-wheel rigidly secured thereto, a disk having spokes projecting from its periphery, loosely mounted on the said drum, a lever having a nose in the center thereof pivoted at one end to the side of the said disk, the free end of the said lever forming a handle, and a rope passing over the said pulley and having its opposite ends secured to the said drum and to the said maul, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SILAS R. ANDERSON.

Witnesses:
S. B. BISHOP,
JOS. P. LUCAS.