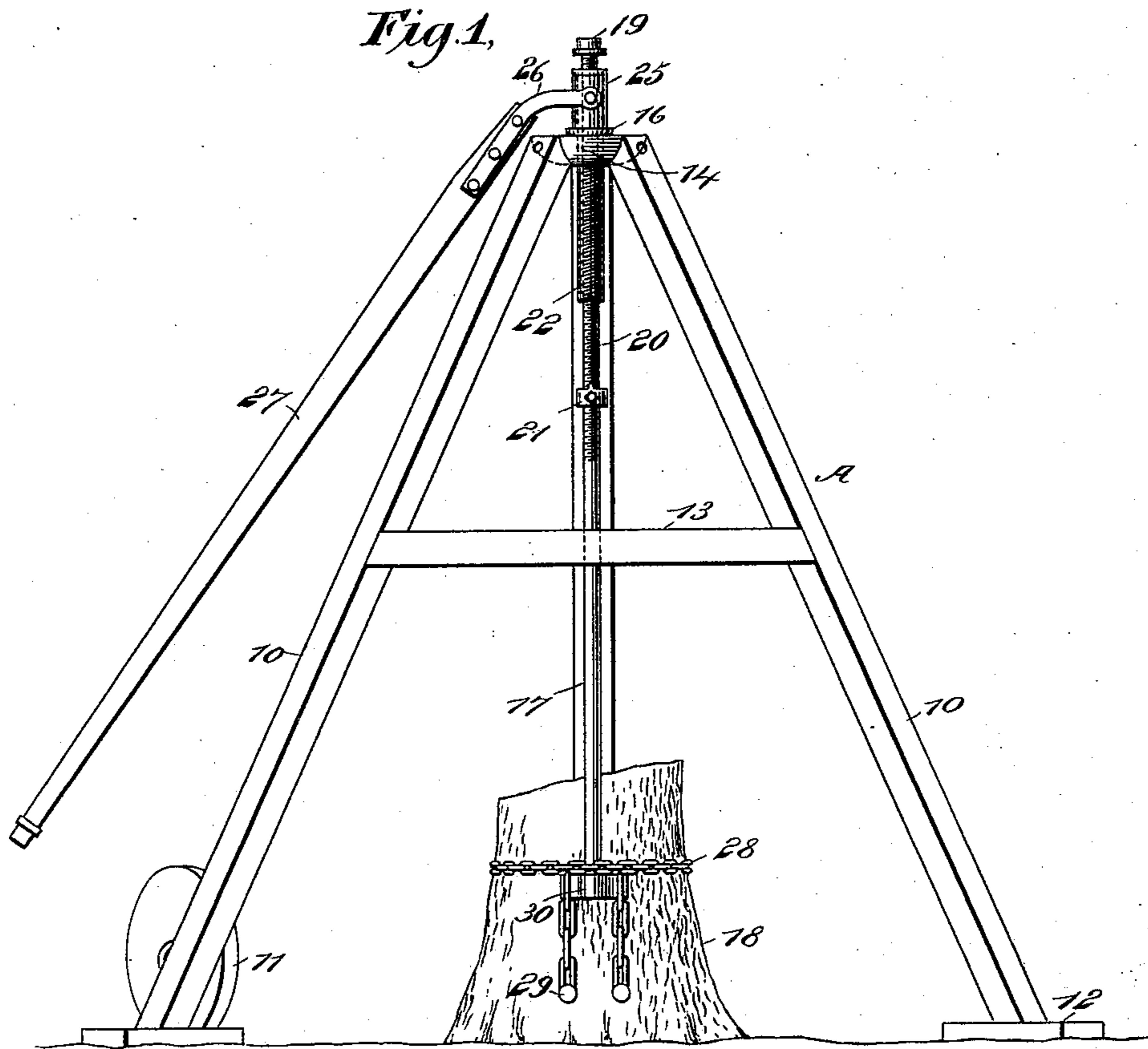


(No Model.)

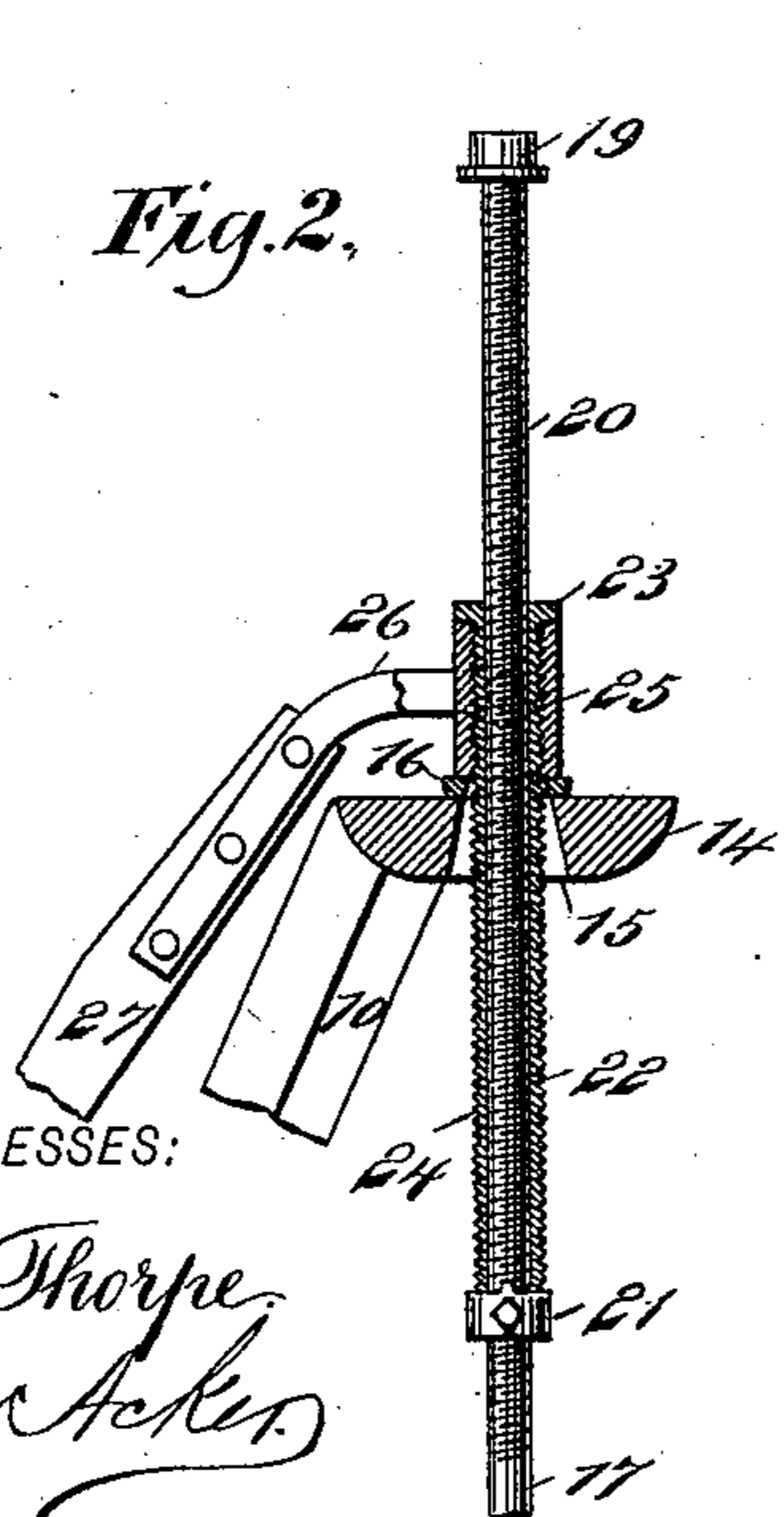
J. D. WILSON.  
STUMP PULLER.

No. 538,571.

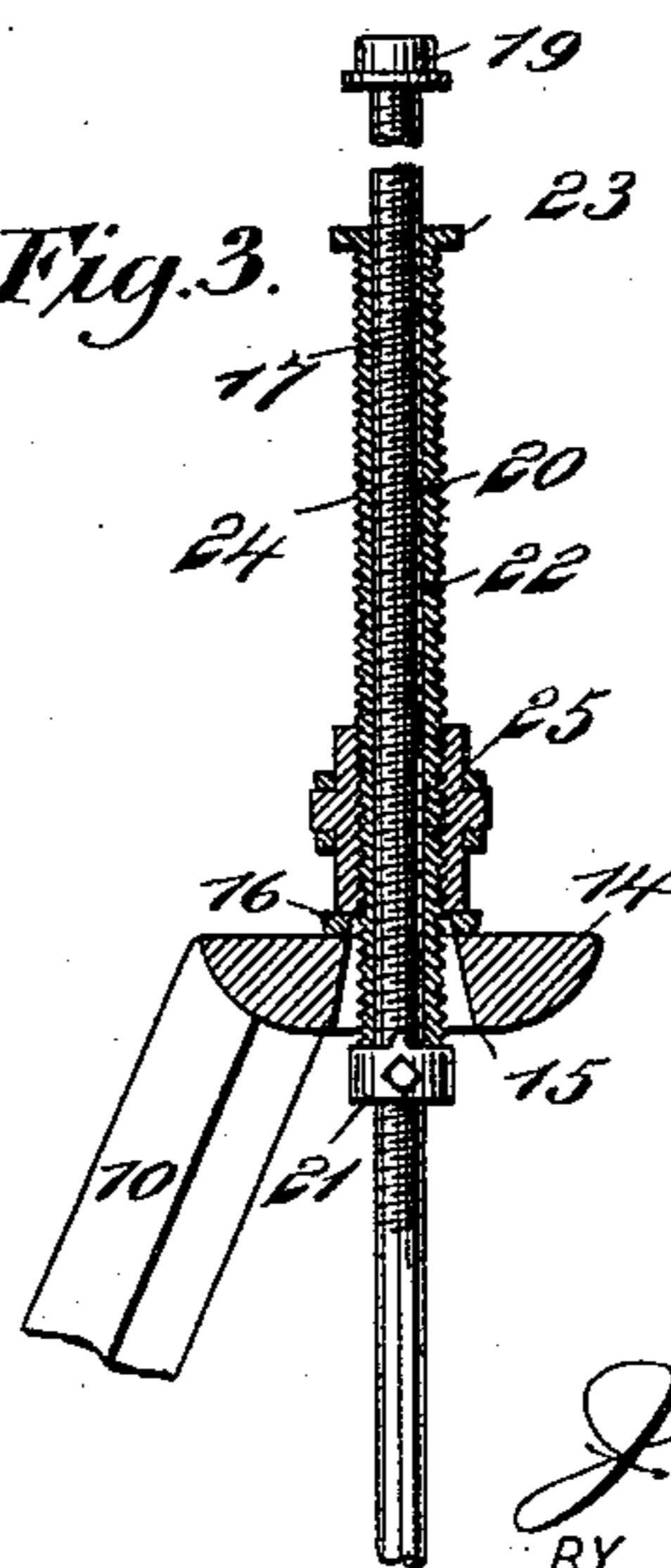
Patented Apr. 30, 1895.



*Fig. 2.*



*Fig. 3.*



WITNESSES:

Edward Thorpe  
J. H. Acker

INVENTOR

J. D. Wilson  
BY Munn & Co

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JAMES D. WILSON, OF MONTAGUE, MICHIGAN, ASSIGNOR TO THE MONTAGUE  
IRON WORKS COMPANY, OF SAME PLACE.

## STUMP-PULLER.

SPECIFICATION forming part of Letters Patent No. 538,571, dated April 30, 1895.

Application filed February 13, 1895. Serial No. 538,202. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES D. WILSON, of Montague, in the county of Muskegon and State of Michigan, have invented a new and  
5 Improved Stump-Puller, of which the following is a full, clear, and exact description.

My invention relates to a stump puller, and it has for its object to provide a machine which will be exceedingly simple, durable and economic, and by means of which a stump, no  
10 matter how deeply rooted in the ground, may be quickly drawn out from the soil with the least possible expenditure of power.

The invention consists in the novel construction and combination of the several  
15 parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the stump-puller applied to a stump. Fig. 2 is a sectional view of the draft-section of the stump-puller, illustrating the main shaft as drawn  
25 upward to a connection with an auxiliary shaft having a coarser pitch; and Fig. 3 is a view similar to Fig. 1, in which the two shafts are shown elevated together.

The frame A of the stump puller is preferably of tripod construction, embracing three legs 10, of two which are preferably provided with wheels 11, but one of which is shown in the  
35 drawings, and the third with a shoe 12, swiveled thereto as is usual, in order that the frame may be conveniently drawn from one stump to another, and the said legs are connected at or near their centers by braces 13, and at the top  
40 they are attached to a head block 14, preferably made of metal, and this head block is provided with a conical opening 15, while above this opening, a half-round washer 16 is made to rest on the said head block.

The main lifting shaft 17 is adapted at its lower end to be secured in any suitable or approved manner to the stump 18 to be lifted, and the said shaft 17 is preferably provided with a cap 19 at its upper end; and the upper  
50 portion of the shaft is further provided with

an exterior thread 20. This thread is usually of a two-and-a-quarter pitch.

The screw or lifting shaft 17 is passed downward through the opening 15 in the head block of the frame, and below said head block a  
55 clutch 21 is adjustably attached to said shaft, and this clutch is adapted for locking engagement with the lower end of a hollow shaft 22 through which the solid screw or lifting shaft 17 passes; and the interior of the hollow shaft  
60 22 is provided with a thread to engage with that of the said shaft 17. The hollow shaft is fitted with a flange 23 at its upper end, and with an exterior thread 24, the exterior thread on the hollow shaft being of a four-and-a-half  
65 pitch, and when the hollow and the lifting shafts are in their normal position, or the position they occupy when applied to a stump, as shown in Fig. 1, the clutch 21 will be usually about one foot from the bottom of the hollow shaft. The exterior thread of the hollow  
70 shaft is received by a nut 25, and this nut rests upon the half-round washer 16, and owing to this washer and the conical shape of the head block in the frame, the main or lifting shaft 17 may be inclined to a greater or  
75 less extent without becoming cramped. Arms 26 are projected from the said nut 25, and these arms are firmly secured to a lever or sweep 27, to which an animal is attached to  
80 operate the shafts.

In operation, the lower end of the main or lifting shaft is secured to the stump usually through the medium of chains 28 and spikes 29, and the shaft 17 at its lower end may be  
85 provided with a shoe 30. The sweep or lever 27 is then revolved and carried around the frame, and the action of the nut revolving the hollow shaft 22 will cause the main shaft 17 to travel upward through the hollow shaft  
90 with a slow movement because of the fine thread on the exterior of the main shaft; but when the main shaft has been carried upward a sufficient distance to cause the clutch 21 to engage with the hollow shaft, the hollow shaft  
95 will be carried upward with the main shaft, and the stump, owing to the coarse thread of the hollow shaft, will be raised four and one-half inches at every revolution of the sweep 27. Thus it will be observed that the fine-pitched  
100

screw has thus acted to slowly draw up the main shaft and the stump will have been loosened, and that the subsequent action of the coarser thread will raise it out of the ground quickly, and by this means save the time that is usually spent in raising the stump out of the ground after it has been loosened.

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

1. In a stump puller, the combination with a support, and a nut mounted to turn thereon, of a short hollow shaft exteriorly and interiorly threaded and upon which the nut is mounted, and a lifting shaft projecting through the hollow shaft and having a thread of finer pitch than the exterior thread of the said hollow shaft, said lifting shaft being adapted to be locked to the short hollow shaft when it has been carried up a predetermined distance, whereby when the nut is first turned, the lifting shaft will travel slowly up through the hollow shaft and after it has been moved a given distance, both it and the hollow shaft will move upward at a greater rate of speed, as and for the purpose set forth.

2. In a stump puller, the combination with a support, a lifting shaft mounted upon the said support and provided with an exteriorly threaded surface, a hollow shaft interiorly

threaded to receive the threaded surface of the lifting shaft, the said hollow shaft having an exterior thread of coarser pitch than its interior thread, a clutch adjustably secured upon the lifting shaft and adapted for locking engagement with the hollow shaft, and a nut supported upon the frame and mounted to turn upon the exterior of the said hollow shaft, substantially as described.

3. In a stump puller, the combination, with a support, of a lifting shaft mounted upon said support and provided with an exteriorly threaded surface, a hollow shaft interiorly threaded to receive the threaded surface of the lifting shaft, the said hollow shaft having an exterior thread of coarser pitch than its interior thread, a clutch adjustably secured upon the lifting shaft and adapted for locking engagement with the hollow shaft, a nut supported upon the frame and mounted to turn upon the exterior of the said hollow shaft, arms projected from the said nut, a lever or sweep attached to the said arms, and means, substantially as described, for permitting the swinging movement of the lifting shaft, as and for the purpose set forth.

JAMES D. WILSON.

Witnesses:

NEVIN P. HENDRIX,  
HENRY DOUVILLE.