C. A. LARSON & J. W. FORDICE.

STUMP PULLER AND LAND CLEARING MACHINE.

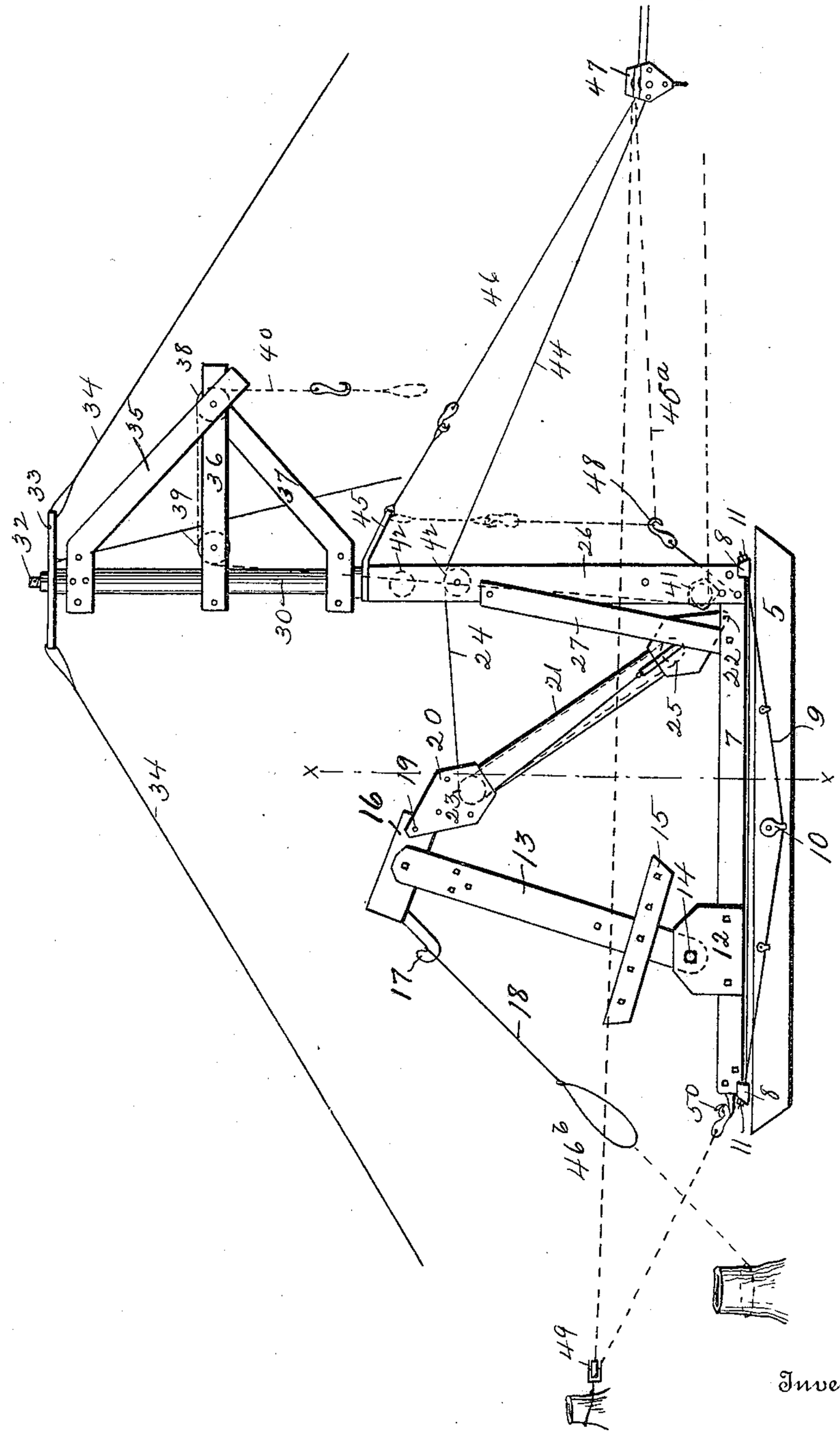
APPLICATION FILED NOV. 6, 1909.

993,258.

Patented May 23, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 3.

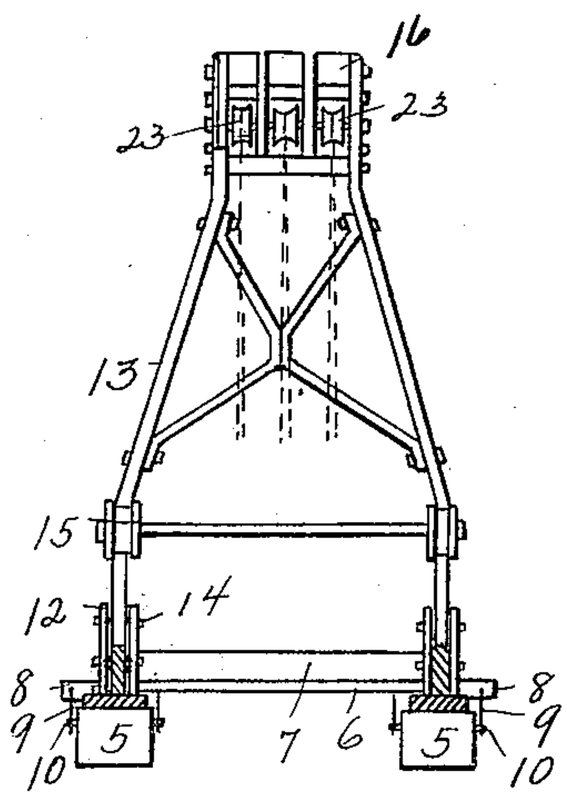
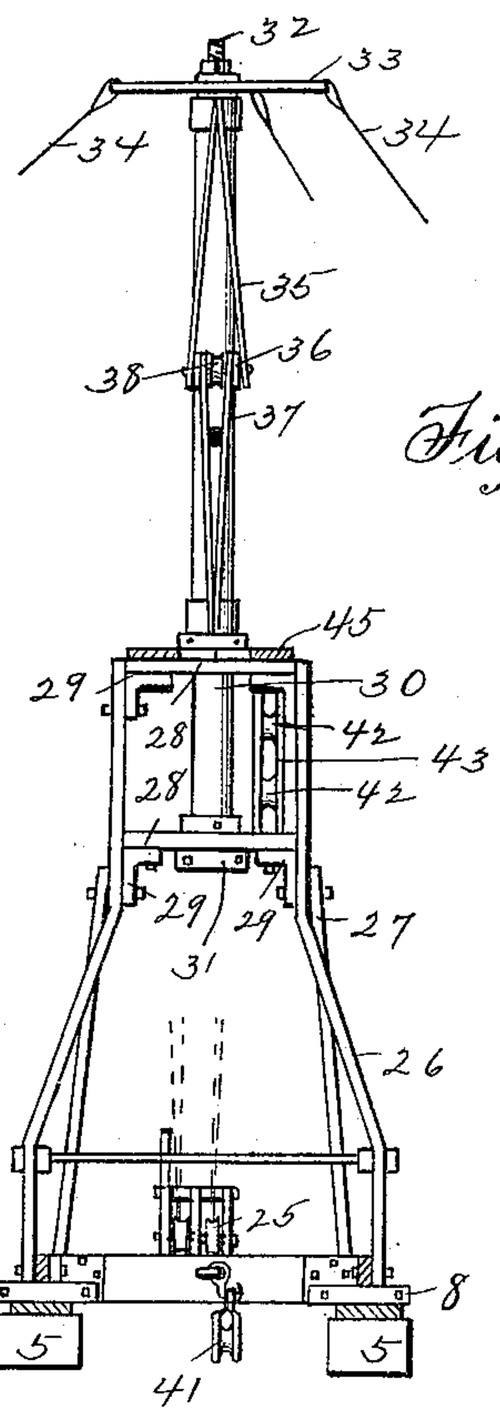


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES AUGUST LARSON AND JOSEPH WILSON FORDICE, OF GERTRUDE, WASHINGTON.

STUMP-PULLER AND LAND-CLEARING MACHINE.

993,258. Specification of Letters Patent. **Patented May 23, 1911.**

Application filed November 6, 1909. Serial No. 526,649.

To all whom it may concern:

Be it known that we, CHARLES AUGUST LARSON and JOSEPH WILSON FORDICE, citizens of the United States, residing at Gertrude, in the county of Pierce and State of Washington, have invented a new and useful Stump-Pulling and Land-Clearing Machine, of which the following is a specification.

This invention relates to stump extracting and land clearing machines, and has for its object the provision of a machine comprising a stump extractor operating in conjunction with a swinging crane, both the stump extractor and the crane being mounted upon a common frame, whereby the crane may be used to pile the stumps extracted by the stump extractor, or to pile logs when clearing land.

A further object of the invention is the provision of a machine that will require no anchoring with the exception of a single pull-back cable.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawings, Figure 1 is a side elevation of a machine constructed in accordance with the invention, Fig. 2 is an end elevation thereof, and, Fig. 3 is a partial vertical section upon line *x*—*x* of Fig. 1.

Like numerals designate corresponding parts in all of the figures of the drawings.

Referring to the drawings, the numerals 5 designate a pair of runners which are connected by transverse tie bars 6. A supporting frame 7 carries transverse end bars 8 and the ends of truss rods 9 pass through these transverse end bars 8 and through keepers 10. Nuts 11 threaded upon the ends of these truss rods serve to draw the frame 7 firmly down upon the runners 5.

Mounted in bracket plates 12 is a swinging frame 13, said frame being pivoted at 14 between said bracket plates. A stop bar 15 limits the throw of the frame 13 by contacting with the upper portion of the frame 7. A head block 16 carries a hook 17 which hook is adapted to have one end of a choke cable 18 connected thereto. The opposite end of the head block is pivotally connected at 19 to the head block 20 of a hoisting rope 21. The lower end of this swinging frame is pivotally connected at 22 with the frame 7. The head block 20 carries pulleys 23, and a cable 24 passes back and forth over these pulleys and over pulleys 25 mounted at the lower portion of the frame 21. An upright frame 26 located at the rear end of the frame 7 is supported by braces 27 and comprises transverse members 28. These transverse members are secured in position by angle blocks 29, so that the entire frame 26 is rigidly held together. Mounted in turn in the transverse members 28, is a vertical standard 30. Collars 31 prevent vertical movement of this standard, while permitting it to turn. A threaded stem 32 of this standard passes through a cap plate 33 to which guy wires 34 are secured to brace the machine and hold it in position when the crane is being used. A crane frame consisting of arms 35, 36, and 37, is secured to the standard 30 and carries pulleys 38 and 39 over which a load line 40 passes. This load line also passes over a pulley 41 located near the base of the frame 26. It is to be understood that the load line or pull-back cable 40 passes upwardly from the pulley 41 and through the standard 30, which is hollow, and thence over the pulleys 38 and 39.

Pulleys 42 are mounted in a narrow frame 43, said frame being supported upon the frame 26. These pulleys serve to guide and support the main power cable 44 which passes over the pulleys 23 and 25 to operate the stump extractor. It will be apparent that the downward thrust upon the lowermost pulley 42, when this cable is in action, tends to anchor the machine and hold it firmly in position.

An anchor arm 45 projects from the frame 26 and forms a point of attachment for a cable 46. This cable and the cable 44 pass through a pull block 47 fixed at some distance in the rear of the machine. This cable 46 is a pull back line which acts as an anchor to the machine. If desired, this cable 46 may be hooked into engagement with a hook 48 as illustrated in dotted lines at 46ª in Fig. 1. When thus hooked into engagement with the hook 48, it is apparent that a pull upon the cable 46 will result in moving the machine toward the right in Fig. 1.

Since it is never desired to use the crane and to move the machine at the same time, it is apparent that the cable 46 may be used in the place of the separate load line 40, by merely leading this cable over the pulleys

41, 39, and 38. In like manner this pull-back cable 46 may be passed through a block indicated at 49, some distance in advance of the machine, and then engaged with a hook 50 upon the other end of the machine, to move the machine to the left in Fig. 1. The cable in this position is designated 46[b].

While it is believed that the operation of the machine is apparent from the foregoing description, it may be briefly stated that by hooking the choker line 18 over a stump and drawing upon the cable 44 which is attached to a donkey engine or other source of power (not shown), the stump pulling mechanism is moved to draw the stump from the ground. It will be apparent that the cable 46 serves as a load line for the crane when it is passed over the cables 41, 39, and 38, or serves to draw the machine toward the right in Fig. 1 when it is engaged with the hook 48, or serves to prevent the machine from tipping over toward the stump when in its full line position, or serves to draw the machine toward the left when passed over the pulley 49 and engaged with the hook 50.

From the foregoing description, it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the invention is not limited to the precise construction set forth, but includes within its purview, such changes as may be made within the scope of the appended claim.

Having described our invention, what we claim is:

The combination with a pair of runners, of a bodily swinging stump puller mounted thereon, a load line for actuating said stump puller, a vertical standard mounted at one end of said runners, and toward which said stump puller swings when actuated, an anchor arm supported from the standard above the top of the stump puller, a cable connected to said anchor arm and a fixed hook member located at the base of the vertical standard, the hook formation of said member adapting it for ready engagement with or disengagement from said cable intermediate the ends of said cable, substantially as shown and described.

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