

July 18, 1944.

E. D. ADAMS

2,354,095

SAW RIG

Filed May 17, 1943

3 Sheets-Sheet 1

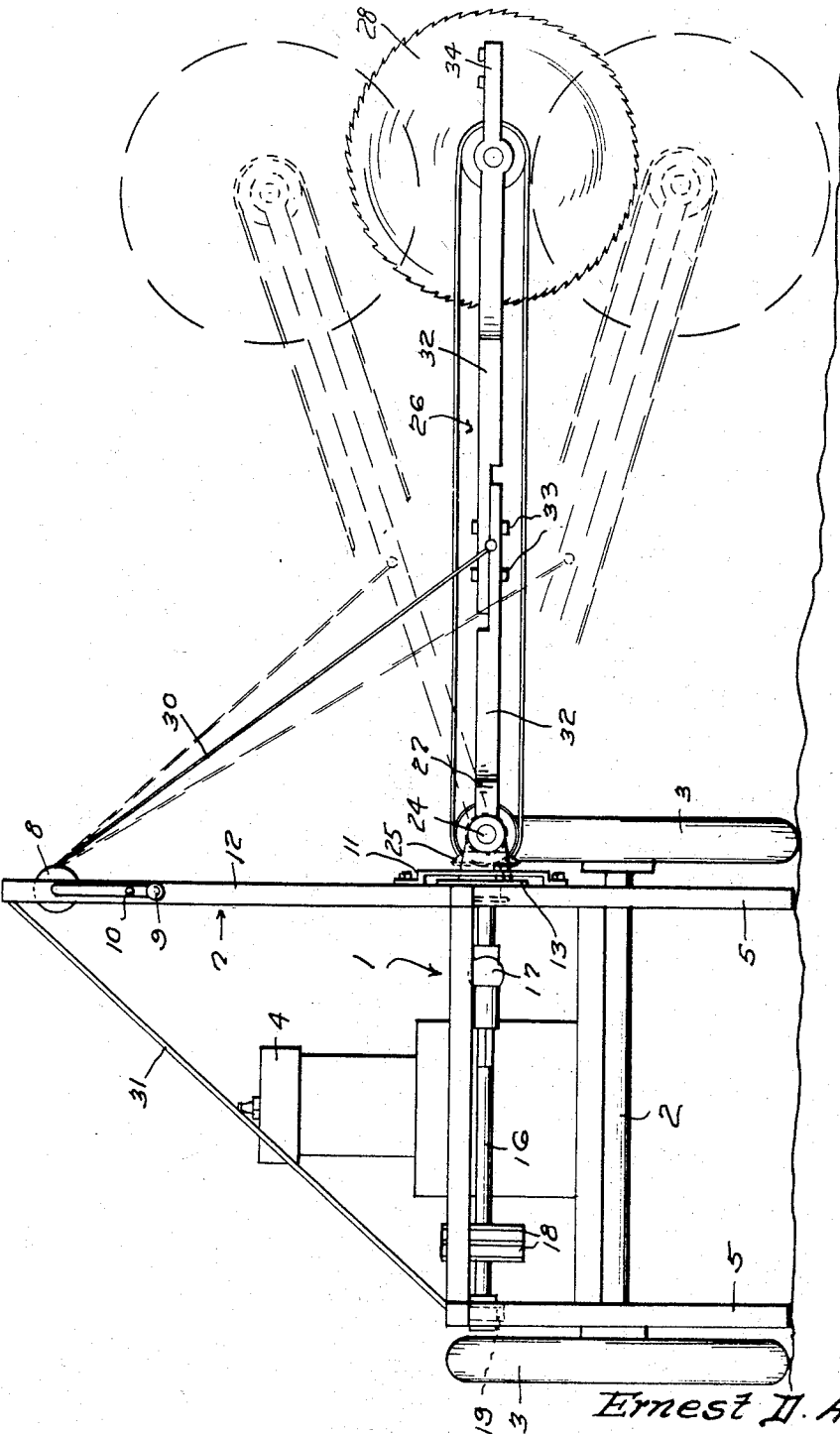


Fig. 1.

Inventor

Ernest D. Adams

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

July 18, 1944.

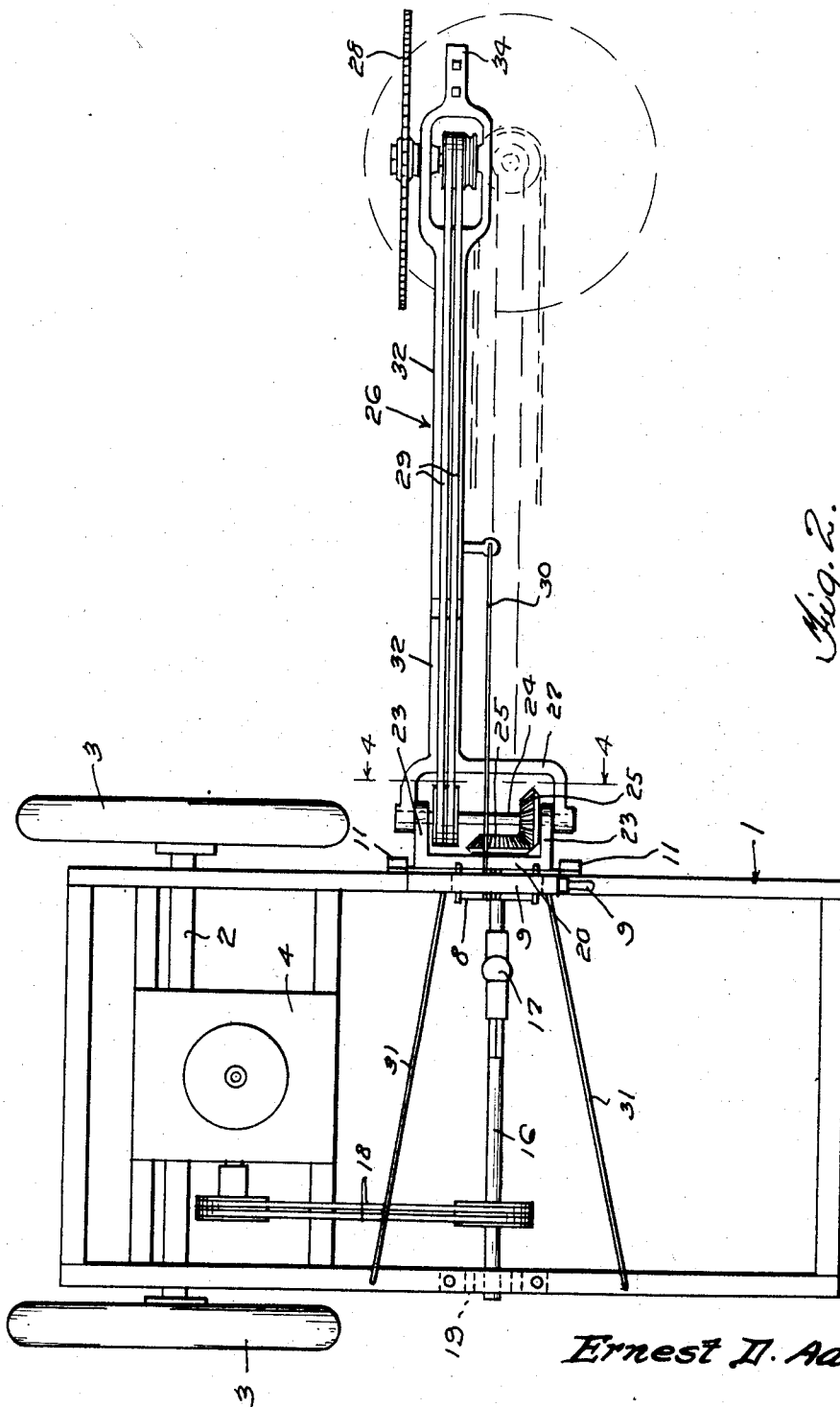
E. D. ADAMS

2,354,095

SAW RIG

Filed May 17, 1943

3 Sheets-Sheet 2



Aug. 2.

Inventor

Ernest D. Adams

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

July 18, 1944.

E. D. ADAMS

2,354,095

SAW RIG

Filed May 17, 1943

3 Sheets-Sheet 3

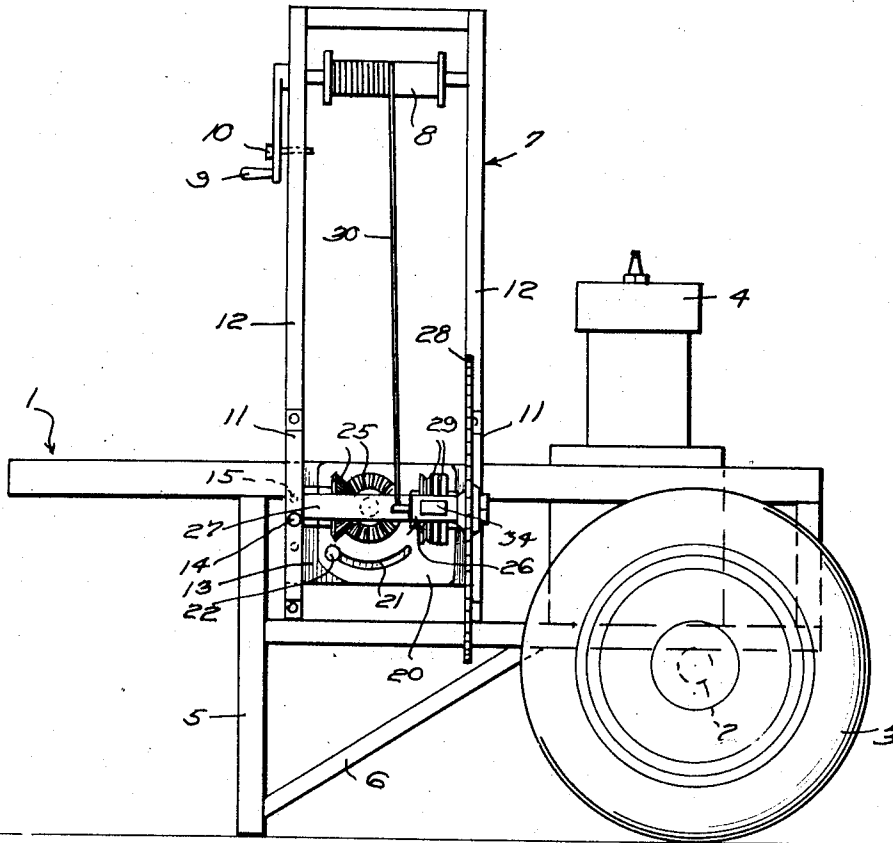


Fig. 3.

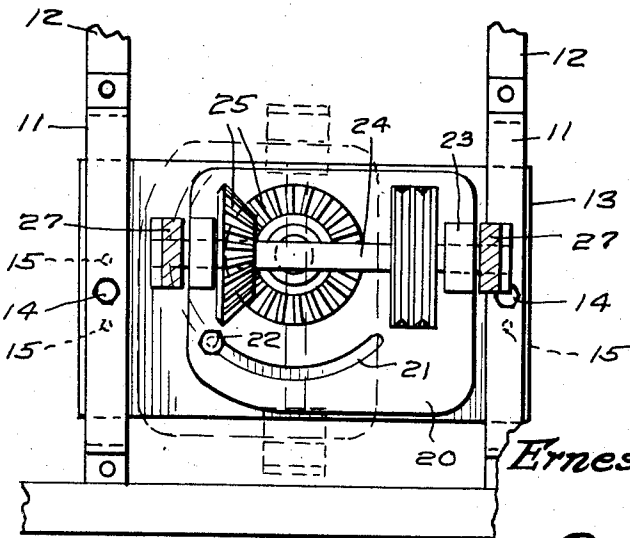


Fig. 4.

Inventor

Ernest H. Adams

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

2,354,095

SAW RIG

Ernest D. Adams, Athol, Mass.

Application May 17, 1943, Serial No. 487,321

1 Claim. (Cl. 143—43)

The present invention relates to new and useful improvements in saw rigs and has for one of its important objects to provide a self-contained, power actuated machine of this character which is adapted to be conveniently moved from place to place.

Another very important object of the invention is to provide, in a manner as hereinafter set forth, a portable saw rig of the aforementioned character, comprising a novel construction and arrangement whereby the saw may be readily adjusted to substantially any desired position for felling trees, cutting logs, etc.

Other objects of the invention are to provide a portable, power-driven saw rig of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in end elevation of a portable saw rig constructed in accordance with the present invention.

Figure 2 is a top plan view of the machine.

Figure 3 is a side elevational view.

Figure 4 is a view in vertical section, taken substantially on the line 4—4 of Figure 2.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a frame 1 of suitable dimensions and material, said frame being substantially rectangular in plan. Extending transversely beneath one end portion of the frame 1 is an axle 2 having mounted thereon pneumatic tire equipped supporting wheels 3. Also mounted on this end portion of the frame 1 is a suitable engine 4. Legs 5 support the other end portion of the frame 1, said legs being provided with braces 6.

Mounted on one side of the frame 1, at an intermediate point, is a mast 7 of substantially U-shaped construction. Rotatably mounted in the upper portion of the mast 7 is a drum 8. A hand crank 9 is provided for actuating the drum 8. A stop pin 10 on the mast 7 is engageable in the hand crank 9 for securing the drum 8 against rotation when desired.

Metallic straps 11 are mounted vertically on the lower portions of the legs 12 of the mast 7

in spaced relation thereto. A vertical metallic plate 13 is mounted for sliding adjustment between the straps 11 and the mast members 12. Bolts 14 secure the plate 13 in adjusted position. The bolts 14 are engageable selectively in openings 15 which are provided therefor in the plate 13.

Journalled transversely on the frame 1 is a drive shaft 16 having interposed therein a splined universal joint 17. The shaft 16 is driven from the engine 4 through a dual V-belt and a V-pulley connection 18. One end portion of the shaft 16 is journaled in a suitable bearing which, in turn, is pivotally mounted in a hanger 19 on the side of the frame 1 which is remote from the mast 7. The other end portion of the shaft 16 extends through the plate 13 and is journaled therein.

Mounted for rotary adjustment about the shaft 16 on the outer face of the plate 13 is a plate 20. See Figs. 3 and 4. The plate 20 has formed therein an arcuate slot 21 which is concentric with the shaft 16. The slot 21 accommodates a bolt 22 in the plate 13 for securing the plate 20 in adjusted position.

Arms 23 project laterally from the adjustable plate 20. Journalled in suitable bearings provided therefor in the arms 23 is a shaft 24 which parallels the frame 1. Beveled gears 25 connect the shaft 24 to the shaft 16 for actuation thereby.

A sectional, longitudinally adjustable boom 26 is mounted for swinging movement on the shaft 24. Toward this end, the boom 26 includes, on its inner end, a yoke 27 which is journaled on the end portions of the shaft 24. Mounted on the outer or free end portion of the boom 26 is a circular saw 28. A dual V belt and pulley connection 29 drives the saw 28 from the shaft 24. A cable 30 has one end connected to the boom 26 and its other end secured to the drum 8 for winding thereon for swinging the saw 28 upwardly and downwardly. Guy wires or cables 31 extend between the upper portion of the mast 7 and the side of the frame 1 which is remote from said mast.

It is thought that the operation of the machine will be readily apparent from a consideration of the foregoing. Briefly, when it is desired to fell trees, the bolt 22 is loosened and the plate 20 is rotatably adjusted to the position shown in dotted lines in Figure 4 of the drawings for turning the saw 28 to a horizontal plane, after which the bolt 22 is again tightened. Of course, the engine 4 drives the saw 28 through the belts 18

and 29, the shafts 16 and 24, etc. If desired, a suitable clutch may be interposed in the drive from the engine 4. The saw is engaged with the trunk of the tree and fed therethrough by swinging the boom 26 in a horizontal plane. Vertical adjustment of the saw for making the cut at different elevations may be had by raising or lowering the plate 13 with the assembly thereon. When logs are to be cut, the saw 28 is adjusted or positioned in a vertical plane and lowered into engagement with the work. The boom 26, with the saw thereon, is swung upwardly and downwardly through the medium of the drum 8 and the cable 30. The sections 32 of the boom 26 are adjustably connected at 33. The adjustability of the boom 26 permits the tension of the belts 29 to be regulated as desired. Projecting longitudinally from the outer end of the boom 26 is an arm 34. The arm 34 is adapted to have bolted thereto an extension in the form of a saw bench or table to facilitate cutting up limbs, etc., if desired.

It is believed that the many advantages of a portable saw rig constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the machine is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

A saw rig of the character described, comprising a wheel supported frame, an engine mounted on said frame, a mast of substantially U-shaped construction rising from the frame, metallic straps mounted vertically on the lower portions of the legs of the mast in spaced relation thereto, a vertical plate slidably and non-rotatably mounted at its ends for adjustment in a vertical plane between the straps and the legs of the mast, means for securing the plate in adjusted position, a shaft having one end portion extending transversely through and journaled in the plate, means connected to the other end of the shaft for driving the shaft from the engine, a second vertical plate rotatably adjustable in a vertical plane about said shaft and disposed at the outer side of said first-named plate, means for releasably securing the second named plate in rotatably adjusted position relative to the first named plate, a shaft journaled on the second named plate transversely of the first-named shaft, gears connecting the second named shaft to the first named shaft for actuation thereby, a boom mounted for swinging movement on the second named shaft, a circular saw rotatably mounted on the boom on an axis transversely of the latter, means connecting the circular saw to the second named shaft for actuation thereby, a drum mounted on the upper portion of the mast, and a cable connecting the mast to the drum for raising and lowering thereby.

ERNEST D. ADAMS.