(No Model.)

R. R. TICHENOR & P. WALKER.

STUMP PULLER.

No. 383,198. Patented May 22, 1888.

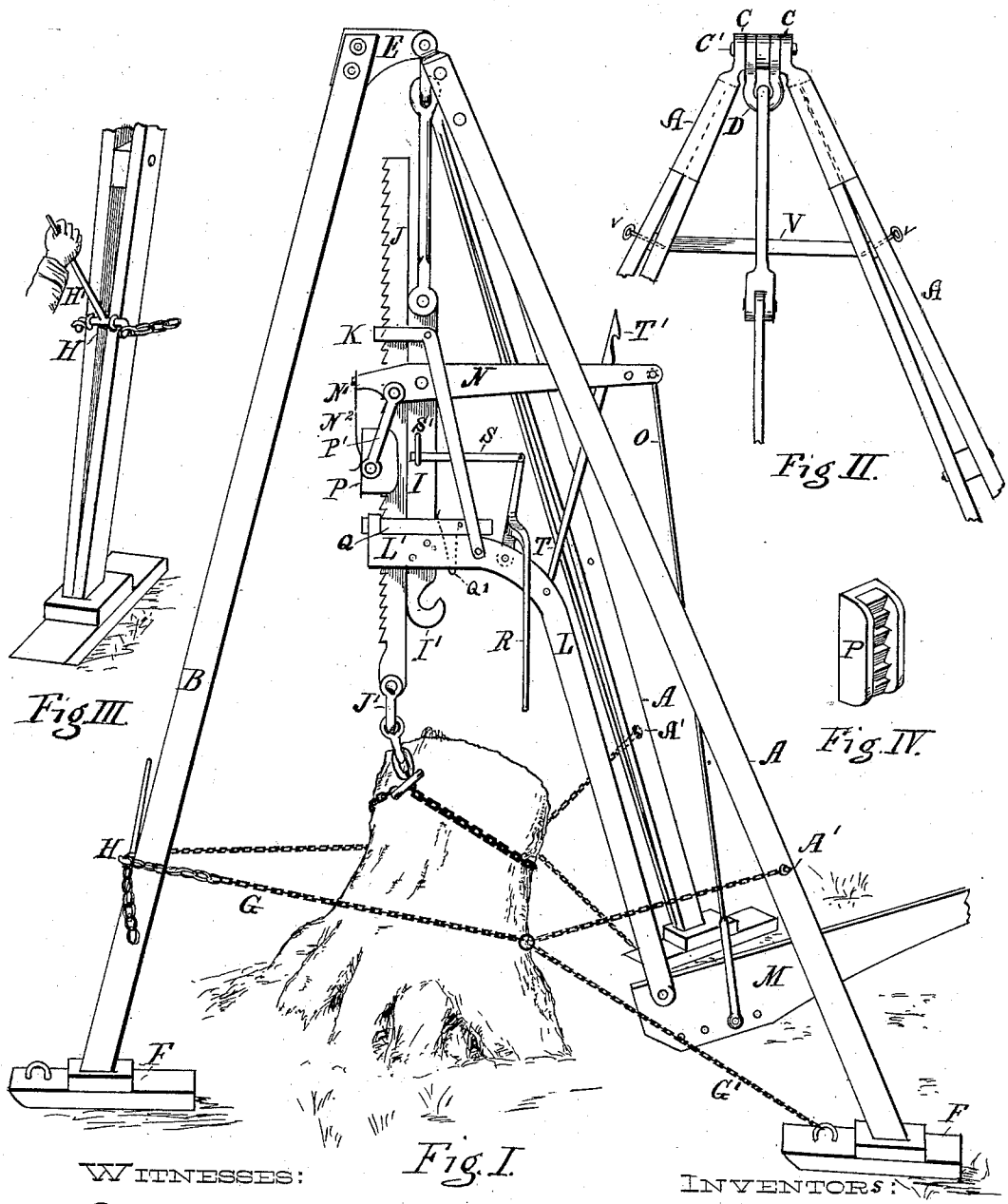


Fig. I.

Fig. III.

Fig. II.

Fig. IV.

WITNESSES:

Robert Kirk.

Robt. S. Millar.

INVENTORS:

Robert R. Tichenor,
and
Philitus Walker.
By J. B. Barker
Attorney.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ROBERT R. TICHENOR AND PHILETUS WALKER, OF HENNING, MINNESOTA.

STUMP-PULLER.

SPECIFICATION forming part of Letters Patent No. 383,198, dated May 22, 1888.

Application filed July 25, 1887. Serial No. 245,205. (No model.)

To all whom it may concern:

Be it known that we, ROBERT R. TICHENOR and PHILETUS WALKER, of Henning, in the county of Otter Tail and State of Minnesota, have invented a new and useful Improvement in Stump-Pullers, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure I is a perspective view of our improved stump-puller. Fig. II is a view of the top or upper end of the tripod with some slight changes in structure. Fig. III is a perspective view of the lever for binding together the legs of the tripod, and Fig. IV a view of the sliding pawl.

This invention is an improvement of the various parts of Letters Patent No. 357,347, issued to us February 8, 1887; and it consists of compound levers arranged to operate a notched pawl engaging a sliding bar suspended from the tripod supporting the entire machine.

The tripod supporting our mechanism consists of the main bars or legs A A on one side and the bar or leg B on the other side. These are united at the top by means of eyes C C through the top of the main bars A A, adapted to receive a bolt, C'. A clevis, D, is also suspended from this bolt, on which the pulling mechanism hangs. The bar B has at its upper end a bracket, E, which extends over the bars A A and rests between the limbs of the clevis D. The bolt C' passes through this bracket, and in this manner the tripod is held together so that the lower end of the leg B may be moved to or from the other bars on the pivot thus formed. The bars are each provided at their bases with shoes F, to prevent them from being forced into the ground, and near the lower ends of these bars A A are pins A' A', to which are attached the ends of chains G, which chains extend over to the bar B, where they are secured to the hooks H. Branch chains G' are attached to the chains G at any suitable point and extend thence down to the shoes F. These hooks are formed on the opposite ends of a short shaft which is journaled to the bar, the hooks being bent and projected past the sides of the bar, as shown fully in Fig. III. An arm or lever, H', integral therewith serves to hold the chain G and to release the same while under strain without slacking up the strain on the machine.

Attached to the clevis is a bar or plate, I, provided on its lower end with a hook, I', to which one end of a chain may be attached. On one side of this bar I is a sliding rack-bar, J, held to the bar I by means of a keeper, K, near the upper end of the bar I. The lower end of the rack-bar slides between the wings L' of the bracket L. This bracket extends out horizontally from the bars I J, and thence downwardly, terminating at a point near the ground. To this lower end is hinged a lever, M. A lever, N, is hinged to the bar I at any suitable point, and the outer end of this lever and the lever M are connected by means of a rod, O. The lever N has an extension, N', beyond its pivotal point, which extends past the rack-bar J, and a spring, N^2, attached to this end projects downwardly and rests against a pawl, P, that is suspended from the lever N by means of the link P'. The teeth of the rack-bar incline downwardly, so that when the pawl P is moved upwardly the rack-bar J is drawn up; but when the pawl moves down it will slide over the downwardly-inclined pawls without affecting the rack-bar.

Below the lever N and resting on the horizontal limbs of the bracket L is a sliding pawl, Q, the forward end of which is adapted to engage with the teeth of the rack-bar J. The rear projecting end of this pawl has a spring, Q', the opposite end of which rests against the bar I, the object of this spring being to cause this pawl to engage with the teeth of the rack-bar J. Hinged to the bracket L near the rear end of the pawl Q is a lever, R, the handle of which projects down below the bracket L, and the limb of this lever above its pivotal point passes up at the rear end of the pawl Q and terminates a short distance above the pawl. To this upper end is hinged a horizontal bar or arm, S, the free end of which passes through a keeper, S', in the side of the bar I in such a position that the forward end of the bar S will come in contact with the pawl Q.

When the chain or grapple which is secured to the stump is attached to the clevis J' on the lower end of the rack-bar, the lever M is employed to raise the rack-bar J through the medium of the rod O and lever N. When the lever M has reached its lowest limit and is being returned or elevated to enable the pawl P to secure a new hold, the spring Q' causes the

pawl Q to engage with, the rack-bar J and hold it in position. When, however, it is desired to release both the pawls, the lower end of the lever R is moved outwardly, which causes the upper limb of the lever to disengage the pawl Q from the teeth of the rack-bar, and also forces the limb or bar S to engage with the pawl Q and release it from the teeth of the bar.

A catch-bar, T, hinged at its lower end to the bracket L, has one or more hooks, T′, at its upper end, which engage with the outer end of the lever N to prevent it from being raised beyond a limited point.

In Fig. II is shown a bar, V, near the top of the legs A and made usually of iron, its ends bent and secured to legs by means of the pins or screws *v*. This bar constitutes a stay or brace and adds in a considerable degree to the strength of the device.

What we claim as new is—

1. In a stump-puller, the combination of a support, a rack-bar, J, and a sliding pawl, Q, for holding the rack-bar in place, with a notched pawl, P, engaging the rack-bar J, a lever, N, connected by a link, P′, with said pawl P and having a projecting end, N′, provided with a spring, N^2, which engages with the pawl P, a lever, N, connected with said link P′, and a hook-bar, O, for holding said lever in position, substantially as herein set forth.

2. In a stump-puller, the combination of a bar, I, supported by a tripod, a rack-bar, J, connected to said bar by suitable keepers, K, and a sliding pawl, Q, for holding the rack-bar in place, with a pawl, P, engaging the rack-bar, a lever, N, connected by a link, P′, to said pawl P and having an extension, N′, provided with a spring, N^2, which engages with the notched pawl P, a lever, M, connected with said lever N, and a hooked bar, I, for holding said lever M in any desired position, substantially as herein set forth.

3. In a stump-puller, a support, a rack-bar, J, a sliding pawl, Q, for holding the rack-bar J in place, and a notched pawl, P, engaging with the rack-bar J and supported by a link, P′, attached to a lever, N, having a projecting end, N′, provided with a spring, N^2, which engages with the notched pawl P, in combination with a hand-lever, R, having a hinged arm, S, for simultaneously throwing the notched pawl and sliding pawl out of engagement with the rack-bar, substantially as herein set forth.

4. In a stump-puller, the tripod for supporting the pulling mechanism, having suitable shoes, F, in combination with chains G near the bases of the supporting-bars, which pass from one bar to the other and from the shoes, with a hooked lever, H, on one of the bars for tightening the chains, substantially as herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands, this 29th day of April, 1887, in the presence of witnesses.

ROBERT R. TICHENOR.
PHILETUS WALKER.

Witnesses:
W. P. BAYLEY,
A. B. BARNEY.