

(No Model.)

2 Sheets—Sheet 1.

A. C. FRENCH.
STUMP PULLER.

No. 488,001.

Patented Dec. 13, 1892.

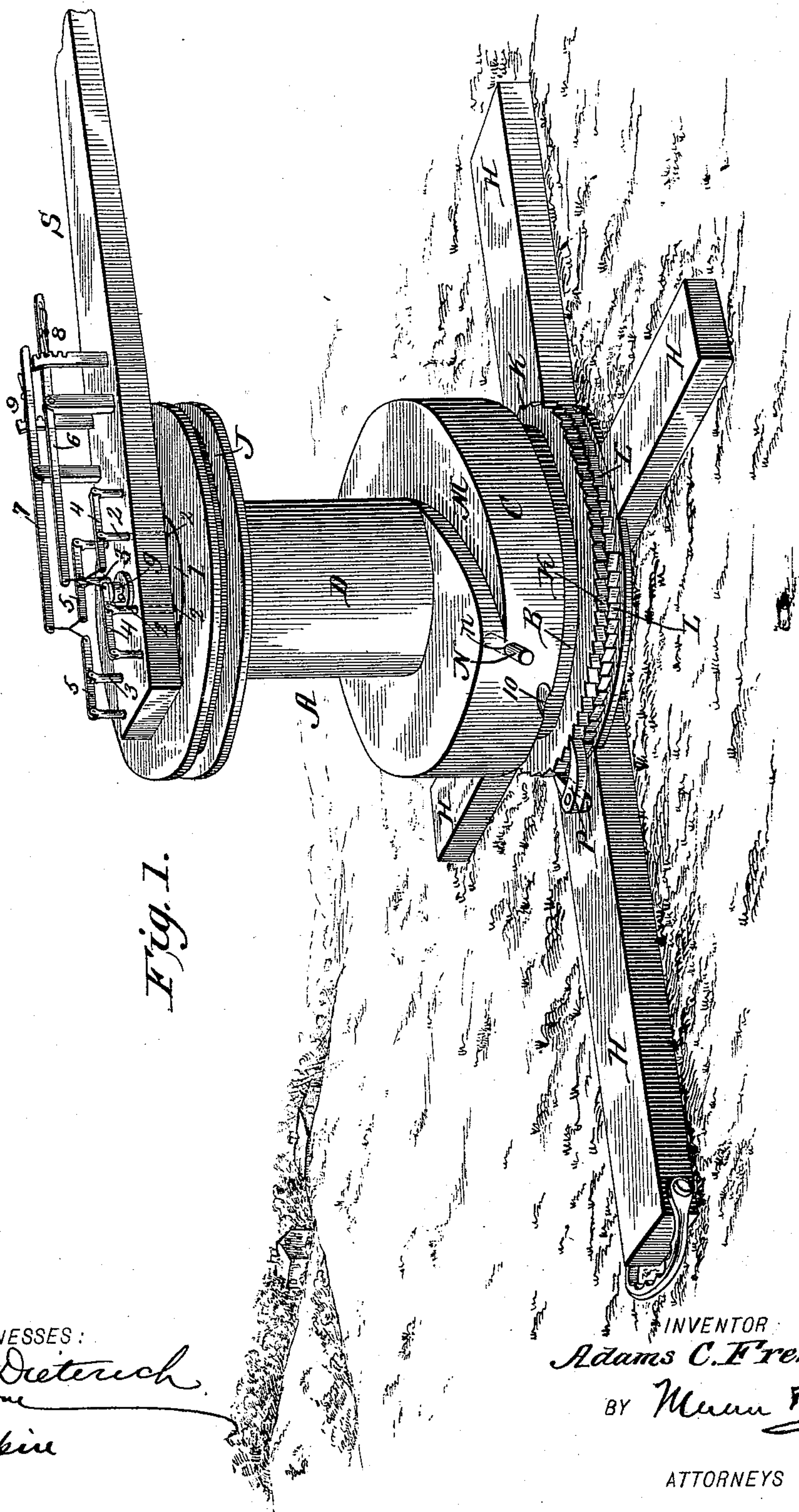


Fig. 1.

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INVENTOR

Adams C. French

BY *Marion G.*

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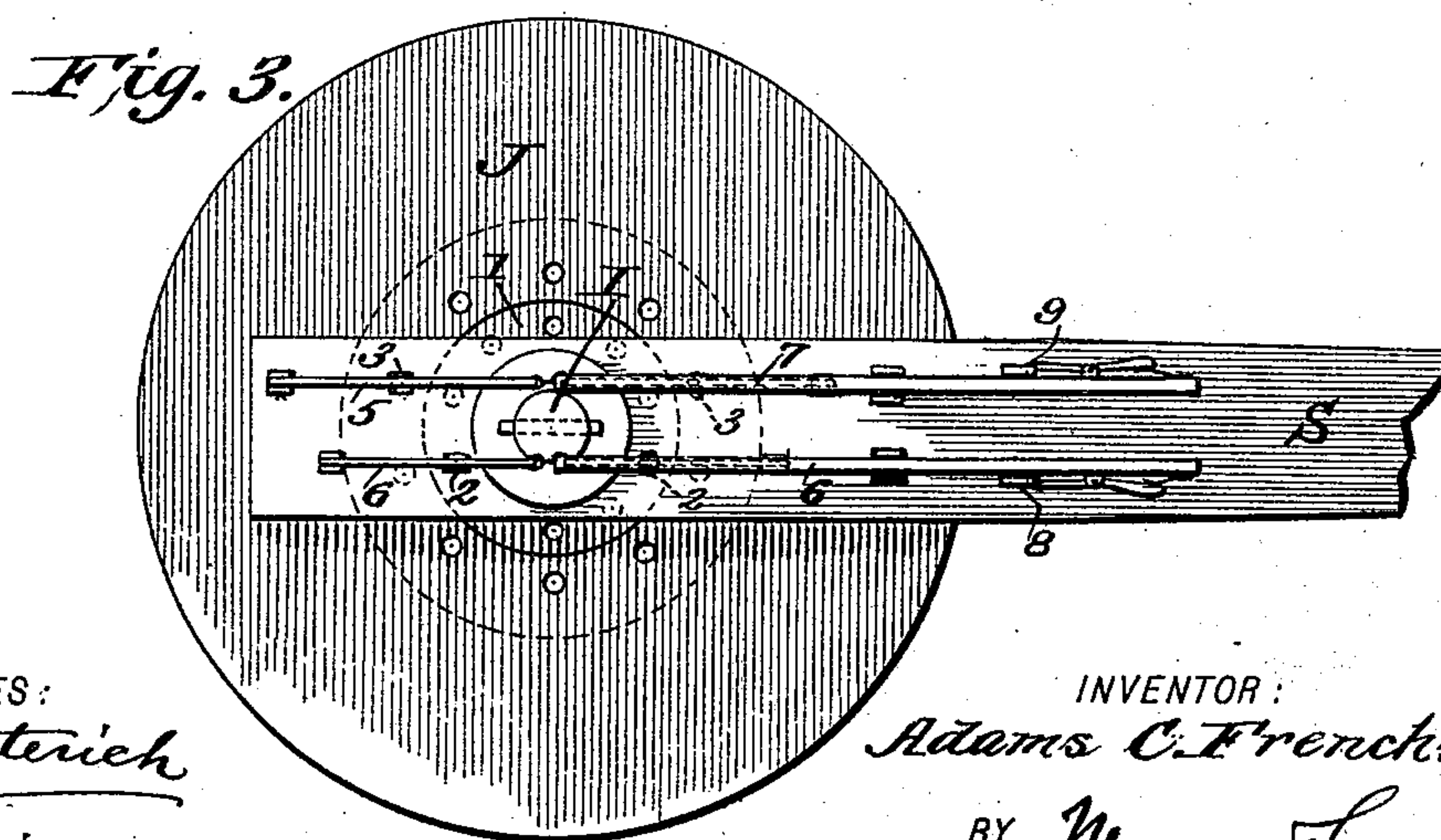
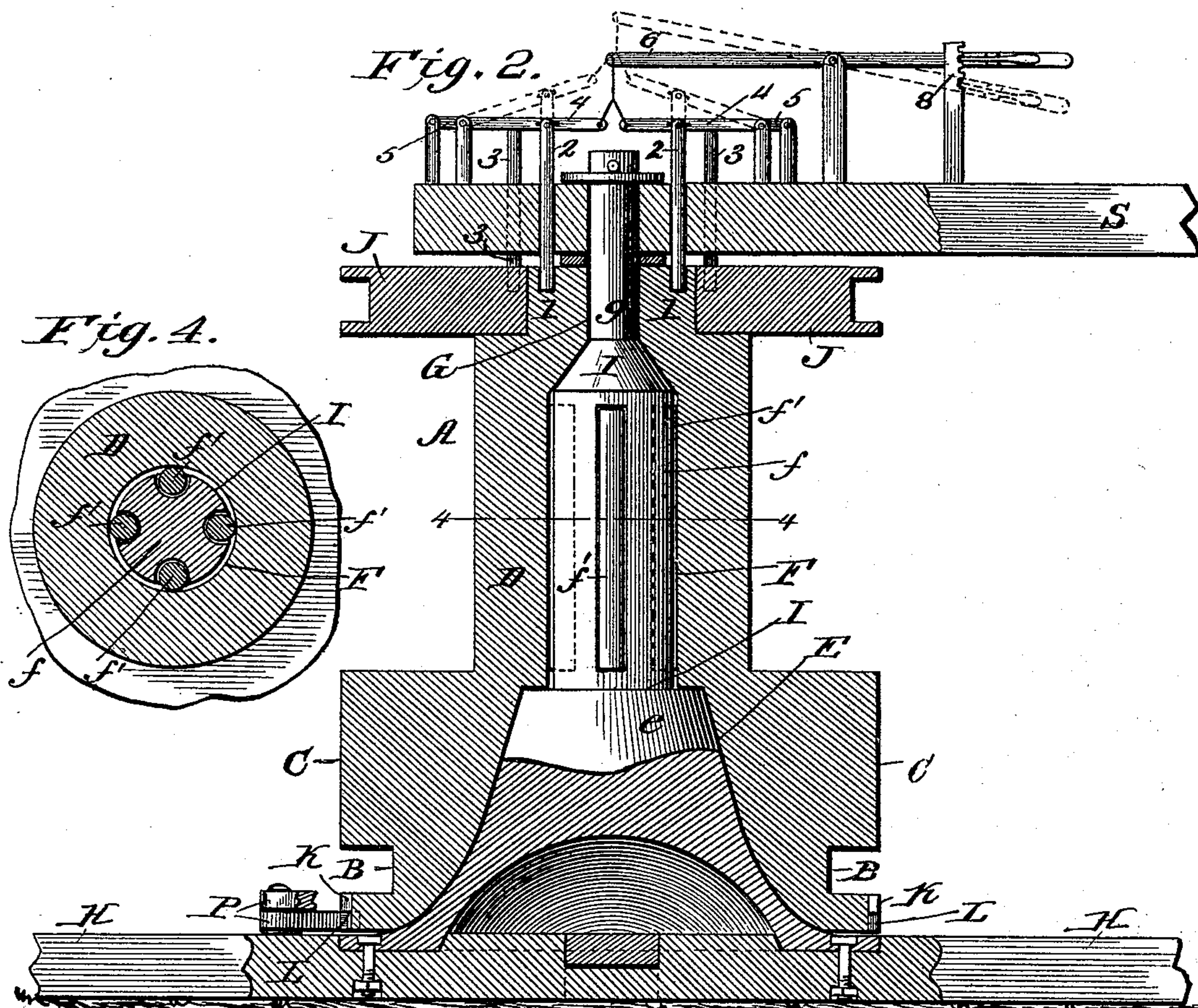
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INVENTOR:
Adams C. French.
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UNITED STATES PATENT OFFICE.

ADAMS C. FRENCH, OF RAPID CITY, SOUTH DAKOTA.

STUMP-PULLER.

SPECIFICATION forming part of Letters Patent No. 488,001, dated December 13, 1892.

Application filed January 9, 1892. Renewed November 9, 1892. Serial No. 451,428. (No model.)

To all whom it may concern:

Be it known that I, ADAMS C. FRENCH, residing at Rapid City, Pennington county, in the State of South Dakota, have invented a new and useful Improvement in Stump-Pullers, of which the following is a specification.

This invention is an improvement in stump-pullers; and it consists in certain novel construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my improved stump-puller. Fig. 2 is a vertical section thereof. Fig. 3 is a top plan view, and Fig. 4 is a detail view.

In the construction shown the drum A, which may be of iron, steel, wood, or other suitable material, or of such materials combined, is formed with the three sections B, C, and D, which may, for convenience of reference, be termed the "receiving section," the "large section," and the "small section," which parts will be more fully described. Centrally the drum A has a bore or opening formed entirely through it, such bore being larger at the bottom than the top, and formed to provide the conical lower portion E, the large cylindrical portion F, and the small cylindrical portion G, the latter extending from the top of portion F out of the top of the drum.

The frame includes a base H, which may in practice be either anchored to a stump or to the ground, or, if desired, the frame may be sunk in the ground and suitably anchored by stakes or in other suitable manner. On this base is mounted what may be called the "shaft" I, which is upright and is formed with the conical portion *e* and cylindrical portions *f g*, such portions *e*, *f*, and *g* corresponding to and fitting the portions E, F, and G of the bore of the drum, the portion *g* of the shaft being extended above the drum A to support the second drum J, which is journaled at the upper end of the small portion of the drum, and may be keyed to the sweep or lever at will. The main drum may also be keyed to the lever, the main and second drums being keyed to the lever by similar levers and pins, as shown, so that either the main or the second drum may be keyed to the sweep independently of the other. In the specific construction of said

parts shown the upper end of the main drum is formed with a tenon-like portion 1, on which the second drum J is journaled and the pins 2 and 3 for keying the main and second drums are arranged in pairs, each pair being supported on levers 4 and 5, pivoted on the sweep S and connected with operating-levers 6 and 7, which are arranged to engage racks 8 and 9, whereby they may be held in any suitable adjustment.

To relieve friction on the large cylindrical part *f* of the shaft, it is preferred to provide rollers *f'*, supported as shown; but while these rollers are preferred it is manifest they might be omitted without departing from some of the principles of my invention. This construction of upright shaft and the journaling of the drums thereon avoids the necessity of outside framing and permits the cable to be run off from the drum in any desired direction, and also permits the change of direction of the cable at any desired time without altering the position of the frame.

The supplemental or second drum or spool will be found useful in connection with a small cable to pull large pulley-blocks to their desired positions, for pulling the heavy cables out to position, and for other purposes where a light quick pull is desired.

At its lower end the drum A has ratchet-rings K and L facing in opposite directions and arranged for engagement by suitable pawls P, so that the drum may be held in position in either direction of turning. When it is intended to turn the drum in one direction only, one ratchet and pawl will be all that is necessary. The receiving portion B of the drum is arranged at one end thereof and is formed and adapted to receive considerable cable, so that the desired length may be wound off and used. Adjacent to the receiving portion is the large portion C, to which an incline 10 leads from the receiving portion B, so that when the desired amount of cable is paid out it may be adjusted onto the large portion C to permit the initial pulling to be done by said large portion and avoid the friction of the cable in pulling upon the collected cable, which may be of ordinary construction and is not shown on the receiving portion. The cable winds on the large portion of the drum during the first portion of the pull,

when a fast pull is more desirable than an extra strong one. Then when great power is desired the cable is run off the large portion of the drum onto the small portion, a guide-incline M being provided, leading from the large drum portion down to the small portion, so that the cable may be gradually directed to the small portion. To positively force the cable onto such incline or guide M, I prefer to provide a pin N, projecting outward from the large portion of the drum adjacent to the end of the incline or guide M and inclining downward, so that the cable impinging upon the inclined outer side of the pin or lever N will be forced onto the guide M and thence to the small portion of the drum. This pin N is preferably removable, being fitted at its inner end in a socket *n*, formed in the drum.

In pulling stumps with extra heavy cables the large portion of the drum will be found useful in pulling the slack out of the cable and in starting the tree, the small portion being used for the final heavy pull.

The drum forms an important feature of my improvement, and in addition to use in stump-pullers may be used with advantage in derricks and other hoisting-machines without departing from my invention.

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

1. In an apparatus, substantially as described, a drum composed of a receiving-section, a large section arranged next to said receiving-section and in position to receive the cable therefrom and provided with means whereby the cable may be directed thereon from the receiving-section, a small section arranged on the opposite side of the large section from the receiving-section and in position to receive the cable from said large section, and means by which to direct the cable from the large onto the small section, substantially as set forth.

2. In an apparatus, substantially as described, a drum formed with a large drum-section, a small drum-section, and an incline or guide leading from the large to the small section and provided with a pin projecting outward from the surface of the large section and adapted to direct the cable onto the incline or guide, substantially as set forth.

3. In an apparatus, substantially as de-

scribed, the combination of the necessary framing, the main drum, the second drum, said drums being movable independently, the drive-power, and devices whereby the main drum or the second drum may be keyed to said power, all substantially as and for the purposes set forth.

4. In an apparatus, substantially as described, the combination of the upright shaft, the main drum journaled on said shaft and provided at its upper end with a bearing for the second drum, the second drum journaled on said bearing, the sweep journaled on the shaft above the second drum, and the pins supported on the sweep and movable into engagement with the main and second drums, all substantially as and for the purposes set forth.

5. In an apparatus, substantially as described, the combination of the shaft provided with a conical base portion, a large cylindrical portion next thereto, and a small cylindrical portion extended from the large portion, and the drum having a central bore fitting the said shaft and formed exteriorly with a plurality of sections, all substantially as and for the purposes set forth.

6. In an apparatus, substantially as described, the combination of the shaft having a conical base portion and a large cylindrical portion, the rollers journaled in said cylindrical portion, and the drum journaled on the shaft and having conical and cylindrical portions corresponding thereto, all substantially as and for the purposes set forth.

7. The improved apparatus, substantially as described, consisting of the frame having a base and a shaft mounted upright thereon, such shaft being formed with conical large cylindrical and small cylindrical portions, the main drum having its bore conformed to such shaft and provided at its upper end with a tenon-like portion, the second drum journaled on the said tenon-like portion, the sweep journaled on the upright shaft above the second drum, and the pins supported on the sweep and movable into and out of engagement with the main drum or the second drum, all substantially as and for the purposes set forth.

ADAMS C. FRENCH.

Witnesses:

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H. J. ROBINSON.