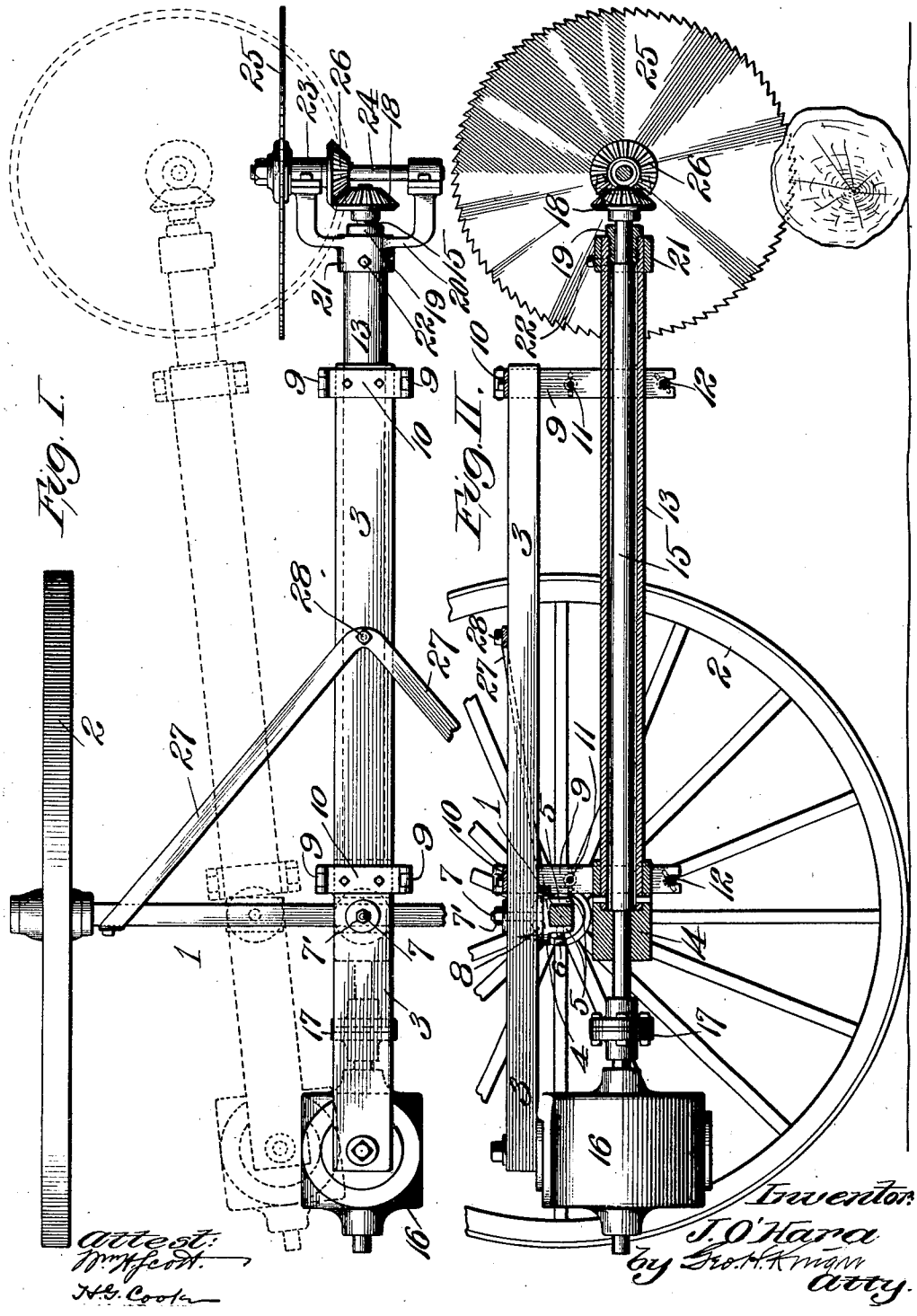
J. O'HARA.

PORTABLE SAWING MACHINE.

APPLICATION FILED MAR. 20, 1908.

910,145. Patented Jan. 19, 1909.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

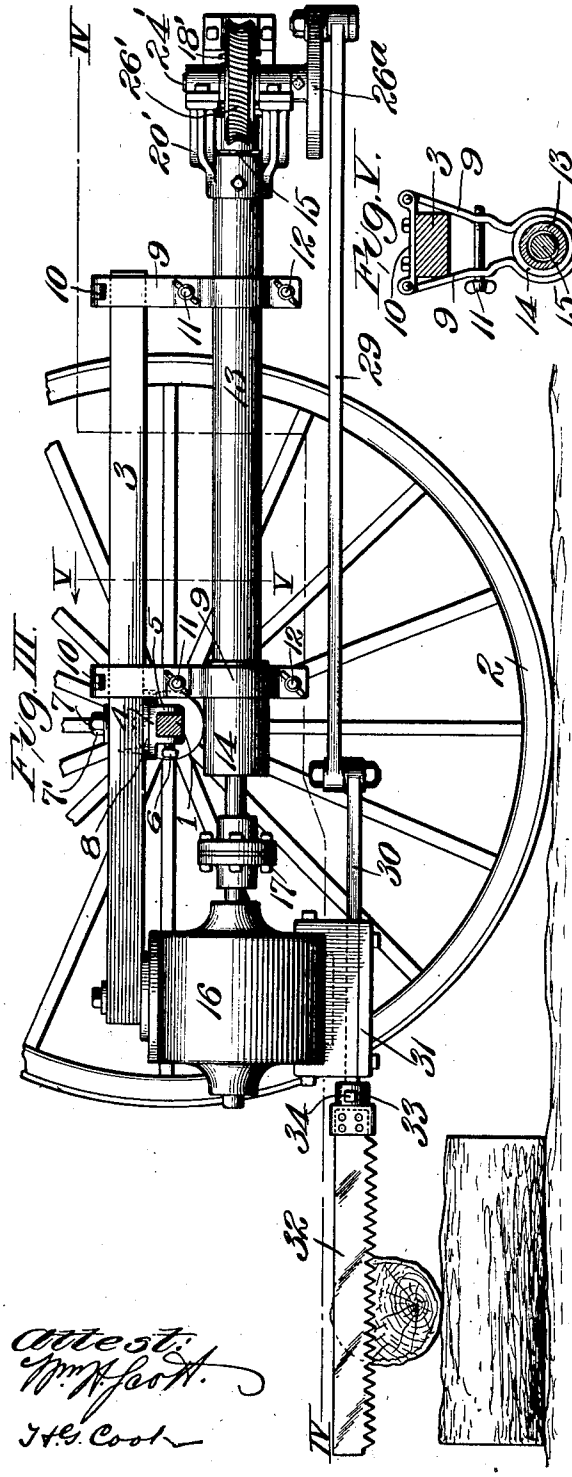


Fig. III.

Fig. V.

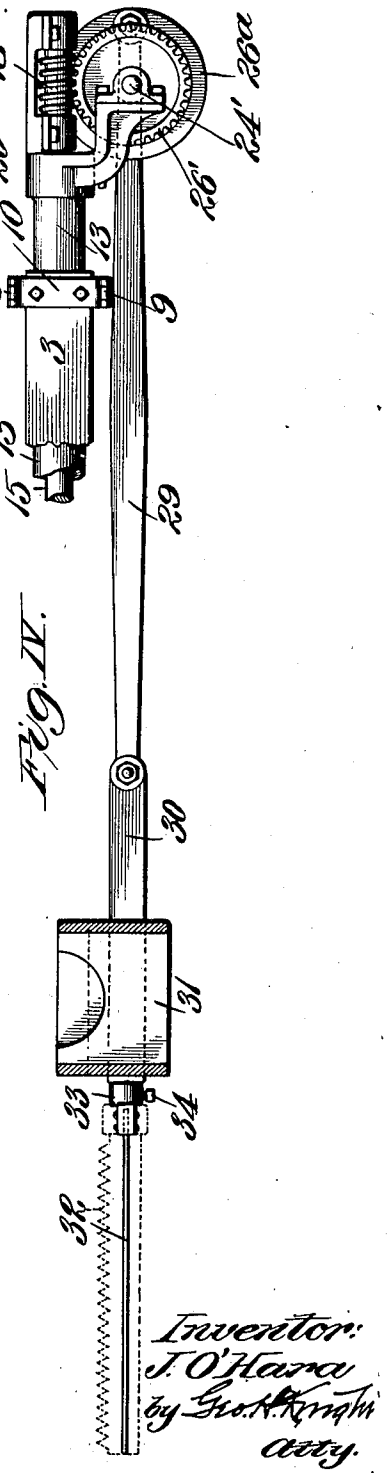


Fig. IV.

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UNITED STATES PATENT OFFICE.

JOSEPH O'HARA, OF ST. LOUIS, MISSOURI.

PORTABLE SAWING-MACHINE.

No. 910,145. Specification of Letters Patent. Patented Jan. 19, 1909.

Application filed March 20, 1908. Serial No. 422,198.

To all whom it may concern:

Be it known that I, JOSEPH O'HARA, a citizen of the United States of America, residing at the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Portable Sawing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to improvements in portable sawing machines and has for its object to provide an efficient machine of the character described, that can be readily and easily transported from place to place and is particularly applicable for use in sawing down trees and by adjustment of the saw, cutting the timber into any required lengths.

Figure I is a fragmentary top or plan view of my sawing machine. Fig. II is a view partly in side elevation and partly in section. Fig. III is a side elevation of a modification. Fig. IV is a detail view taken on line IV—IV, Fig. III. Fig. V is a cross section taken on line V—V, Fig. III.

In the accompanying drawings: 1 designates the axle of my sawing machine mounted in a pair of ground wheels 2.

3 is a beam that is supported by the axle 1 and is adapted to be adjustably held thereon and to be swung laterally by the following means.

4 is a slidable bearing plate resting upon the axle and provided with legs 5 which embrace the axle and in one of which is a set screw 6 by which the bearing plate may be held at any desired point along the axle. The bearing plate is provided with a post or bolt 7 that extends vertically therefrom and passes through the beam 3 and through a rotatable wear plate 8 resting upon the bearing plate beneath the beam. The post or bolt 7 is equipped with a nut 7′ that serves to hold the beam 3 in position above the plate 4.

9 designates hanger arms arranged in pairs and hinged to cross bars 10 that are attached to the beam 3. One pair of these hanger arms is preferably located adjacent to the axle 1, while the other pair of hanger arms is located at or near the forward end of said beam. The hanger arms serve as supports for members to be hereinafter more particularly referred to and each pair of hanger arms has mounted therein an upper binding bolt 11 and a lower binding bolt 12 adapted to be removed from the hanger arms or loosened to permit movement of the supported members that are held between the arms.

13 designates a tubular housing that is positioned between the forward hanger arms 9 and is adapted to be clamped between these arms, and 14 is a bearing box secured to the rear end of the tubular housing 13 adapted to be clamped between the rear pair of hanger arms 9.

15 designates a driving shaft that extends longitudinally through the housing 13 and the bearing box 14, and 16 is a motor supported by and suspended from the beam 3, having its shaft united by a flexible coupling 17 to the driving shaft 15. The forward end of the driving shaft extends through the forward end of the housing 13 and has fixed to it a beveled gear wheel 18. This end of the shaft operates in a journal bushing 19 that is seated in the housing 13, as seen in Fig. II.

20 designates a double-armed bracket that is provided with a collar 21 attached by suitable means, such as set screws 22 to the forward end of the housing 13. The arms of this bracket straddle the beveled gear wheel 18 upon the driving shaft and are provided with journal boxes 23 in which is mounted a mandrel 24 to which a circular saw 25 may be affixed. The saw mandrel has fixed to it a beveled gear wheel 26 that is arranged in mesh with the beveled gear wheel 18 in order that power may be transmitted from the driving shaft 15 to said mandrel.

27 designates a brace preferably of V-shape, and the arms of which are attached to the axle 1. This brace is adapted to be attached to the beam 3 by a bolt 28, and it has the utility of holding the beam at a right angle to the axle 1, when the sawing machine is to be used without shifting said beam upon the axle from a central position thereon and at a right angle to the axle, or when the machine is being transported from place to place.

In the use of my sawing machine, the beam 3 may be elevated to any desired degree, by tilting it with the axle upon which it is mounted, this action being possible due to the axle being loosely mounted in the ground wheels and the circular saw may be driven by the operation of the motor 16 and the driving mechanism extending from said

motor to the mandrel of the saw, while the beam is held at right angle to the axle by the brace 27. When, however, it is desired to swing the beam laterally, the beam is disconnected from the brace 27 by the removal of the nut 28 and the beam may then be swung laterally while supported by the axle due to the existence of the pivotal connection furnished by the bearing plate 4, and the post of said bearing plate which passes vertically through the beam. It is frequently desirable to change the location of the saw and its driving mechanism and supports without moving the running gear of the machine. This movement is readily accomplished in my machine by loosening the set screw 6 that holds the bearing plate 4 to the axle of the machine when the beam 3 and all of the parts associated with it may be shifted laterally upon the axle, as indicated by full and dotted lines, Fig. I, after which the bearing plate is secured in its adjusted position to remain stationary until it is to be readjusted. It will be seen that the beam and the parts associated with it may be swung laterally at all times, when it is free of restraint by the brace 27, irrespective of the location of the beam above the axle of the machine. When the circular saw is to be used in sawing a piece of timber lying in a horizontal position, the saw is positioned in a vertical plane, as seen in full lines Figs. I and II, being restrained in such position, due to the housing 13 and the bearing box 14 being clamped between the hanger arms 9 suspended from the beam 3. The saw may be readily shifted to a horizontal position for cutting down trees by loosening the binding bolts 11 and 12, in the hanger arms 9, thereby allowing the housing 13 and bearing box 14 to be turned within said arms to the desired degree and when the binding bolts are again tightened, the hanger arms will clamp the housing and bearing box between them to hold the saw in a horizontal plane, or in any position desired between a horizontal plane and a vertical plane.

In the modification illustrated in Figs. III and IV, the running gear, the beam 3, the housing 13, the hanger arms 9, the driving shaft 15 and the motor 16 are of like construction to the similar parts previously described and no further mention of these parts is deemed necessary in describing the modification. This modification contemplates the use of a cross cut saw instead of a circular saw and to this end it includes the following parts: 20′ is a bracket fixed to the driving shaft housing 13 and having journal boxes in which is mounted a transverse shaft 24′ that has fixed to it a worm wheel 26′. This worm wheel meshes with a worm 18′ carried by the driving shaft 15 to impart motion to said transverse shaft. 26ª is a crank fixed to the shaft 24′ and 29 is a pitman connected at one end to the crank 26ª. The other end of this pitman is pivoted to a reciprocating rod 30 that is operable in a guide box 31 supported by the motor 16. The reciprocating rod 30 receives the attachment of a cross cut saw 32 that is secured to the rod by a coupling 33 adapted to be turned upon the rod to any desired position and hold the saw in any plane or angle that may be desirable. The coupling is preferably held to the reciprocating rod by a set screw 34.

I claim:

1. The combination of an axle, a slidable and rotatable beam mounted upon the axle, hanger arms suspended from the beam, a tubular housing and bearing box clamped to the hanger arms, a driving shaft extending through the tubular housing, means for operating the driving shaft, a bracket secured to the forward end of the tubular housing, a driven shaft mounted in the bracket, gearing connecting the driving shaft with the driven shaft and a saw connected up with the driven shaft.

2. The combination of an axle, a slidable and rotatable beam mounted upon the axle, hanger arms suspended from the beam, a rotatable tubular housing and bearing box clamped to the hanger arms, a driving shaft extending through the tubular housing, means for operating the driving shaft, a bracket secured to the forward end of the tubular housing, a driven shaft mounted in the bracket, gearing connecting the driving shaft with the driven shaft and a saw connected up with the driven shaft.

3. The combination of an axle, a slidable bearing plate resting upon the axle and having legs embracing the axle, a beam mounted upon the bearing plate, hanger arms suspended from the beam, a tubular housing and bearing box clamped to the hanger arms, a driving shaft extending through the tubular housing, means for operating the driving shaft, a bracket secured to the forward end of the tubular housing, a driven shaft mounted in the bracket, gearing connecting the driving shaft with the driven shaft and a saw connected up with the driven shaft.

4. The combination of an axle, a slidable bearing plate resting upon the axle and having legs embracing the axle, and a rotatable wear plate, a beam mounted upon the wear plate, hanger arms suspended from the beam, a tubular housing and bearing box clamped to the hanger arms, a driving shaft extending through the tubular housing, means for operating the driving shaft, a bracket secured to the forward end of the tubular housing, a driven shaft mounted in the bracket, gearing connecting the driving shaft with the driven shaft and a saw connected up with the driven shaft.

5. The combination of an axle, a slidable

and rotatable beam mounted upon the axle, hanger arms suspended from the beam, a tubular housing and bearing box clamped to the hanger arms, a driving shaft extending through the tubular housing, means for operating the driving shaft, suspended from the rear end of the beam, flexible coupling between the operating means and the driving shaft, a bracket secured to the forward end of the tubular housing, a driven shaft mounted in the bracket, gearing connecting the driving shaft with the driven shaft and a saw connected up with the driven shaft.

JOSEPH O'HARA.

In the presence of—
LILY ROST,
BLANCHE HOGAN.