F. K. J. KIRSTEN.

STUMP PULLING PROCESS.

APPLICATION FILED DEC. 26, 1916.

1,250,897.

Patented Dec. 18, 1917.

2 SHEETS—SHEET 1.

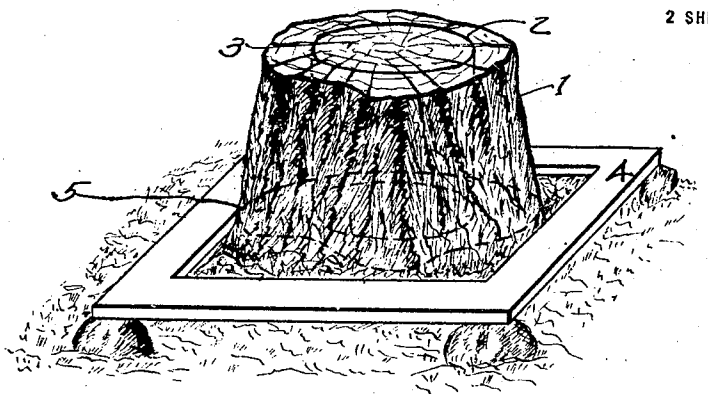


Fig. 1

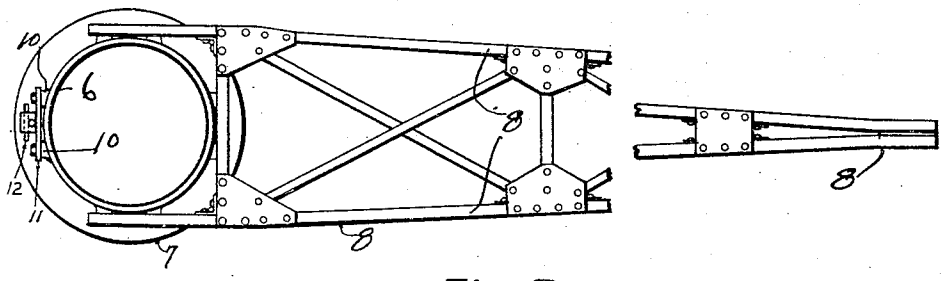


Fig. 2

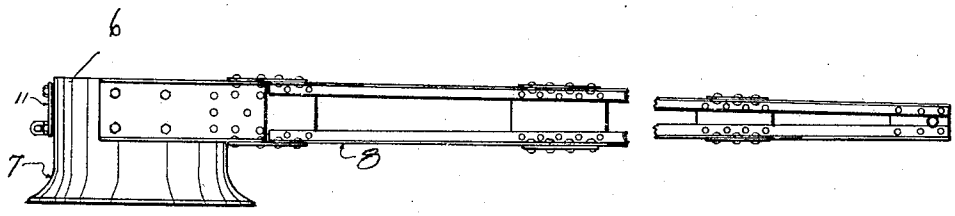


Fig. 3

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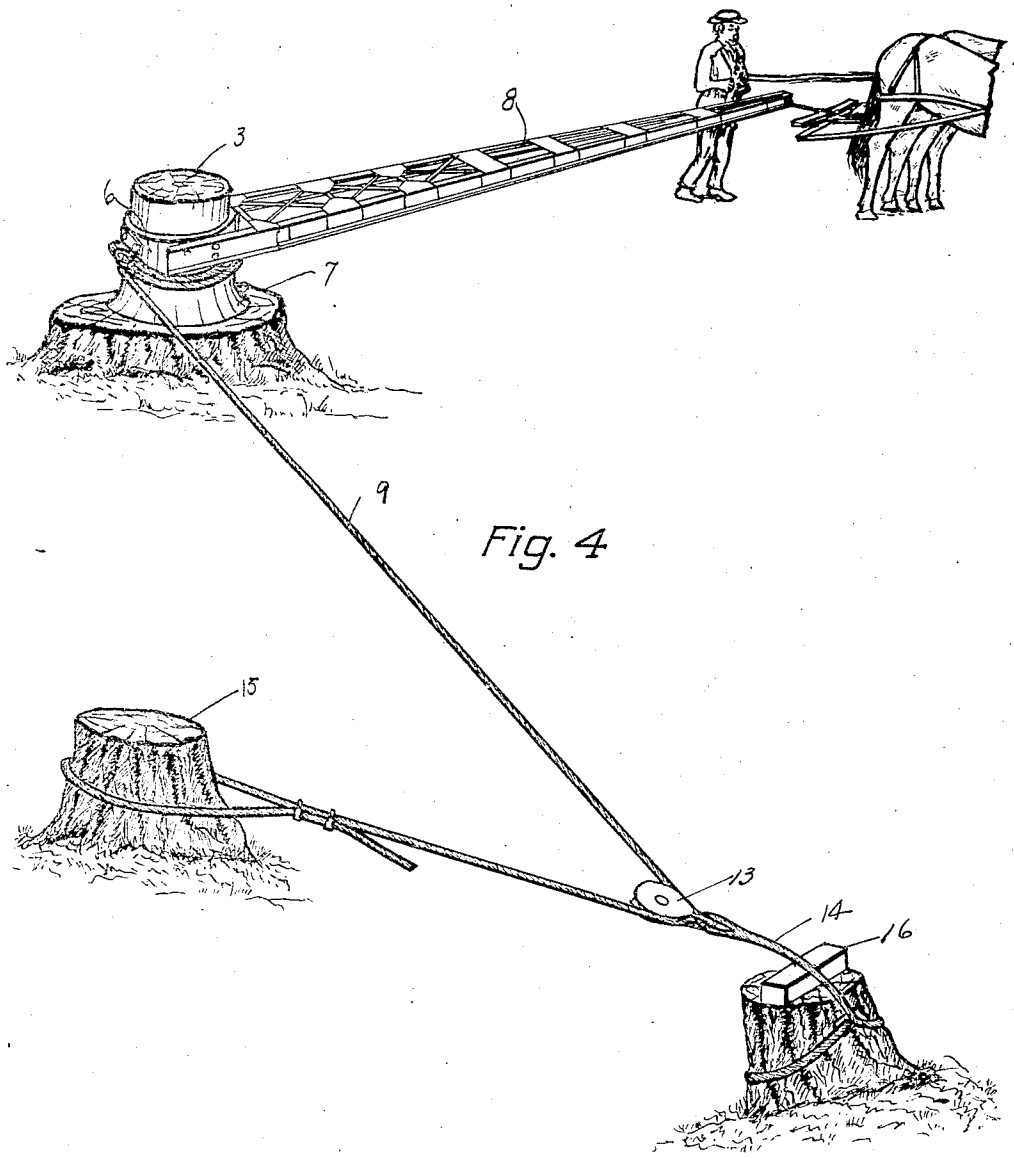


Fig. 4

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STUMP-PULLING PROCESS.

1,250,897. Specification of Letters Patent. Patented Dec. 18, 1917.

Application filed December 26, 1916. Serial No. 138,727.

To all whom it may concern:

Be it known that I, FRIEDRICH K. J. KIRSTEN, a citizen of the United States, and a resident of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Stump-Pulling Processes.

This invention relates to a stump pulling process, and has for its principal object to provide an improved and novel means of pulling stumps in logged off land and the like. Another object of this device is to provide improved apparatus for accomplishing the purposes set forth in the process. While the applicant is well aware that there are at present many stump pulling machines and devices, yet he believes, that the process as hereinafter outlined, and the apparatus used in the operations of the process to be new. In pulling stumps the great difficulty heretofore has been in designing an apparatus which is light enough and at the same time strong enough to pull large stumps without getting the apparatus unduly heavy and cumbersome. Another difficulty which has been met with has been the securing of a stump pulling device in a stable position from which it does not move during the pulling process. My device and process are designed to overcome and obviate the above-mentioned objections.

Other objects will appear as my invention is more fully explained in the following specification, illustrated in the accompanying drawings, and pointed out in the appended claim.

In the drawings Figure 1 is a perspective view of an anchor stump in which the outline for trimming is shown. Fig. 2 is a plan view of my apparatus, with parts broken away, as used in connection with the anchor stump. Fig. 3 is a side elevation of Fig. 2. Fig. 4 is a perspective view of my device in the process of pulling a stump.

Referring more particularly to the drawings (Figs. 1 and 4 in particular) the first process in my stump pulling operations is to select a rather large, sound and well anchored stump, one which is squared off on the top approximately level, if it has not already been made level enough during the tree felling process. Upon the top of the stump 1 a circle 2 is drawn around the heart portion 3, which will hereafter be known as a hub. A rectangular framework 4 is next set upon the ground and encircling the stump 1. Framework 4 is leveled by means of a carpenter's spirit level or an instrument and is blocked up from the ground into a level position. The stump is next cut along the line 5 which is level with the top of frame 4. The depth of the cut along the line extends only to a cylindrical plane which is a vertical and downward continuation of the circle 2. After the stump has been cut along the line 5, all of the wood outside of the heart portion 3 which lies within circle 2 is chopped away until there is finally left an upstanding and vertical cylindrical hub. This hub extends above a horizontal plane along line 5 and is now in shape to receive a windlass arm which is composed of a tubular rim 6, having an outwardly flared base 7, and a horizontal outstanding arm 8. The internal diameter of rim 6 is but very slightly greater than the diameter of the hub 3 so that the rim 6 may be slipped over the said hub. It will be noted that the windlass arm 8 is connected securely to rim 6 adjacent its top in order that there may be room left below the arm 8 to receive a cable 9. The outwardly sloping portion 7 of the rim 6 prevents the cable from slipping off the lower end of the rim, and also provides a wider and more stable base for the windlass arm. I prefer to make the windlass arm a structural steel trussed member, as shown, in order that it may be strong and light, but it will be understood that it may be made of any convenient material and construction. I provide lugs 10 on the periphery of rim 6 to which is secured a cable cleat 11. Cleat 11 is provided with a pin 12, which fits loosely within an eye in the cleat so that the looped end of cable 9 may be slipped over the cleat and held in place by the pin 12. After the stump has been prepared as previously described, the second step in the process of pulling the stump is to set the windlass arm with the rim 6 encircling the hub 3, one end of a cable is next attached to cleat 11, while the other end of the cable may be attached directly to a stump to be pulled, or as shown in Fig. 4, may be passed through a snatch block 13 which is secured to one end of a choker line 14. The other end of the choker line is secured to the stump to be pulled, while the free or dead end of the cable line is anchored to a third or anchored stump 15. By this latter arrangement the strain on the stump to be pulled

is increased. When it is desired to pull a stump by tipping it over as shown in Fig. 4 a block 16 is placed on top of the stump and the choker line taken over the said block, in which case the overturning moment arm is increased. The next step in my process is to revolve the windlass arm about the hub 3 which is perfectly accomplished by means of a team of horses attached to the outer end of windlass arm 8. The turning of the windlass arm about the hub 3 winds cable 9 on the rim 6, with the result that the cable will pull the stump out of the ground. After the stump has been pulled, it is only necessary to release the pin 12 and loosen the end of the cable from the cleat in order to slack the cable. The novel features of my device and process lie in the proper shaping and utilization of the stump 1 in order to use it as a hub for the windlass device and in the construction of my windlass device.

While I have shown a particular form of embodiment of my invention, I am aware that many minor changes therein will readily suggest themselves to others skilled in the art without departing from the spirit and scope of the invention, and I therefore desire to avoid being limited to the exact claim. Having described my invention, what I claim as new and desire to protect by Letters Patent, is—

The herein described process for preparing a stump to be used as a windlass hub, which consists in scribing a circle upon the top of a stump, placing a plane frame around said stump, leveling said plane with respect to a horizontal plane, sawing along a line level with the top of said frame that portion of the stump which lies outside of the vertical line of projection of said circle upon the plane of said cutting line, and the cutting away of the wood of the stump which lies above the said cutting plane and outside of the vertical line of projection of the said circle upon said cutting plane, whereby a cylindrical and vertical hub is formed, extending above a horizontally cut plane.

FRIEDRICH K. J. KIRSTEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."