J. M. PHILBROOK.

STUMP PULLER.

APPLICATION FILED NOV. 25, 1911.

1,050,749.

Patented Jan. 14, 1913.

2 SHEETS—SHEET 1.

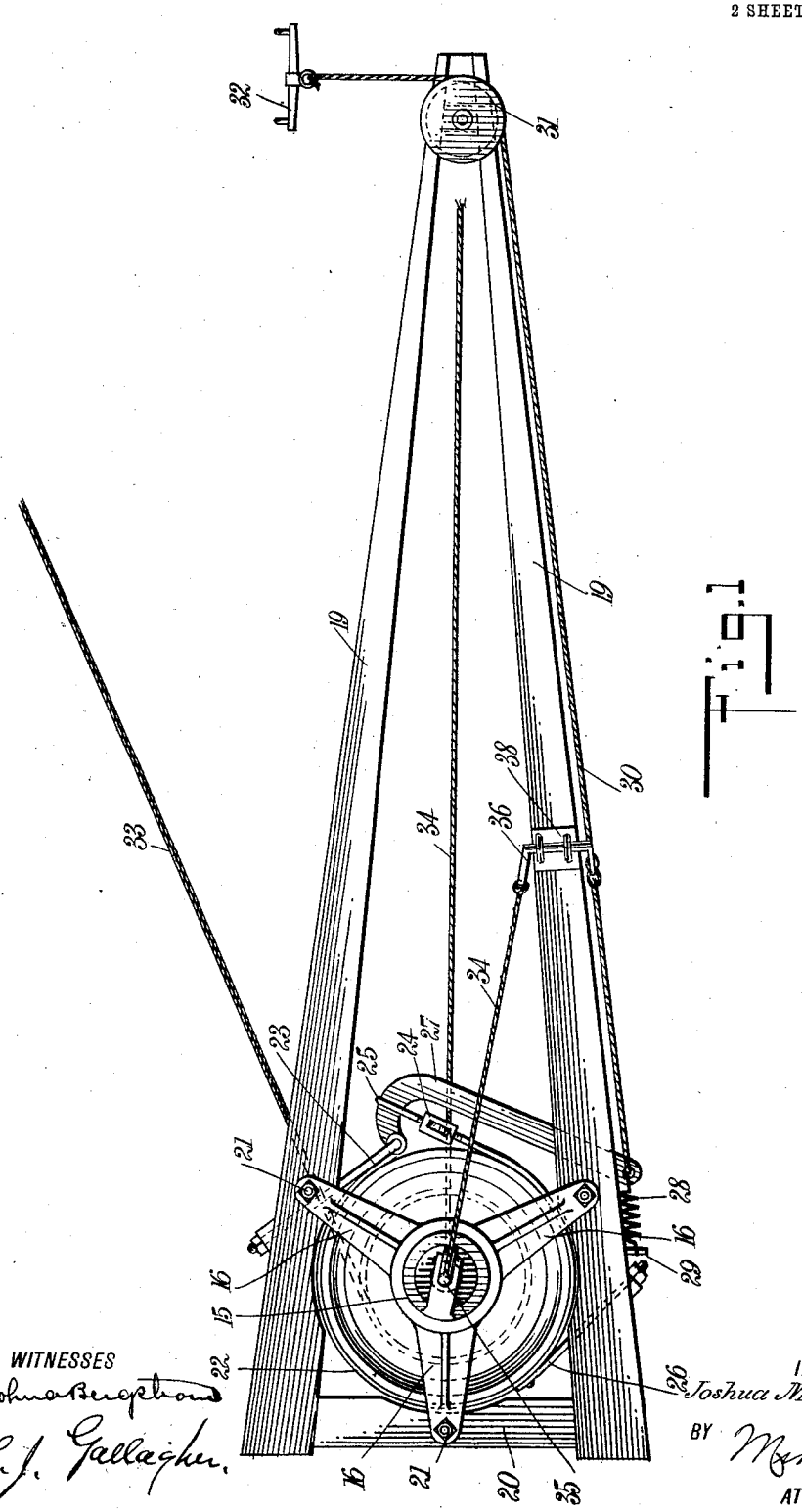

Fig. 1.

WITNESSES

John A. Berglund

L. J. Gallagher.

INVENTOR

Joshua M. Philbrook

BY Munn & Co

ATTORNEYS

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

J. M. PHILBROOK.

STUMP PULLER.

APPLICATION FILED NOV. 25, 1911.

1,050,749.

Patented Jan. 14, 1913.

2 SHEETS—SHEET 2.

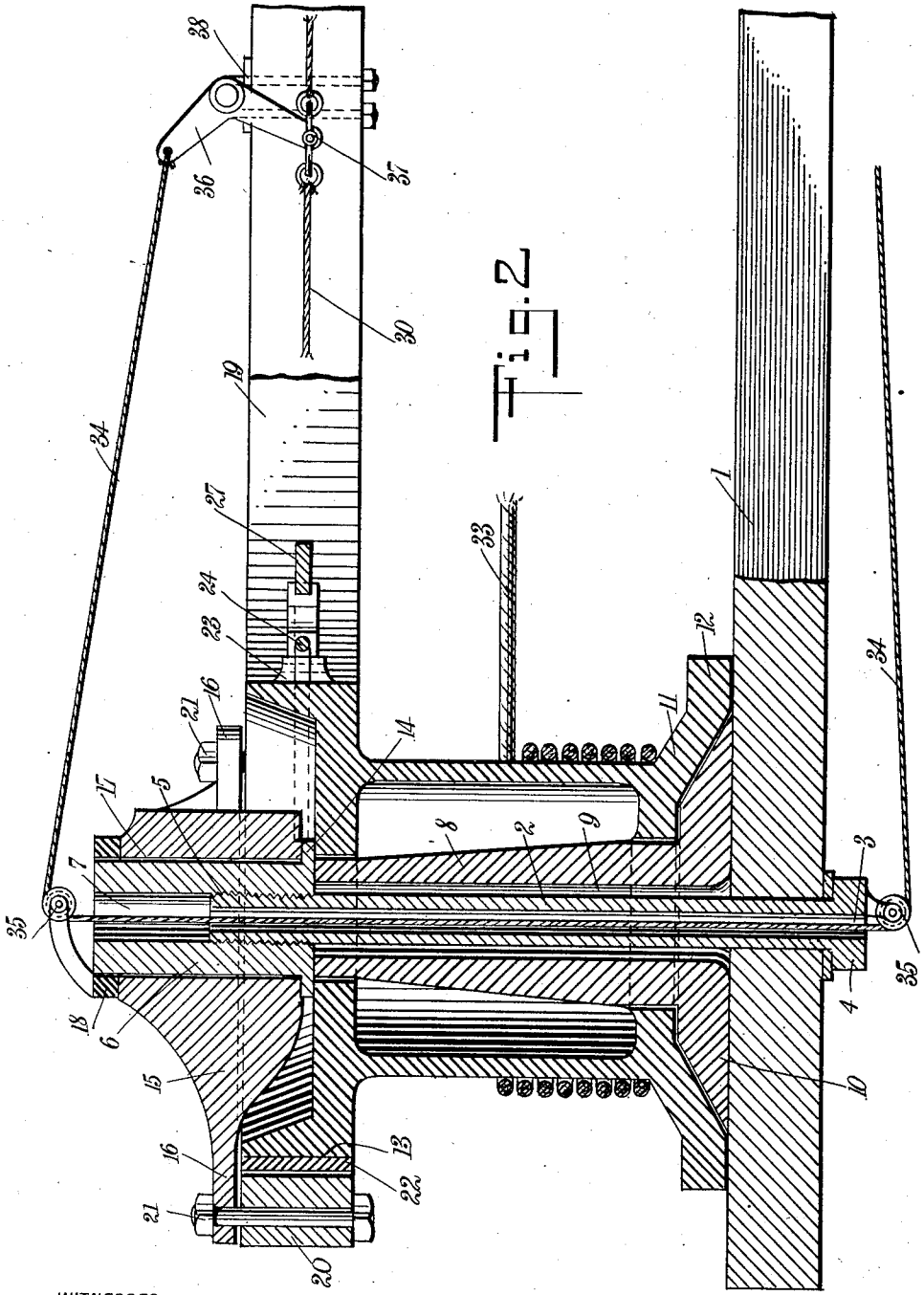

Fig. 2

WITNESSES

John A. Bergstrom

L. J. Gallagher.

INVENTOR

Joshua M. Philbrook

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSHUA MINOT PHILBROOK, OF BEACH, WASHINGTON.

STUMP-PULLER.

1,050,749. Specification of Letters Patent. Patented Jan. 14, 1913.

Application filed November 25, 1911. Serial No. 662,345.

To all whom it may concern:

Be it known that I, JOSHUA M. PHILBROOK, a citizen of the United States, and a resident of Beach, in the county of Whatcom and State of Washington, have invented a new and Improved Stump-Puller, of which the following is a full, clear, and exact description.

My invention relates generally to stump pullers and more particularly is directed to an improved construction of such a device especially adapted to be operated by a draft animal, the construction and arrangement being such that the drum on which the rope is wound, used in pulling the stump, is adjustably connected to the sweep arms so that these arms and the drum are in turning relation with each other only when the sweep arms are moving.

A further object of the invention is to provide a new and improved stump puller made of few parts, the construction and arrangement being such that an outfit is provided capable of quick transportation and also adapted for efficient operation.

Other objects and advantages of the invention will appear as the description thereof proceeds, all of which is particularly pointed out and included in the appended claim.

Reference is to be had to the accompanying drawings forming a part of this specification in which similar characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a plan view of the device; Fig. 2 is a partial vertical sectional view thereof.

Extending upwardly from the bed or supporting timber 1 is a bolt 2 having an opening 3 extending therethrough, the lower end of the bolt being suitably headed at 4 whereby it may bear against the under side of the bed 1, the upper end of the bolt being threaded as at 5 and adapted to receive a suitable bushing 6 having a threaded opening 7 extending therethrough.

Surrounding the bolt 2 and resting on top of the bed 1 is a standard 8 having an opening 9 extending therethrough through which the bolt passes, the lower end of the standard being provided with an extended base 10, the upper end terminating adjacent the lower end of the before-mentioned bushing 6. Rotatably mounted on the standard 8 is a drum 11 having the lower flange 12 thereof in engagement with the bed 1, the upper portion of the drum being of circular formation and provided with a face 13 of substantial width; the drum is retained in position on the standard by reason of the engagement of the bushing 6 with the upper end of the bolt 2, it being noted that the lower end of the bushing is provided with a circular shoulder 14 which extends there-around, the lower side of this shoulder being in sliding engagement with the top portion of the drum.

Rotatably mounted on the bushing 6 is the sweep arm hanger 15 which is provided with a plurality of radially extending arms 16, the hanger being provided with a central opening 17 through which the bushing extends, the upper end of the bushing being provided with a collar, the purpose of which will be presently set forth.

Referring particularly to Fig. 1 it will be noted that the sweep arms 19 are convergent as they extend from the hanger 15 and are connected at one end by a cross piece 20, each of the radially extending arms 16 of the hanger being in engagement with the sweep arms 19 and the cross piece 20 by means of suitable bolts 21. Closely adjacent the upper portion of the drum 11 and adapted to engage frictionally with the face 13 thereon is a continuous band 22, one end of which is secured to a transversely extending bolt 23 or other suitable device extending through one of the sweep arms 19, the other end of the band being provided with a suitable turn-buckle 24 having a hooked end 25 rotatably secured thereto. The intermediate portion of the band is preferably attached to an offset securing bolt 26 or other suitable device carried by the other sweep arm 19; the first-mentioned end of the band is pivotally secured to the outer end of a lever 27 while the end of the band adjacent the turn-buckle also engages this lever a suitable distance from the said pivoted end, the lever extending through one of the sweep arms 19 and being in engagement with a helical spring 28 which has its other end secured to a suitable pin or equivalent device 29.

Referring particularly to Fig. 1 it is to be noted that the outer end of the lever 27 is in engagement with a suitable rope or chain 30 extending longitudinally of the sweep arm 19 passing around a pulley 31 at the outer end thereof and terminating in a suit-

able device for attaching an animal thereto, such as a swingletree or doubletree 32. A rope or cable 33 which is adapted to be attached to the stump to be pulled is in engagement with the drum 11; extending through the bore 3 in the bolt 2 is a third rope or cable 34 in engagement with suitable pulleys 35 located adjacent the top and bottom respectively of the bolt 2, the lower end of this rope or cable extending to any convenient point into the hands of the operator.

Referring particularly to Fig. 2 it will be noted that one side of one sweep arm is provided with a bell crank 36, the lower end of which is secured at 37 to the rope or cable 30, the arm of this bell crank being secured to the rope or cable 34, the bell crank being secured in a suitable bearing 38.

The operation of my device is as follows. Having been set up in any convenient and desirable place, the rope or cable 33 is brought into engagement with the stump to be pulled, the rope or cable being wrapped around the drum 11; the animal used in the operation of the parts is then hitched to the swingletree 32, the parts then being in the position shown in Fig. 1. As the animal travels around in a circle, the tension on the rope 30 draws the outer end of the lever 27 thereby bringing the ends of the band 22 together and insuring turning of the drum as the sweep arms 19 are moved; as long as the animal is exerting a pull on the rope 30 the band which is carried by the sweep arm is brought into close frictional engagement with the face 13 of the drum, thereby turning the same. If it is desired to rest the animal and at the same time prevent relative movement of the sweep arms and the drum, the rope or cable 34 may be drawn tight by any suitable means, thereby moving the bell crank 36 and exerting tension on the end of the lever 27, the portion of the rope or cable 30 between the point of attachment 37 on the bell crank 36 and the swingletree 32 hanging loose. Should any unforeseen happening occur after considerable tension has been placed on the rope or cable 33 attached to the stump so that the tension on this rope would tend to turn the drum in an opposite direction, the sweep arms 19 will be prevented from turning in such direction to the injury of the animal or anybody working around the device since the release of tension on the rope 30 permits the ends of the band 22 to come out of frictional engagement with the face 13 of the drum, thereby permitting it to move relatively to the sweep arms; this movement of the lever 27 is brought about through the action of the spring 28, the tension of the spring keeping the outer end of this lever toward the rear end of the sweep arms.

The material of which the different parts may be made will depend upon the forces acting, greater forces being required in lifting larger stumps, modifications in the design and workmanship embodying such changes being included within the spirit of the appended claim.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:—

The combination of a drum, means for supporting it, a rope adapted to be wound on the drum, sweep arms adjacent the drum, means for rotatably mounting them in position, a friction band carried by the arms adjacent the drum, a lever carried by the arms engaging the ends of the band, a spring for maintaining the lever in one position, with the band out of engagement with the drum, a cable carried by the arms, one end of which engages one end of the lever, whereby, when force is applied to the end of the cable in order to move the arms, the lever will bring the band into engagement with the drum, whereby it turns with the arms, a bell crank lever engaging the said rope at an intermediate point, turning of the bell crank bringing the band into frictional engagement with the drum when the arms are stationary.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSHUA MINOT PHILBROOK.

Witnesses:

GEO. H. BUMSTEAD,

WALTER B. SLADE.