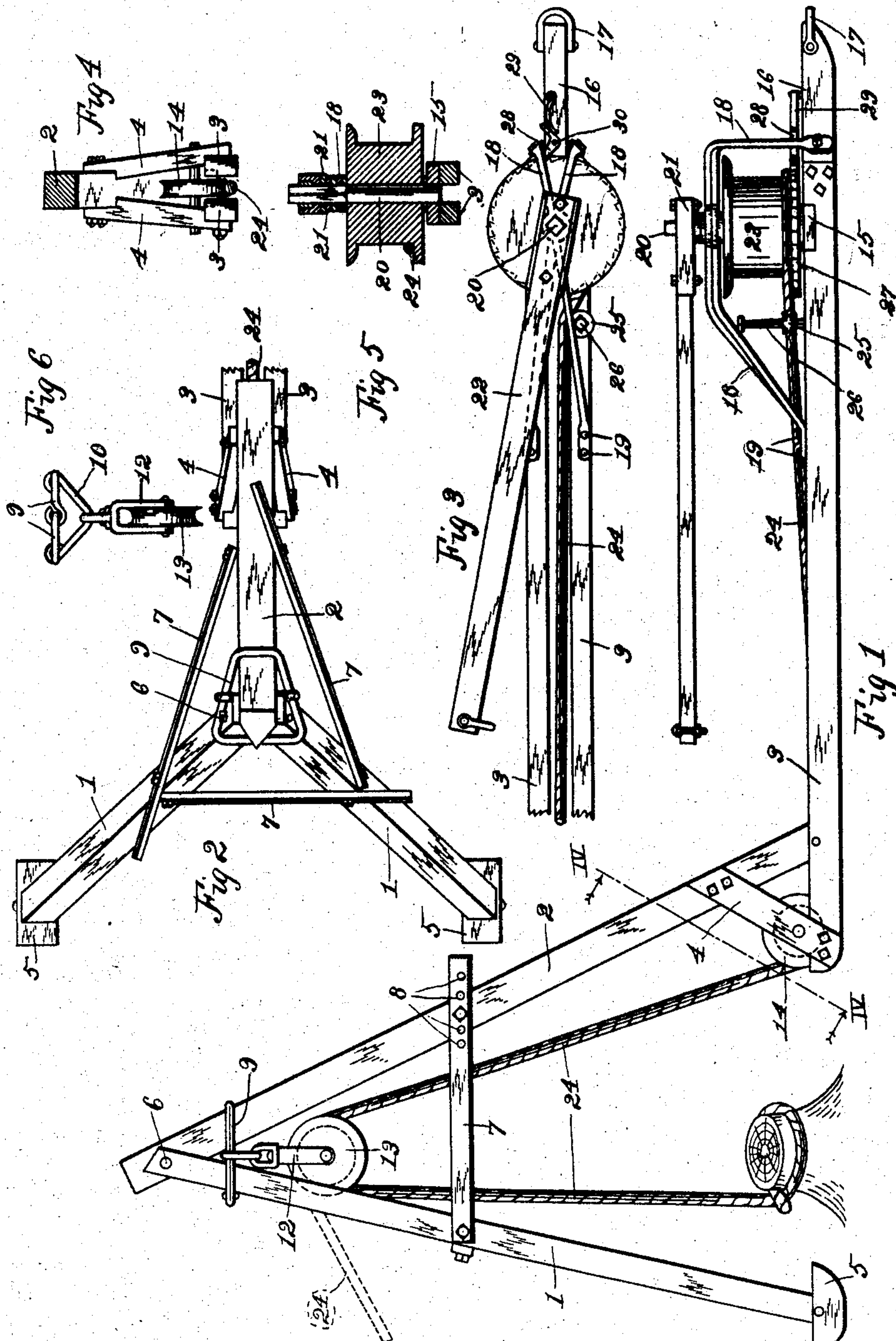


No. 772,994.

PATENTED OCT. 25, 1904.

F. A. WOOD.
STUMP PULLING MACHINE.
APPLICATION FILED APR. 12, 1904.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

FREDERICK A. WOOD, OF LAWRENCE, KANSAS.

STUMP-PULLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 772,994, dated October 25, 1904.

Application filed April 12, 1904. Serial No. 202,735. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. WOOD, a citizen of the United States, residing at Lawrence, in the county of Douglas and State of Kansas, have invented new and useful Improvements in Stump-Pulling Machines, of which the following is a specification.

My invention relates to that class of stump-pullers which are operated by animal-power; and the object of my invention is to produce a stump-puller of simple construction and effective operation which may also be used for lifting and drawing the stumps or any other substance or thing from a distance.

Referring now to the accompanying drawings, Figure 1 is a side elevation of a stump-puller constructed according to my invention, the rope being shown as tied around a stump, ready to extract the same. Fig. 2 is a plan view of the tripod portion of the machine, the runners or sills being broken away. Fig. 3 is a plan view of the remainder of the machine—i. e., the windlass and sweep. Fig. 4 is a detail section taken on line IV IV of Fig. 1. Fig. 5 is a central section of the windlass, cross-piece, and sills. Fig. 6 is a detail view of the sheave and its supports.

The frame of the machine consists of a tripod 1 1 2 and two runners or sills 3, the latter being bolted to the middle leg 2 and further secured thereto by braces 4. The lateral legs 1 are provided with runners or shoes 5, which may be rigidly secured, as shown, or may be fastened like casters to permit their turning. The upper ends of the tripod-legs are secured together with a bolt 6. Connecting the legs are three bracing-bars 7. (Clearly shown in Fig. 2.) Each of these bars is permanently secured to one of the legs and is adjustably secured to another leg to permit different adjustments of the legs. For this purpose each bar is provided with bolt-holes 8, as shown in Fig. 1.

Mounted on the tripod near its top is a trapezoidal-shaped ring 9, from which is suspended a bail 10. A clevis or jaw 12, having a sheave 13 therein, is hung from said bail.

A depression-pulley 14 is mounted between the rear ends of the runners 3. The runners near their forward ends are connected by a

cross-piece 15, Figs. 1 and 5, and a tongue 16 is bolted between them and provided with a clevis 17 for attachment of a swingle-tree-hook. Two braces 18 have their ends secured to the forward ends of the runners, extend upwardly, then rearwardly, crossing each other, then downwardly to meet the runners again, to which they are bolted at 19. At their crossing-point these braces are enlarged and provided with a circular hole or journal-bearing, through which extends a vertical shaft 20. The lower end of this shaft is journaled in the cross-bar 15.

21 represents two rings or washers on shaft 20 above braces 18. The upper end of said shaft is squared, as shown, and a sweep or horse-power lever 22 is fixed thereon in any suitable manner and is provided with a suitable device for connection of a swingle-tree. (Not shown.)

Fixed upon shaft 20 is a windlass 23, to which is attached a rope or cable 24, which passes between the runners or sills 3, under pulley 14, and over the sheave 13. Its opposite end is tied into a slip-knot or equivalent device adapted to be tightly fastened around a stump.

To guide the cable between the sills 3 as it approaches the windlass, I employ a roller 25, made to slide vertically on a stub-shaft or bolt 26, which is driven or screwed into one of the sills. The roller follows the cable in the up-and-down movement of the latter. The cable being attached to a stump and a horse or other animal being hitched to the sweep 22, the animal, walking in a circle, turns the windlass, winding the rope thereon and extracting the stump from the earth.

As shown in Figs. 1 and 3, the lower head of the windlass or drum 23 is provided with ratchet-teeth 27, and a pawl 28, pressed thereon by a spring 29, is mounted on the tongue 16 by means of a bolt or pin 30. Thus the sheave is allowed to rotate in its proper direction, but is prevented by the pawl from being rotated by the tension on the cable. The pawl 28 is not necessarily mounted on the tongue, as it may be attached to one of the runners 3.

This machine may also be employed for dragging stumps, logs, or other loads from a

distance. The cable in that case extends more on a plane from the sheave 13, as partly shown by dotted lines 24, Fig. 1. The machine may be anchored to the ground in this case by employing any of the well-known anchoring devices, or braces may be employed for that purpose.

Though I have thus described the preferred form of my invention, I do not wish to limit myself to the precise construction and arrangement of parts shown in the drawings.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a stump pulling or dragging machine, the adjustable tripod supporting a sheave, and the adjustable braces 7 secured to the legs of the tripod and having series of bolt-holes 8, substantially as described.
2. In a stump pulling or dragging machine, the runners 3, the cross-piece 15, the braces 18 forming upper bearings for a vertical shaft, a windlass fixed upon the shaft, the lower end of which is journaled in said cross-piece, and a sweep 22, substantially as described.

3. In a stump pulling or dragging machine, the tripod 1 1 2, the trapezoidal ring 9, the bail 10, and the sheave 13 supported thereby, substantially as described.

4. In a stump-pulling machine of the character described, the combination of a pair of runners, a tripod or upwardly-converging adjustable standards, one thereof rigid to the runners, the others mounted on shoes and adapted to trail after the runners, a bail carrying a sheave mounted at the top of the tripod, adjustable supports central thereof, a windlass, the lower head provided with a ratchet, a pawl adapted to engage said ratchet, a stub-shaft supporting a loose pulley mounted on one of the runners, a sheave supported at the rear end of the runners, a rope or cable adapted to wind around the windlass and be guided by said sheaves, substantially as described.

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

FREDERICK A. WOOD.

Witnesses:

ED F. HUTT,
B. A. SIMMONS.