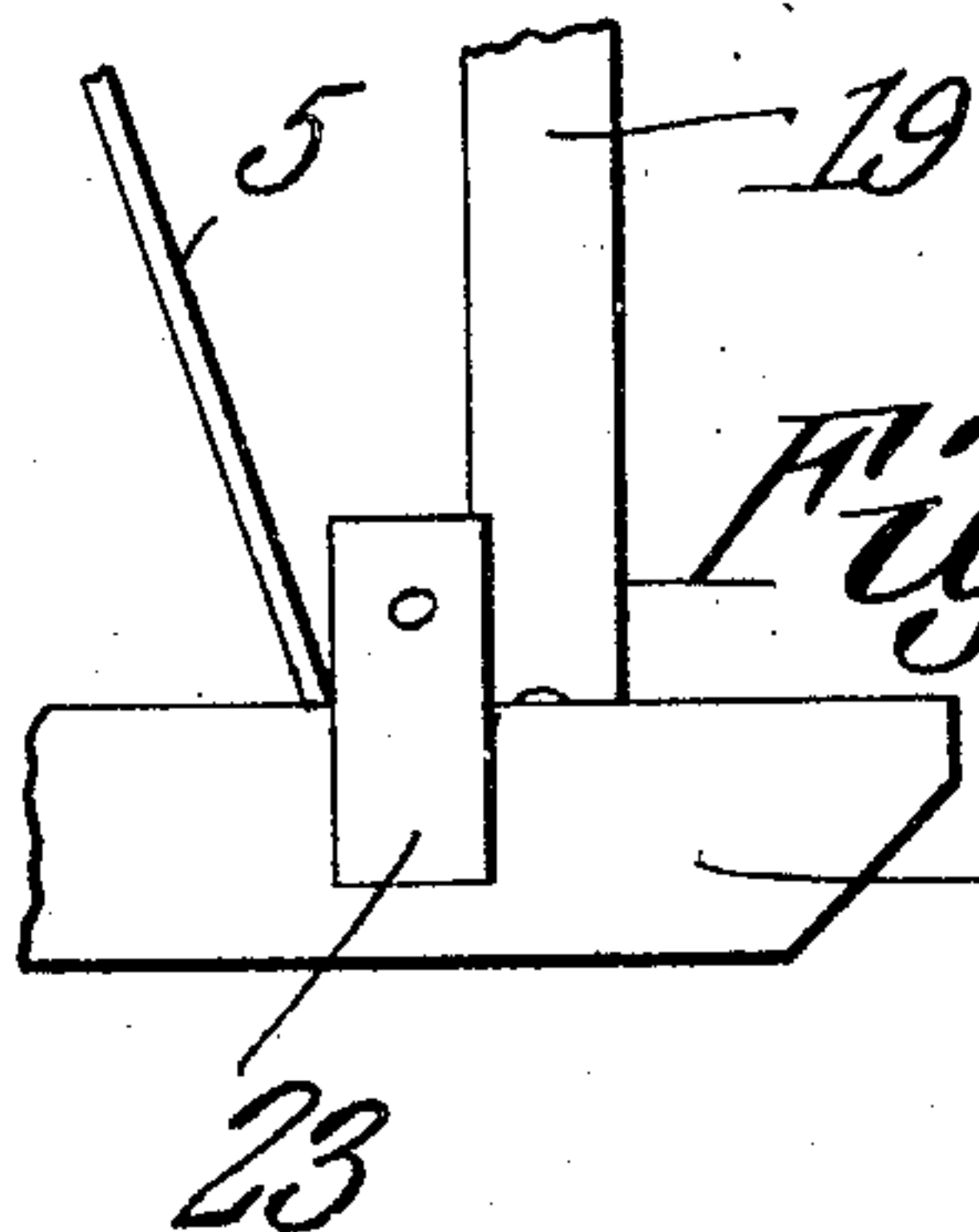


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UNITED STATES PATENT OFFICE.

JOHN M. MITCHELL, OF JOPPA, ALABAMA, ASSIGNOR OF ONE-HALF TO GEORGE W. JEFFERS, OF JOPPA, ALABAMA.

STUMP-PULLER.

959,372.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN M. MITCHELL, a citizen of the United States, residing at Joppa, in the county of Cullman and State of Alabama, have invented a new and useful Stump-Puller, of which the following is a specification.

The objects of the invention are, generally, the provision, in a merchantable form, of a device of the above mentioned class, which shall be inexpensive to manufacture, facile in operation, and devoid of complicated parts; specifically, the provision of stump engaging means of novel and improved construction; of novel mechanism for actuating the stump engaging means; of a frame of novel and improved construction; and of novel means for bracing and holding the frame when the stump puller is in operation; other and further objects being made manifest hereinafter as the description of the invention progresses.

The drawings show but one form of the invention and it is to be understood that the same is to be limited only by what is claimed.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings, wherein;

Figure 1 is a perspective; Fig. 2 is a fragmental side elevation; and Fig. 3 is a perspective of one end of the removable brace.

The frame upon which the device is supported comprises, as fundamental elements, a pair of spaced parallel sills 1, rigidly connected at their rear ends by a cross beam 2. Rising from the sills 1, intermediate their ends, are struts 3, united by a cap 4, straps 5 being assembled in their intermediate portions with the ends of the cap 4, and being secured at their lower ends to the sills 1. An arcuate support 6 is provided, the intermediate portion of which is secured to the intermediate portion of the cap 4, the ends of the member 6 being secured to the struts 3 and to the adjacent faces of the sills 1.

Superposed upon the cap 4 is a plate 7, having in its upper face a ball race, containing balls 8. A sweep is provided, the same comprising arms 9, connected at their adjacent ends and in their lower portions, by an integrally formed bearing plate 10, the adjacent end faces of the arms 9, above the bearing plate 10, being spaced apart.

The lower face of the bearing plate 10 is provided with a ball race which coöperates with the ball race in the plate 7, to receive the balls 8. The upper face of the bearing plate 10 is provided with an opening adapted to receive a nut 11, the edges of which abut against the adjacent end faces of the arms 9 of the sweep. The space between the adjacent ends of the arms 9 is bridged by a tie plate 12 secured to the upper faces of the arms 9.

The support 6, the cap 4, the plate 7, the plate 10 and the tie plate 12 are apertured in alinement to receive a screw 14, adapted to be engaged by the nut 11, which, in its turn, rotates with and constitutes a part of the sweep. The screw 14 is provided at its lower end with an eye 15 carrying two flexible endless loops, preferably fashioned from chain and denoted by the numerals 16 and 17. The loop 16 is somewhat longer than the loop 17, the latter loop being threaded through the eyes of a pair of stump engaging hooks 18.

To the front of the struts 3 and relatively near to the forward end of the device, the sills 1 are connected by an upwardly arched tie 19. A removable brace 20 is provided adapted to engage the forward ends of the sills 1 against lateral movement, and this brace 20 includes a depending central portion 21, adapted to engage the adjacent faces of the sills 1. Plates 22 are provided, the same being mounted upon the upper face of the brace at its ends, and terminally down bent as denoted by the numeral 23, to engage the remote, outer faces of the sills 1. One of the side faces of the brace 20 is provided with notches 24, extended through the edges of the plates 22, and adapted to receive the edges of the arched tie 19. Suitable traction hooks 25 of any desired form, are assembled with the forward ends of the sills 1.

In practical operation, the brace 20 being removed from the front of the device, the stump puller is drawn forward, the stump which is to be removed passing beneath the arched tie 19. It is obvious that when the device is in operation, the stump pulling mechanism supported by the sills and operative therebetween, tends to cause the sills 1 to move laterally away from each other. In order to prevent this lateral movement of the sills and the consequent straining of the frame, the brace 20 is mounted, as shown in

the drawings, the said brace by its construction, and by means of the peculiar interlocking relation between itself and the arched tie 19, serving to hold the sills in position, even under the most severe strains. When the stump puller has thus been positioned above the stump and the brace 20 mounted in place, the hooks 18 are made to engage the stump, upon one side and adjacent the base, the hooks, if desired, being passed beneath one of the roots of the stump. The sweep is then operated, the eyes of the hooks sliding close together upon the flexible loop 17 and being drawn securely into the stump. A continued operation of the sweep will cause the stump to be tilted, one side thereof being pulled free from the earth, and the top thereof being inclined. When the top of the stump is thus disposed in inclined position, the top of the stump may be engaged by the flexible loop 16, the tilting of the stump thus being prevented, and the stump being pulled, upon a continued rotation of the sweep, directly out of the ground.

The cap 4 and the struts 3 constitute a carrying member for the stump pulling mechanism, the carrying member being braced by the straps 5 and these straps, engaging the brace 20, serve to hold the interlocking elements of the tie 19 and the brace 20 in engagement, as shown in Fig. 2.

Having thus described my invention, what I claim is:

1. A device of the class described comprising a frame; lifting means mounted in the frame; a pair of endless flexible loops carried by the lower end of the lifting means; and a pair of stump engaging hooks arranged to slide upon one of the said loops.
2. A device of the class described comprising spaced sills permanently connected at one end; stump pulling mechanism supported by the sills; a removable brace arranged to be mounted upon the other end of the sills, and having a depending portion to

engage the adjacent faces of the sills; and plates mounted upon the upper face of the brace at its ends and terminally down-bent to engage the remote faces of the sills.

3. A device of the class described comprising spaced sills; an upwardly arched tie connecting the sills; a removable brace arranged to engage the sills against lateral movement, the brace and tie being provided with interlocking elements; and stump pulling mechanism supported by the sills and operative between the sills.

4. A device of the class described comprising spaced sills permanently connected at one end; stump pulling mechanism supported by the sills and operative between the sills; a removable brace arranged to be mounted upon the other ends of the sills and having a depending portion to engage the adjacent faces of the sills; plates mounted upon the upper face of the brace at its ends and terminally downbent to engage the remote faces of the sills; and an upwardly arched tie connecting the sills, the plates and the brace being notched to receive the tie.

5. A device of the class described comprising spaced sills; a carrying member connecting the sills; stump pulling mechanism assembled with the carrying member; an arched tie connecting the sills; straps connecting the carrying member with the sills; a removable brace arranged to engage the sills against lateral movement, the tie and the brace being provided with interlocking elements and the straps being arranged to engage the brace to hold the interlocking elements in engagement.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN M. MITCHELL.

Witnesses:

C. J. TOFSCATT,
R. M. MAXWELL.