

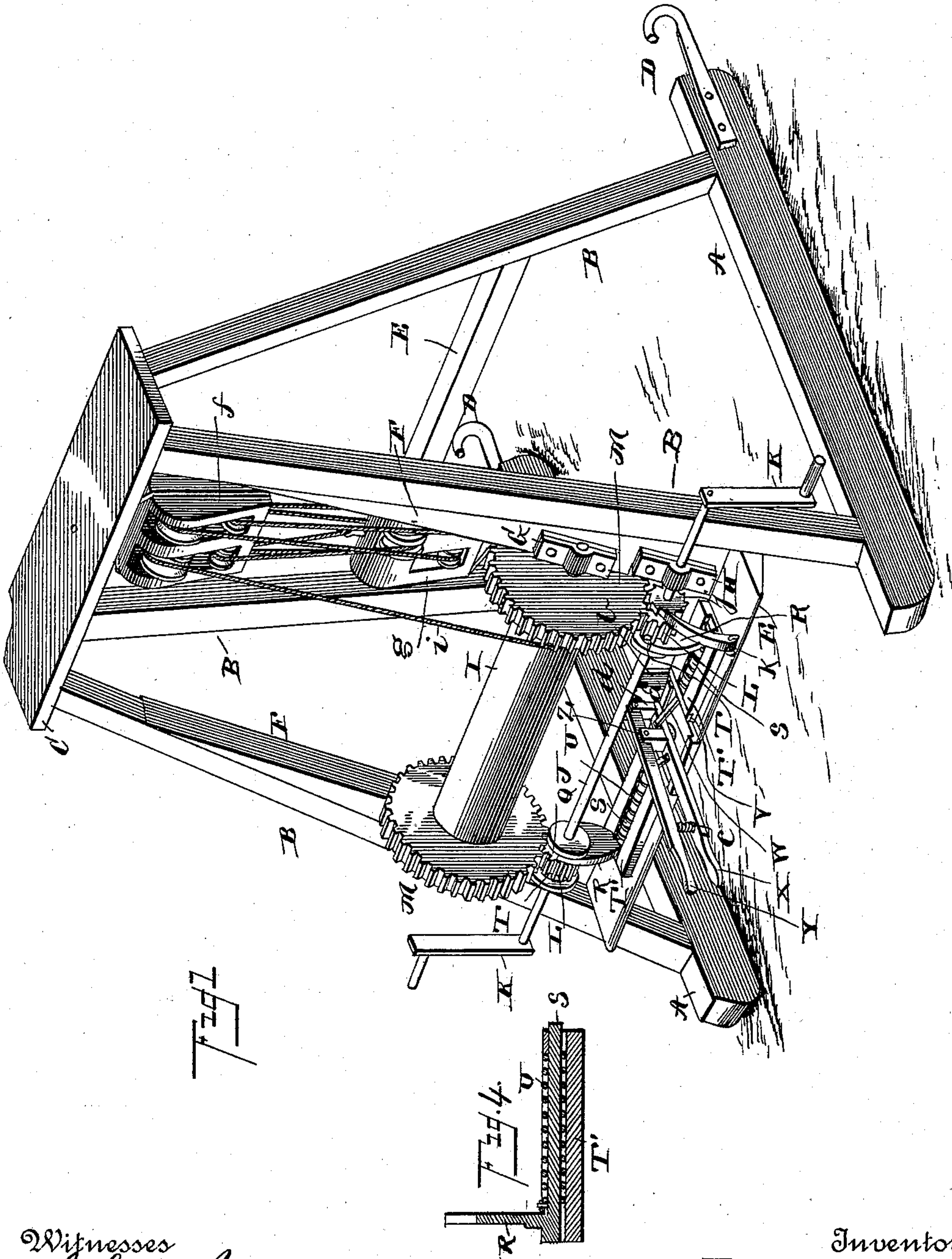
(No Model.)

2 Sheets—Sheet 1.

J. H. TERRY.
STUMP EXTRACTOR.

No. 406,795.

Patented July 9, 1889.



Witnesses

John Smiric
A. H. Bishop.

Inventor
Jacob H. Terry

By *W. J. Snow* Attorneys

W. J. Snow & Co.

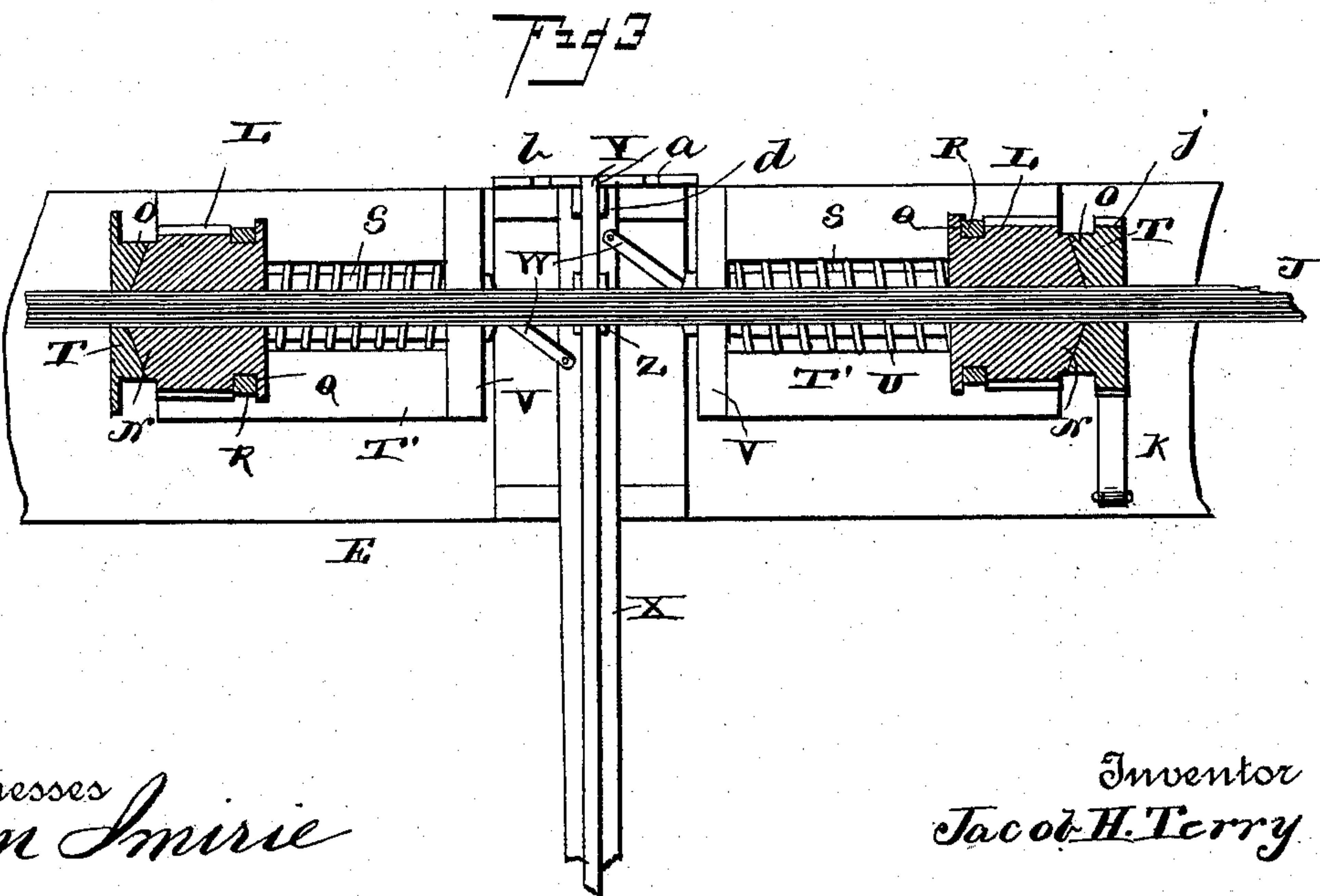
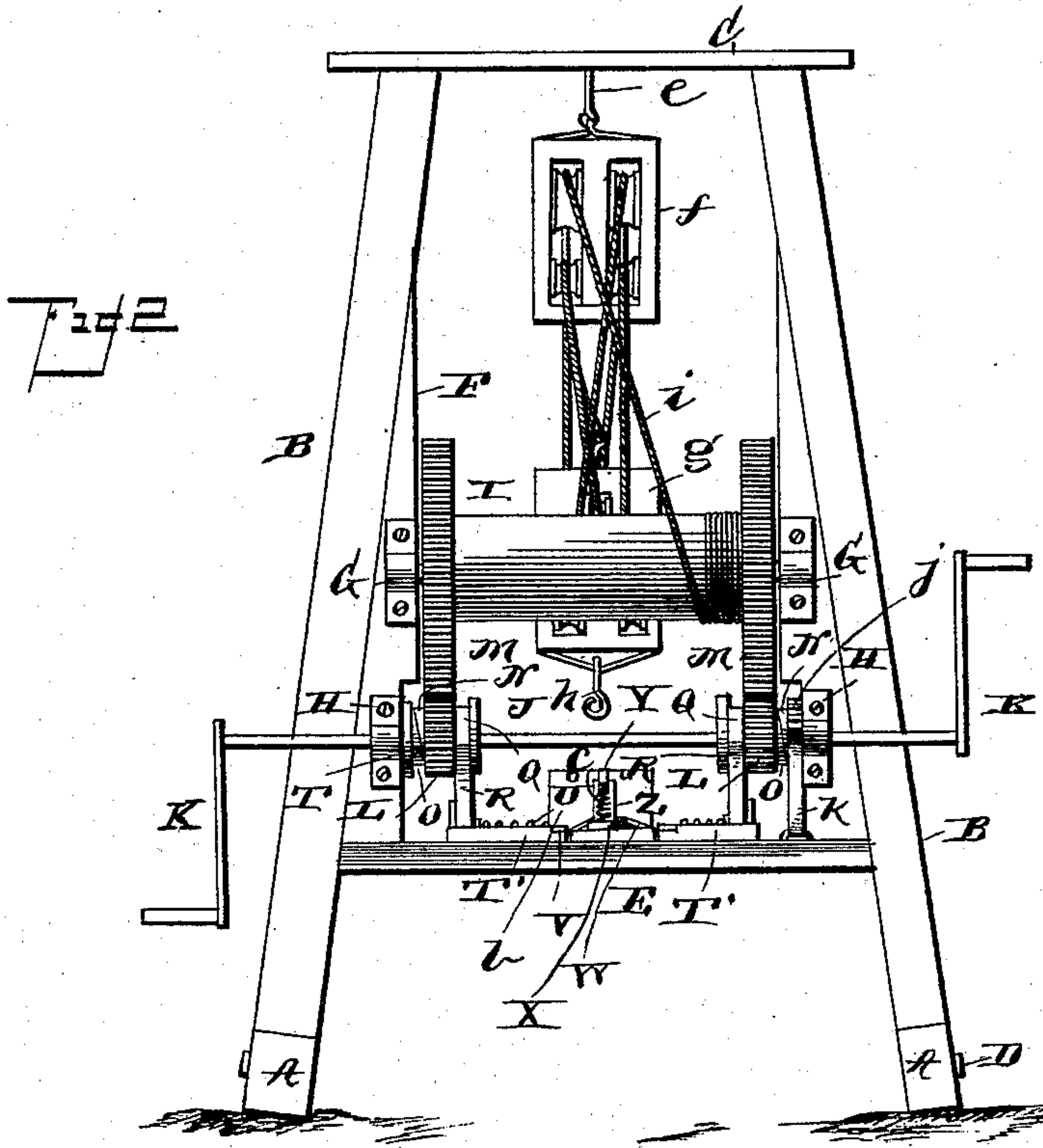
(No Model.)

2 Sheets—Sheet 2.

J. H. TERRY.
STUMP EXTRACTOR.

No. 406,795.

Patented July 9, 1889.



Witnesses
John Smirle
R. W. Bishop,

Inventor
Jacob H. Terry

By his Attorneys

C. Snowdon

UNITED STATES PATENT OFFICE.

JACOB H. TERRY, OF PHILLIPSBURG, MISSOURI.

STUMP-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 406,795, dated July 9, 1889.

Application filed March 8, 1889. Serial No. 302,482. (No model.)

To all whom it may concern:

Be it known that I, JACOB H. TERRY, a citizen of the United States, residing at Phillipsburg, in the county of Laclede and State of Missouri, have invented new and useful Improvements in Stump-Extractors, of which the following is a specification.

My invention relates to improvements in stump-extractors; and it consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved stump-extractor. Fig. 2 is a front elevation of the same. Fig. 3 is a detail horizontal section. Fig. 4 is a fragmentary detail.

The supporting-frame of my improved stump-extractor comprises the runners A A, which are rounded at both ends, so that the machine can be drawn in either direction, the converging standards or posts B B, erected on the runners, and the cap C, secured to and connecting the upper ends of the posts. The runners are provided with the draft-hooks D, to which the draft is applied to haul the machine over the ground, and the posts or standards are suitably braced by the cross-bars E.

To the inner sides of the front standards I secure the supporting-bars F, which are beveled on their outer sides, so that when they are secured to the inner sides of the posts or standards they will assume very nearly a vertical position. To the front sides of the supporting-bars F, I secure the journal-boxes G H, the windlass I being mounted in the upper journal-boxes G, and the driving-shaft J being mounted in the lower journal-boxes H. The ends of the driving-shaft project beyond the sides of the standards and are provided with operating crank-handles K. Pinions L are mounted on the driving-shaft and engage the gear-wheels M at the ends of the windlass, so that the motion of the driving-shaft will be communicated directly to the windlass in the operation of the machine, as will be readily understood.

The pinions L are mounted loosely on the driving-shaft and are provided at one side with the ratchet-teeth N, which are adapted to engage the ratchet-teeth O on the side of the half-clutch T, secured rigidly on the driv-

ing-shaft. When the ratchet-teeth N O engage, the pinions L will be connected with the driving-shaft, and consequently the motion of the driving-shaft will be communicated to the windlass. When the ratchet-teeth N O, however, are disengaged, the pinions will not be rotated, but the driving-shaft will rotate loosely therein. At their inner ends the pinions are provided with annular grooves Q, which are engaged by forks R, projecting upward from slides S, mounted on the upper side of the front cross-bar E. These slides S move in the longitudinal guides T' on the upper side of the cross-bar E, and are held normally projected toward the end of the cross-bar by the springs U, coiled around the slides and bearing against shoulders at the outer ends of the same, and cross-bars V at the inner ends of the guide. The inner ends of the slides are connected by links W with a lever X, which is pivotally mounted on the upper side of the cross-bar E, and the links are connected to the said lever on opposite sides of its pivot, so that the slides will be moved simultaneously toward or away from each other as the lever is operated. On the upper side of this lever I provide a latch Y, which is pivoted between its ends to the lug Z on the upper side of the lever, and has its inner end adapted to engage a notch *a* in the upper edge of a plate *b*, projecting from the inner edge of the cross-bar E. The outer end of this latch is held normally raised by a spring *c*, bearing between the lever and the latch, and its inner end is held against lateral movement by a slotted post *d* at the inner end of the lever.

In the under side of the cap C, at about the center of the same, I secure a hook *e*, on which is suspended the pulley-block *f*, and below this pulley-block *f*, I arrange the second pulley-block *g*, which carries the hook *h*, to engage suitable chains secured around the stump. The cable *i* is secured to and wrapped around the windlass and passes from the same to the upper pulley-block *f*, and is passed around the pulleys in the said pulley-block and the pulley-block *g*, as shown, and as will be readily understood, so as to apply great power to the stump when the machine is operated. In order to prevent retrograde movement of

the parts, I provide on one of the half-clutches T a ratchet-wheel *j*, which is engaged by a pawl *k*, pivoted on the cross-bar E.

The construction and arrangement of the parts of my machine being thus made known the operation and advantages of the same will, it is thought, be readily understood. When it is desired to extract a stump, the machine is drawn to a position over the stump. Stout chains (not shown) are then wrapped around the stump and under the roots and engaged over the hook *h*, after which the driving-shaft is rotated so as to wind the cable *i* on the windlass. As the cable is wound on the windlass the lower pulley-block will be raised and the stump thereby elevated and drawn from the ground. Should the operators lose their grasp on the operating-handles the pawl *k* will effectually prevent any backward movement of the driving-shaft, and consequently prevent the slipping of the cable, as will be readily understood.

When the stump has been withdrawn from the ground, the lever X is swung on its pivot, so as to pull on the slides and thereby disengage the pinions from the half-clutches, so that the windlass can be rotated to unwind the cable and consequently lower the pulley-block *g*. When the lever X has been turned so as to disengage the pinions from the half-clutches, the inner end of the latch Y will engage the notch *a*, and thereby hold the levers so that the springs U cannot throw the pinions into engagement with the half-clutches.

From the foregoing description it will be seen that I have provided a very strong and durable stump-extractor, by means of which a large power can be applied to the stump by the expenditure of a very slight force, so that very large and heavy stumps can be easily and rapidly extracted. By the arrangement shown and described for shifting the pinions on the driving-shaft the machine can be quickly thrown into and out of gear, so that it can be set up for operation in a very short time.

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

1. The combination of the supporting-frame, the driving-shaft mounted thereon, the half-clutches secured rigidly on the driving-shaft, the windlass mounted on the supporting-frame above the driving-shaft and provided with gear-wheels at its ends, the pinions loosely mounted on the driving-shaft meshing with the gear-wheels and adapted to engage the half-clutches, the horizontally-moving slides mounted on the supporting-frame and having vertical forks engaging said pinions, and means for operating said slides, as set forth.

2. The combination of the supporting-frame, the windlass mounted thereon and provided with gear-wheels at its ends, the driving-shaft mounted on the supporting-frame below the windlass, the half-clutches secured rigidly on the driving-shaft, the pinions mounted loosely on the said shaft engaging the gear-wheels on the windlass and adapted to engage the half-clutches, the guides mounted on the supporting-frame below the driving-shaft, the slides moving in said guides and carrying forks engaging the loose pinions, the springs arranged around the slides and adapted to project them outward, and a lever connected to the slides and adapted to throw them inward, as set forth.

3. The combination of the supporting-frame, the windlass mounted thereon and provided with gear-wheels at its ends, the half-clutches secured rigidly on the driving-shaft, the pinions mounted loosely on the said shaft meshing with the gear-wheels and adapted to engage the half-clutches, the slides mounted on the supporting-frames and carrying forks engaging the loose pinions, the plate *b*, having the notch *a*, the lever connected with the slide, the latch pivoted on the lever and adapted to engage the notch *a*, and the springs for forcing the slides apart, as set forth.

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

JACOB H. TERRY.

Witnesses:

L. P. NIXON,
WILLIAM H. TURNER.