

No. 859,249.

PATENTED JULY 9, 1907.

F. RADLOFF.  
WOOD SAW.

APPLICATION FILED MAR. 30, 1906.

4 SHEETS—SHEET 1.

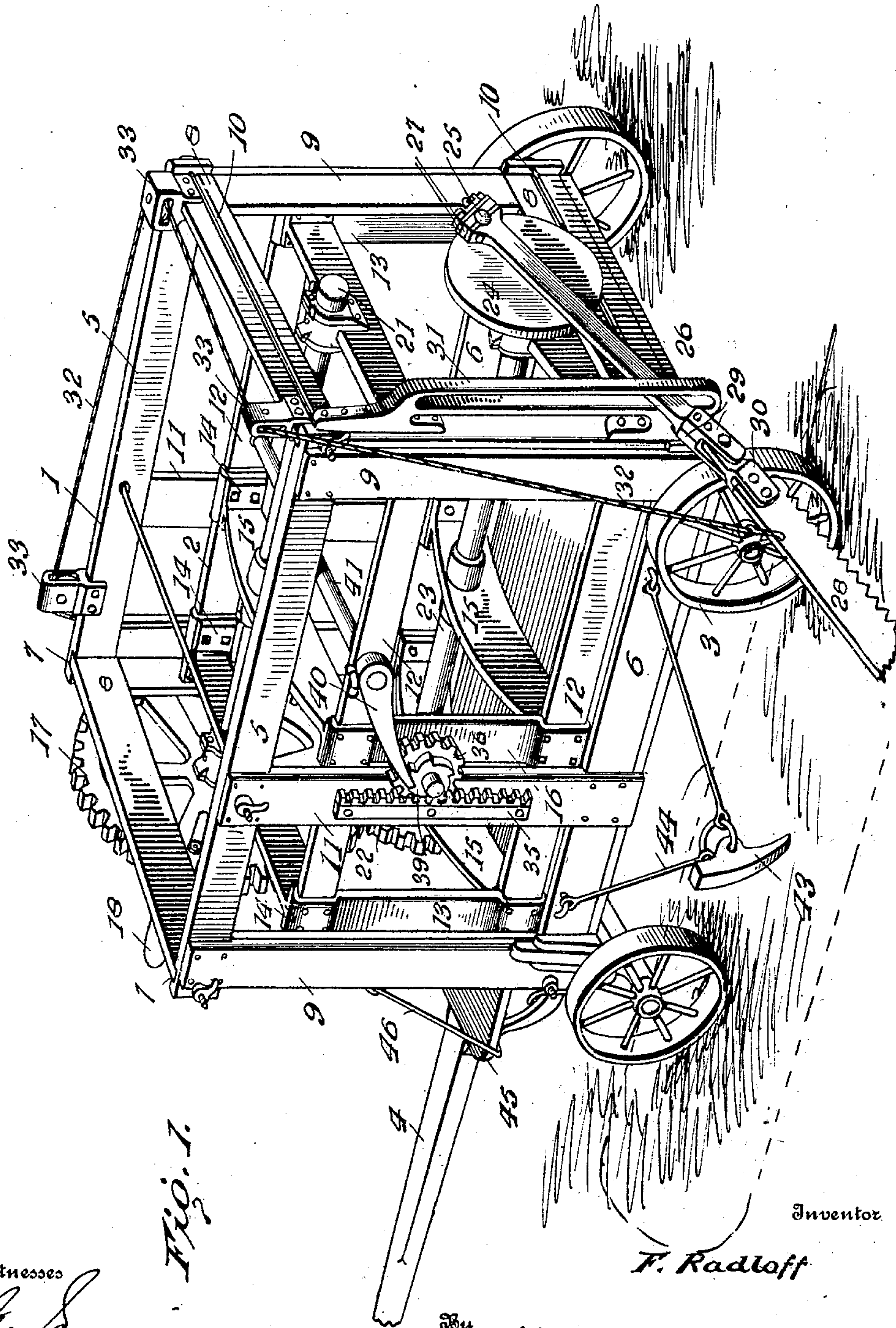


Fig. 1.

Witnesses

*W. V. Woodson*

Inventor

*F. Radloff*

By

*Thaskey*

Attorneys

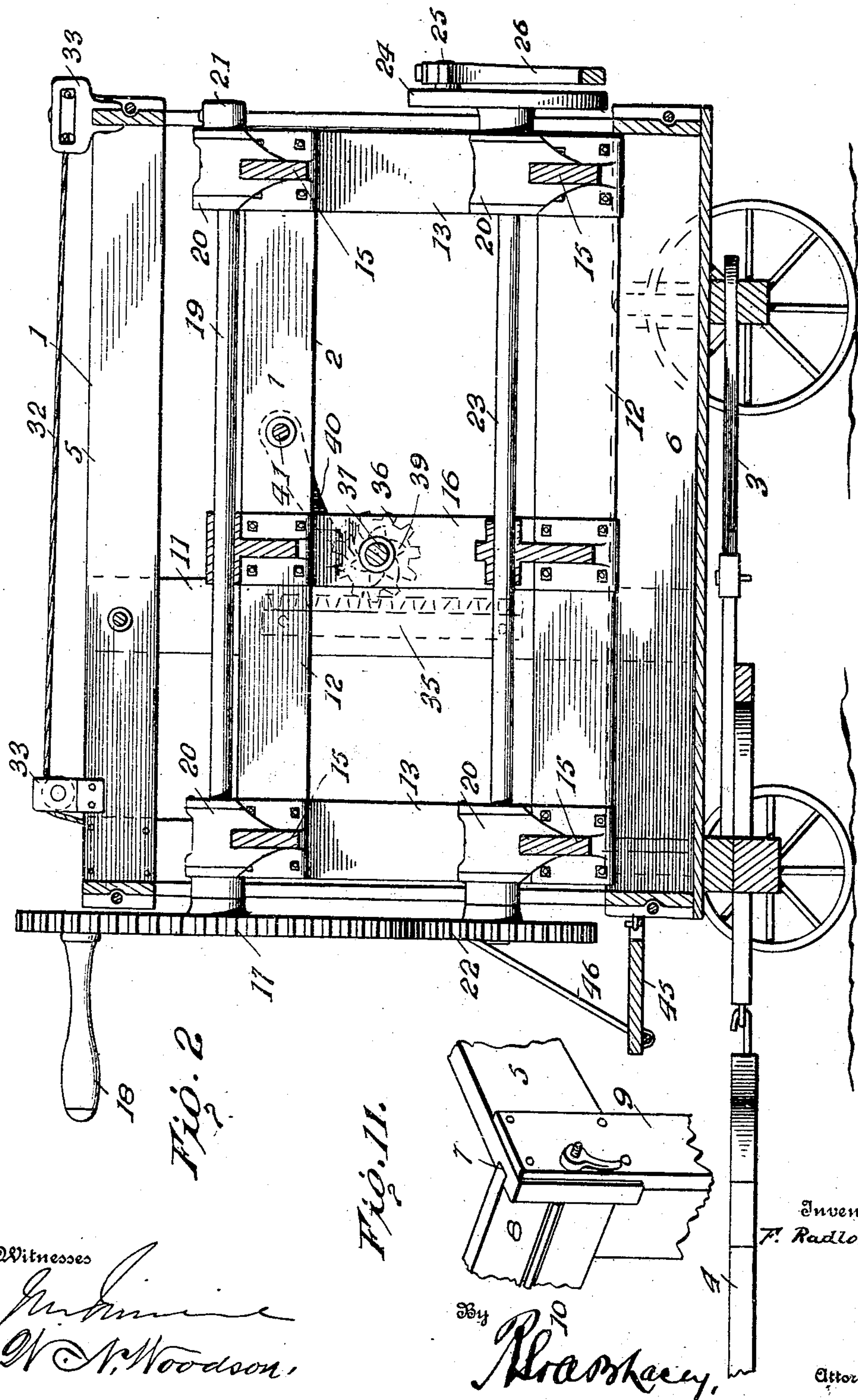
No. 859,249.

PATENTED JULY 9, 1907.

F. RADLOFF.  
WOOD SAW.

APPLICATION FILED MAR. 30, 1906.

4 SHEETS—SHEET 2.





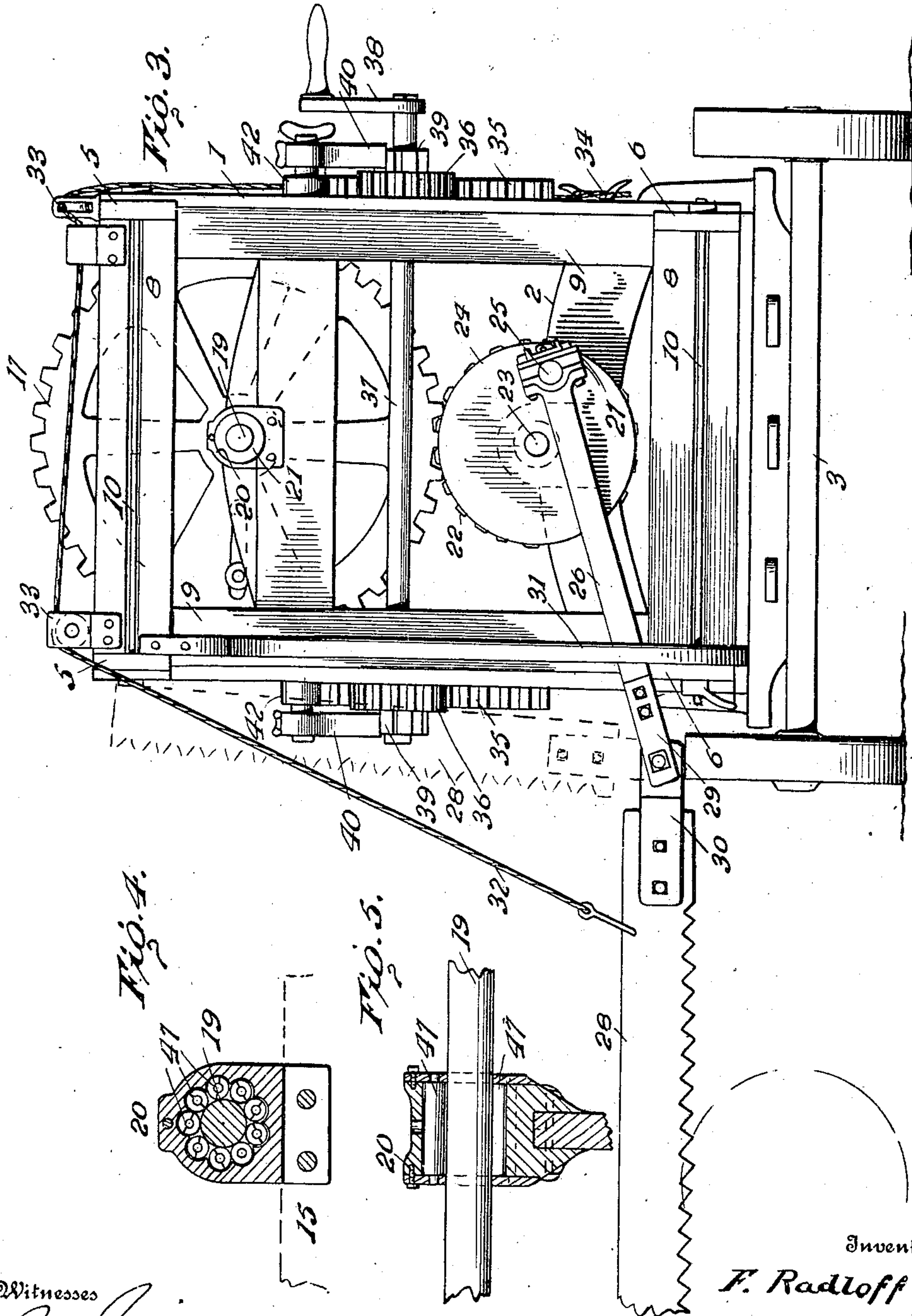
No. 859,249.

PATENTED JULY 9, 1907.

F. RADLOFF.  
WOOD SAW.

APPLICATION FILED MAR. 30, 1906.

4 SHEETS—SHEET 3.



Witnesses

*W. N. Woodson*

By

*Ph. B. Meyer*

Attorneys

Inventor

*F. Radloff*

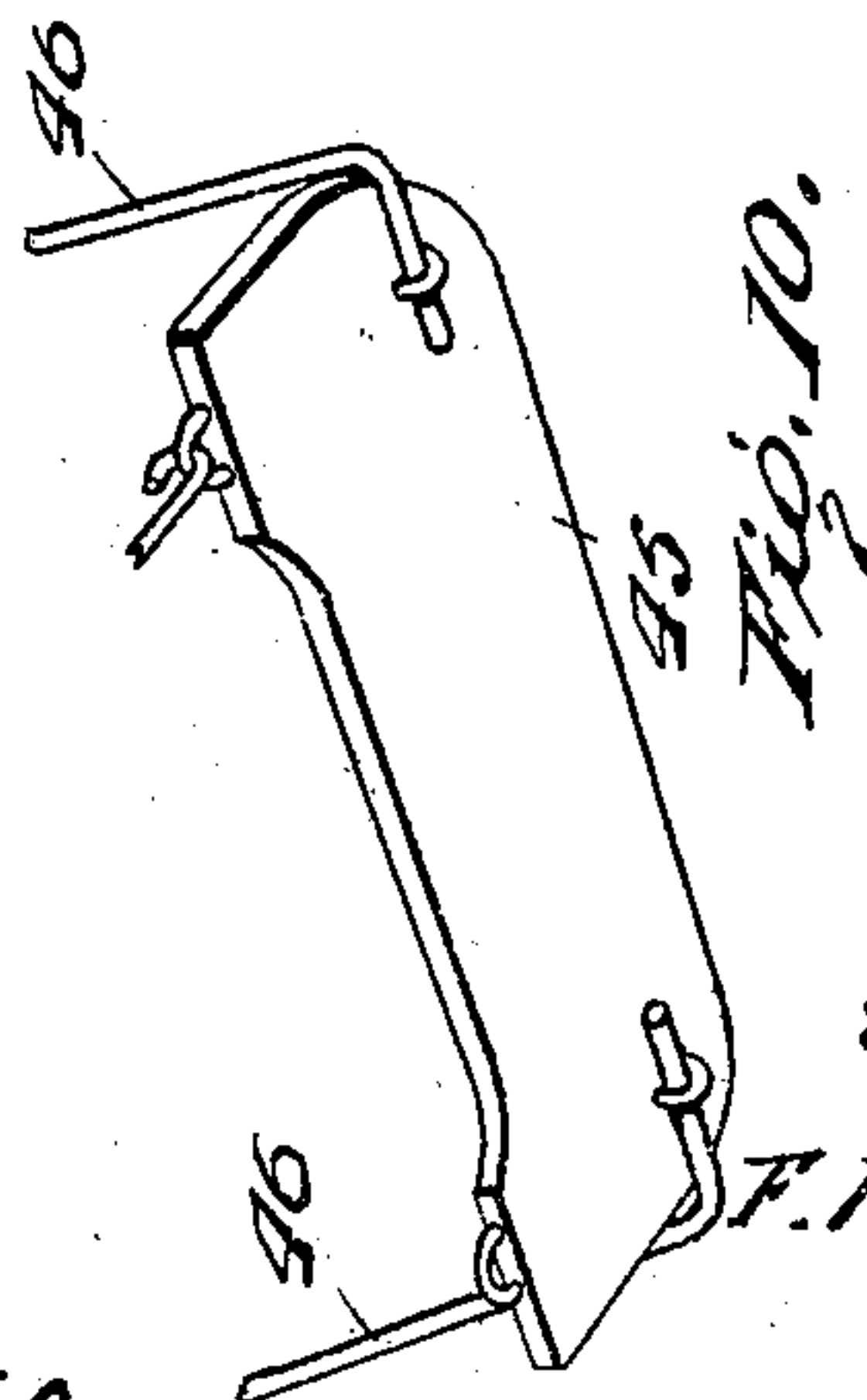
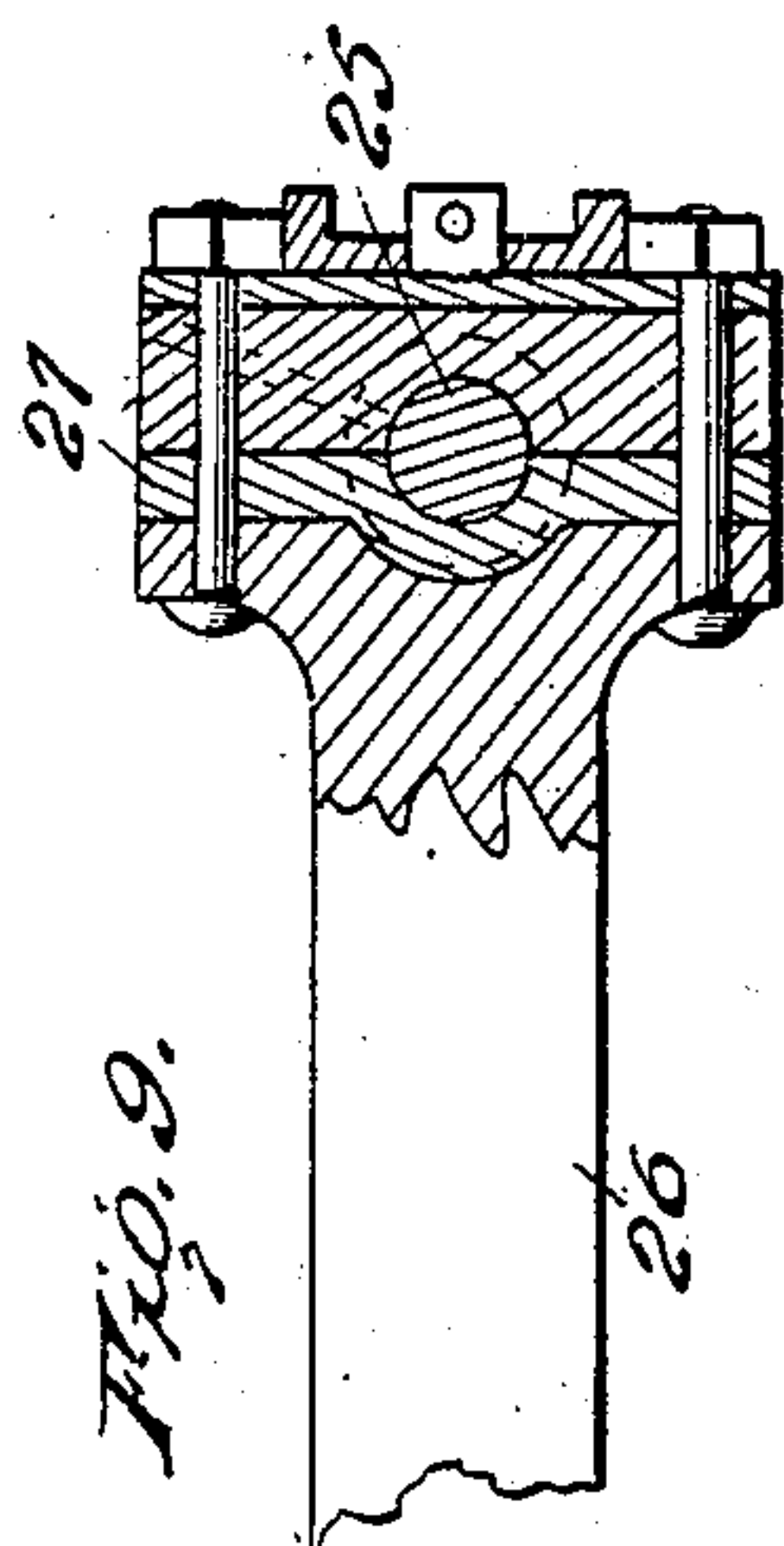
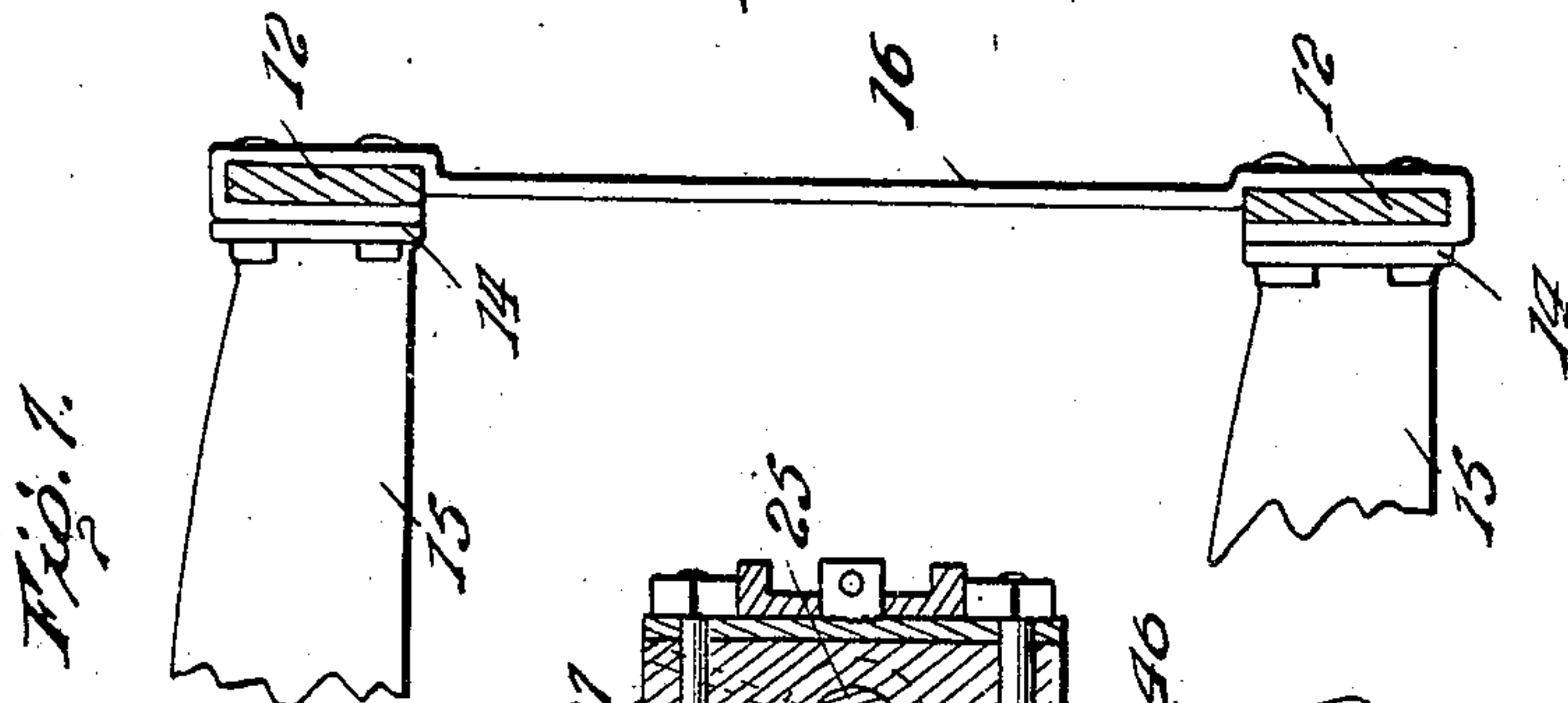
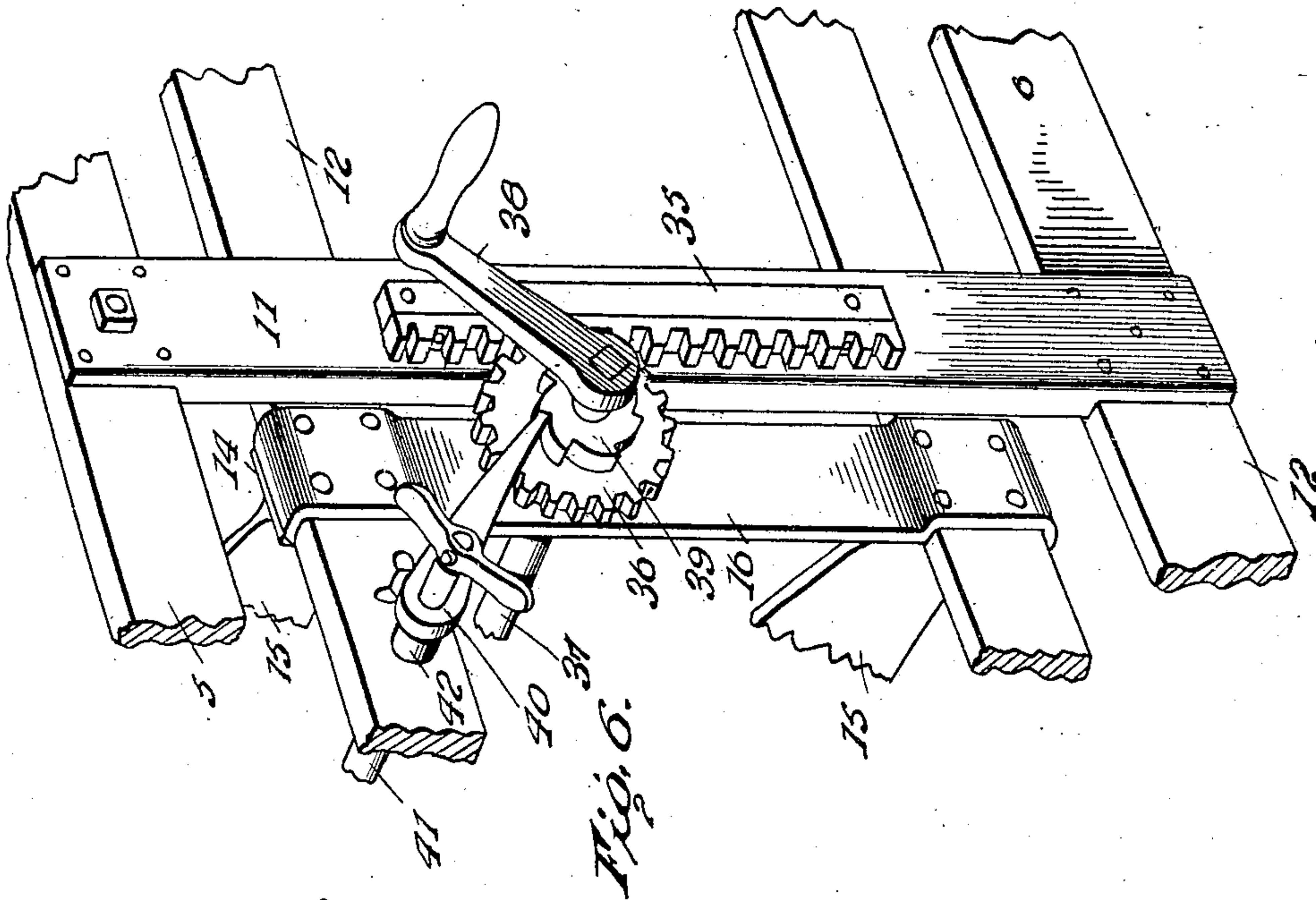
No. 859,249.

PATENTED JULY 9, 1907.

F. RADLOFF.  
WOOD SAW.

APPLICATION FILED MAR. 30, 1906.

4 SHEETS—SHEET 4.



Witnesses

*Wm. Woodson*

Inventor

*F. Radloff*

By

*Wm. Woodson*

Attorneys



# UNITED STATES PATENT OFFICE.

FREDERICK RADLOFF, OF GOLDENDALE, WASHINGTON.

## WOOD-SAW.

No. 859,249.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed March 30, 1906. Serial No. 308,921.

*To all whom it may concern:*

Be it known that I, FREDERICK RADLOFF, a citizen of the United States, residing at Goldendale, in the county of Klickitat and State of Washington, have invented certain new and useful Improvements in Wood-Saws, of which the following is a specification.

The object of the present invention is to provide an improved sawing machine which can be readily transported from place to place and which can be advantageously operated by one man.

A further object is to so construct the machine as to enable it to be adjusted in accordance with the various conditions under which it may be employed, and which will at the same time be strong and durable in construction.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of the improved sawing machine; Fig. 2 is a longitudinal sectional view through the same; Fig. 3 is a rear view of the machine; Fig. 4 is a transverse sectional view through one of the bearings within which the main shafts are journaled; Fig. 5 is a longitudinal sectional view through one of the bearings; Fig. 6 is a perspective view of portions of the outer and inner frames showing the method of adjusting the inner frame; Fig. 7 is a transverse sectional view through a portion of the inner frame; Fig. 8 is an enlarged perspective view of one of the side pieces secured to the outer end of the pitman; Fig. 9 is a view of the inner end of the pitman, parts being broken away to show the bearing plates which fit against opposite sides of the wrist pin; Fig. 10 is a perspective view of the shelf or foot-board attached to the forward end of the machine; and, Fig. 11 is a perspective view of one of the corners of the outer frame showing the method of connecting the members.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The machine consists essentially of a main or outer frame 1 and a supplemental frame 2 which is slidably mounted upon the main frame and which is provided with the saw operating mechanism. To enable the machine to be readily transported from place to place the main frame 1 is mounted upon a suitable running gear 3, the draft tongue 4 of which is detachable so as to be removed when not in use. The main frame 1 is preferably constructed of wood and is approximately

rectangular in shape as shown. This main frame comprises the upper side pieces 5, and the lower side pieces 6 which have their ends provided with a transverse groove or recess 7 for the reception of the upper and lower cross pieces 8. The corner posts 9 of the main frame have their ends halved on to the side pieces 5 and 6 and a rigid construction is given to the frame by means of the tie rods 10 which pass through the side pieces and corner posts and preferably lie in longitudinal grooves in the outer faces of the cross pieces 8. The main frame is also formed with the intermediate upright members 11 which are employed for the adjustment of the inner frame 2 as will be described.

The inner frame 2 is preferably constructed of metal and is also rectangular in shape so as to fit loosely within the main frame 1 and be vertically adjusted therein. The side pieces 12 of the inner frame have their ends rigidly connected to the corner posts 13, the ends of the latter being bent back upon themselves so as to embrace the side pieces as shown. These side pieces and corner posts are held together by means of bolts or similar fastening means which also pass through the end flanges 14 upon the transverse members 15. It will be observed that the transverse members 15 at the lower portion of the frame are bent slightly upward and given an arched formation. The inner frame is also provided with the intermediate upright posts 16 which are so located as to lie upon one side of the intermediate upright members 11 on the outer frame when the machine is assembled. The drive wheel 17 which is provided with a suitable handle 18 is preferably located at the forward end of the machine and is keyed to a shaft 19 which is journaled in the bearings 20 secured to the upper transverse members 15 on the inner frame. The free end of the shaft 19 is capped by a collar 21 which holds the shaft against longitudinal displacement. This drive wheel 17 is formed with a series of teeth and is thereby adapted to transmit motion to the gear wheel 22 which is keyed to the forward end of a second shaft 23 which is approximately parallel to the shaft 19 and which is journaled in bearings similar to the bearings 20 secured to the lower transverse members 15 of the inner frame 2. The rear end of the lower shaft 23 has the operating wheel 24 keyed thereto, and this operating wheel is provided with a wrist pin 25 for connection with the pitman 26. In this manner it will be apparent that by turning the drive wheel 17, motion will be transmitted through the gear wheel and lower shaft to the operating wheel and pitman.



The pitman 26 is provided at both ends with removable bearings which can be readily replaced when worn without the necessity of supplying an entirely new pitman. The inner end of the pitman has two bearing plates 27 detachably connected thereto, and these bearing plates fit upon opposite sides of the wrist pin 25 so as to receive all the wear. The outer end of the pitman is loosely connected to the saw blade 28 and for this purpose two side pieces 29 are employed which fit upon opposite sides of the pitman and project beyond the end of the same in order to form spaced arms between which one end of the saw holding member 30 is pivoted. In the specific formation of the saw holding member 30, it will be observed that the outer end thereof is bifurcated and rigidly connected to the saw blade 28, while the inner end is reduced in cross section and pivoted between the side pieces 29 as mentioned. It will be observed that the pitman 26 passes through a guide member 31 which is rigidly secured to the main frame 1 and is provided with a longitudinal slot which holds the pitman against lateral movement, but does not interfere with the vertical adjustment of the mechanism. In order to support the saw 28 and hold the same in a raised position when not in use, a cable 32 is employed which passes over the guide members or pulleys 33 at the top of the outer frame and has one end connected to the saw blade 28 while the opposite end extends down to within easy reach of the operator and is adapted to be wrapped upon a cleat 34 in order to hold the saw blade at the required height. It will thus be apparent that by taking in or letting out the cable 32 the saw can be raised or lowered as desired.

In order to provide for the vertical adjustment of the inner frame 2 within the outer frame 1, the latter is provided with racks 35 which cooperate with pinions 36 upon the inner frame. One of the racks 35 is preferably secured to each of the intermediate upright members 11 of the outer frame, and the two pinions 36 cooperating with the racks are preferably keyed to a transverse shaft 37 which is journaled in the intermediate upright pieces 16 of the inner frame. One end of the transverse shaft 37 projects somewhat beyond the outer frame and is provided with a crank handle 38 by means of which the pinions 36 can be turned so as to raise or lower the inner frame as required. The shaft 37 is also provided with ratchet wheels 39 which are adapted to engage with the pawls 40 in order to lock the shaft against turning and hold the inner frame in a rigid position. One of these ratchet wheels 39 is preferably placed against each of the pinions 36, and the two pawls 40 are preferably mounted upon opposite ends of the transverse shaft 41 which is journaled in the upper side pieces of the inner frame. If desirable collars 42 may be placed upon the shaft 41 between the pawls and the side pieces of the inner frame and the shaft thus held against longitudinal displacement.

The log or other piece of timber which is being sawed is held in a fixed position with relation to the sawing machine by means of a spike 43 which is embedded therein, and which is connected to the outer frame by means of links 44. The inner ends of the links 44 are formed with eyes which are detachably connected to hook members secured to the frame. This construc-

tion admits of the removal of the spike 43 and links 44 while the machine is being moved from place to place. It will be observed that the two links diverge outwardly from the spike and thereby prevent any lateral swinging movement of the same.

When the inner frame is raised within the outer frame, the handle 18 upon the drive wheel 17 may be elevated out of reach of the operator, and to provide for this emergency, a shelf or foot board 45 is employed. This shelf 45 is provided with eyes by means of which it is detachably connected to hook members at the forward end of the outer frame 1, and is held in a horizontal position by means of supporting rods 46. These rods 46 have their upper ends loosely connected to the framework, while their lower ends are provided with hooks which are adapted to engage with eyes located near the outer edge of the foot-board.

In the specific construction of the bearings 20, it will be observed that each comprises a casing having a series of friction rollers 47 mounted therein. These rollers 47 extend longitudinally through the casing and completely surround the shafts passing therethrough. With this construction very little of the energy is used up by friction and a very large percentage thereof is transmitted to the saw. It may also be observed that the racks 35 located upon the intermediate members 11 of the main frame are preferably comprised of bars of hard wood or similar material having a series of metal teeth secured to one edge thereof.

In the operation of the device, the inner framework is raised to the desired height by turning the crank 38 and the log or other piece of timber rigidly secured in position by means of the spike 43. The saw is then lowered into operative position by means of the cable 32 and the usual reciprocating motion transmitted thereto by turning the drive wheel 17.

Having thus described the invention, what is claimed as new is:

1. A sawing machine, comprising an outer rectangular framework embodying corner posts and intermediate upright side members, an inner rectangular frame mounted to slide vertically within the outer frame and embodying side pieces and corner posts and two intermediate upright side posts, the ends of the corner posts and intermediate posts of the inner frame being turned upon themselves so as to partially embrace the side pieces of the inner frame, upper and lower transverse members in the inner frame and provided at their ends with oppositely extending flanges secured to the returned ends of the said corner posts and intermediate posts, an upper and a lower shaft journaled in said transverse members and in the end portions of the inner frame, the lower shaft being provided with an eccentric, a drag saw operatively connected to said eccentric, means for turning the upper shaft, a gearing connection between the upper shaft and lower shaft, an upright rack and a pinion connection between the intermediate upright posts of the inner frame and the intermediate upright members of the outer frame, a transverse shaft extending across the inner frame and upon which the pinions of said connection are mounted, means for turning said shaft whereby to elevate or lower the inner frame within the outer frame, and means for raising and lowering the saw independently of the raising and lowering of the inner frame.

2. In a sawing machine, the combination of an outer rectangular frame, racks located upon the outer frame, an inner rectangular frame fitting loosely within the outer frame and comprising opposite sides connected at their ends and intermediate portions by transverse members pro-

5 vided with bearings, a shaft journaled in the bearings on one set of transverse members, a drive wheel mounted upon the shaft, a second shaft journaled in the bearings on a second set of transverse members, a gear wheel mounted upon the second shaft and receiving motion from the drive wheel, a saw, a pitman having an operative connection with the second mentioned shaft and transmitting motion to the saw, a third shaft passing through the inner frame, pinions mounted upon the third shaft and engaging with

the before mentioned racks upon the outer frame whereby 10 the inner frame can be vertically adjusted, and means for locking the inner frame in a fixed position.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK RADLOFF. [L. S.]

Witnesses:

N. B. BROOKS,

F. A. SMITH.