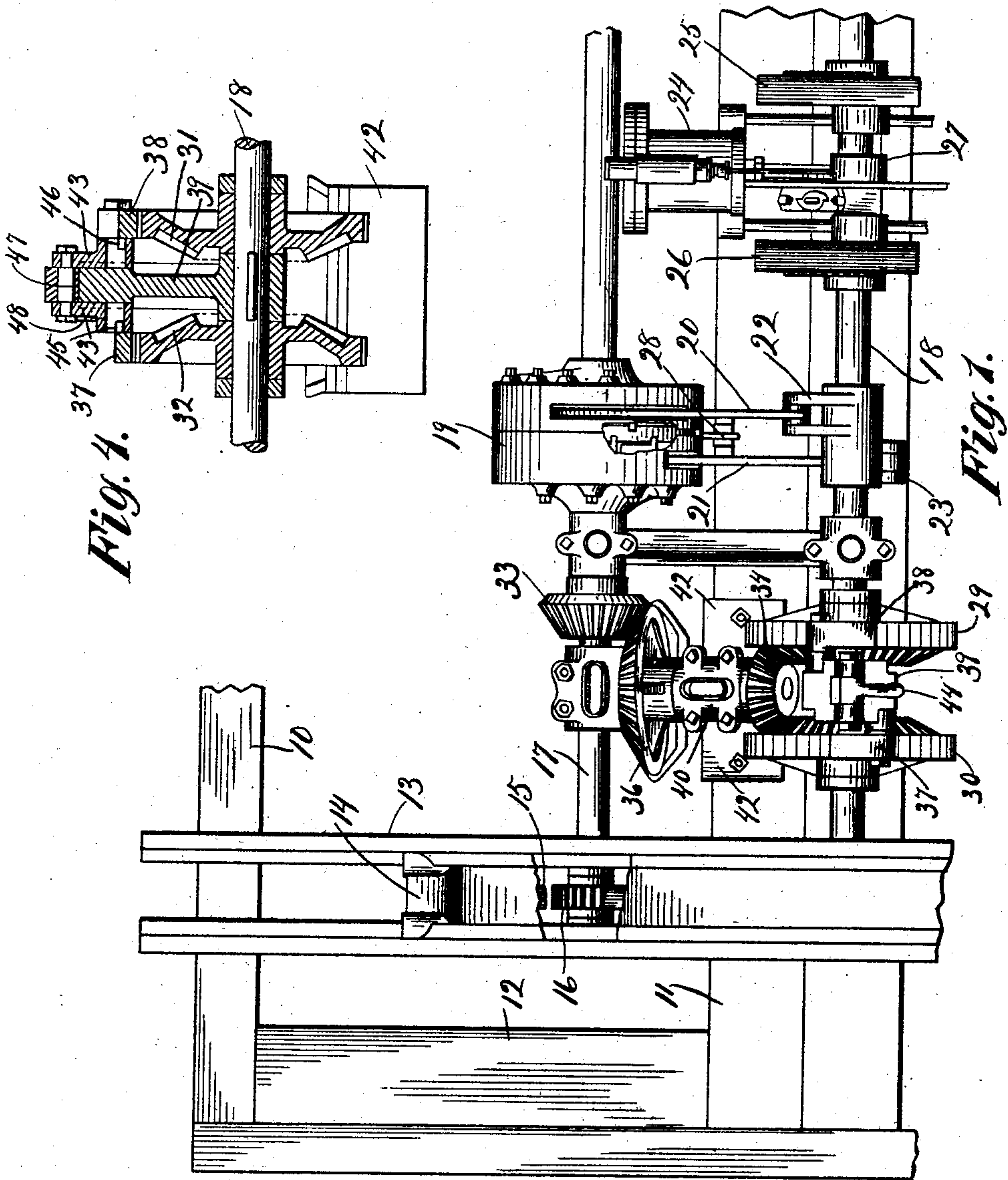


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SAWMILL SETTING AND RECEDING MECHANISM.  
APPLICATION FILED MAY 16, 1908.

973,588.

Patented Oct. 25, 1910.

2 SHEETS—SHEET 1.



Witnesses:  
W. H. Cotton  
E. M. Klatcher

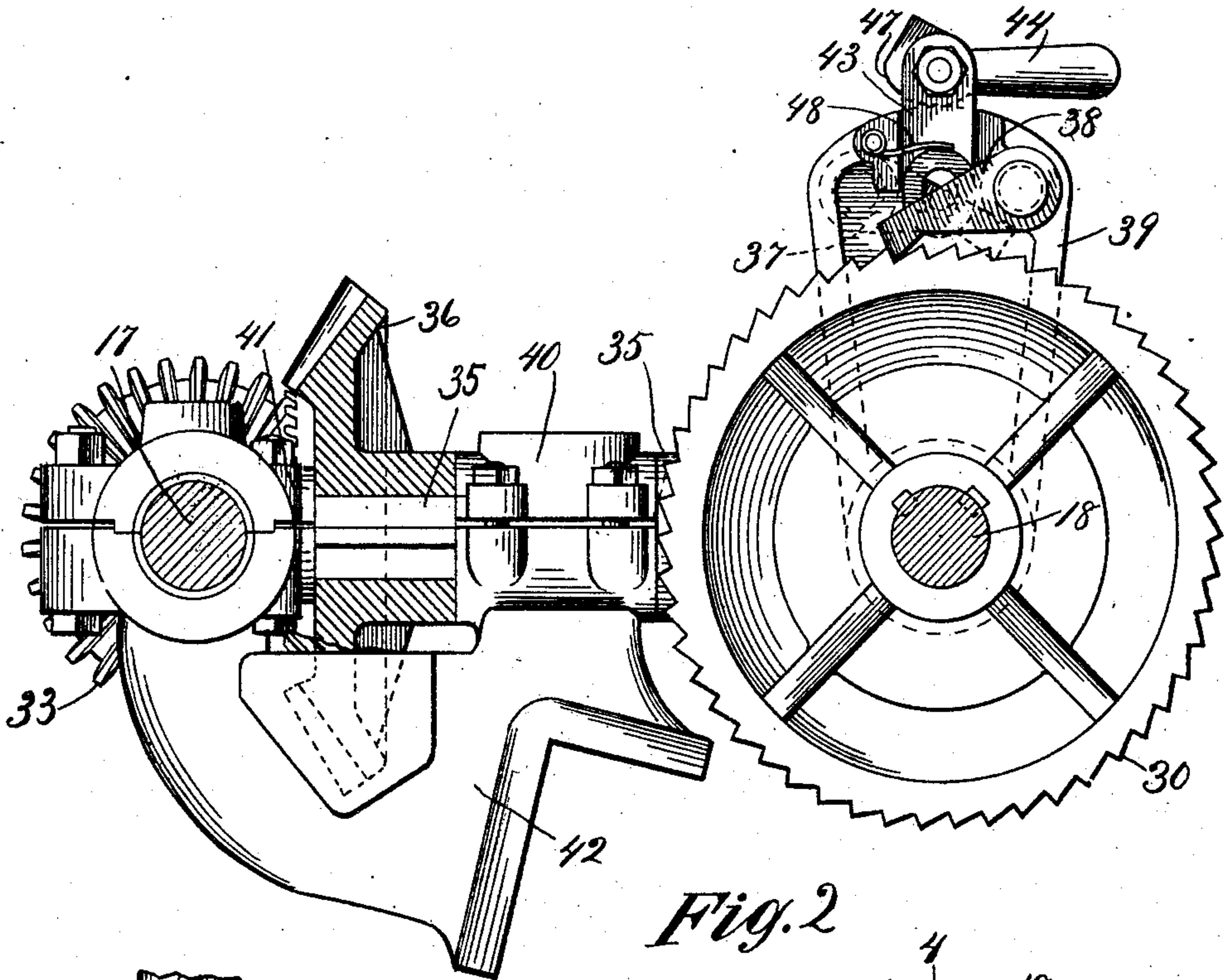
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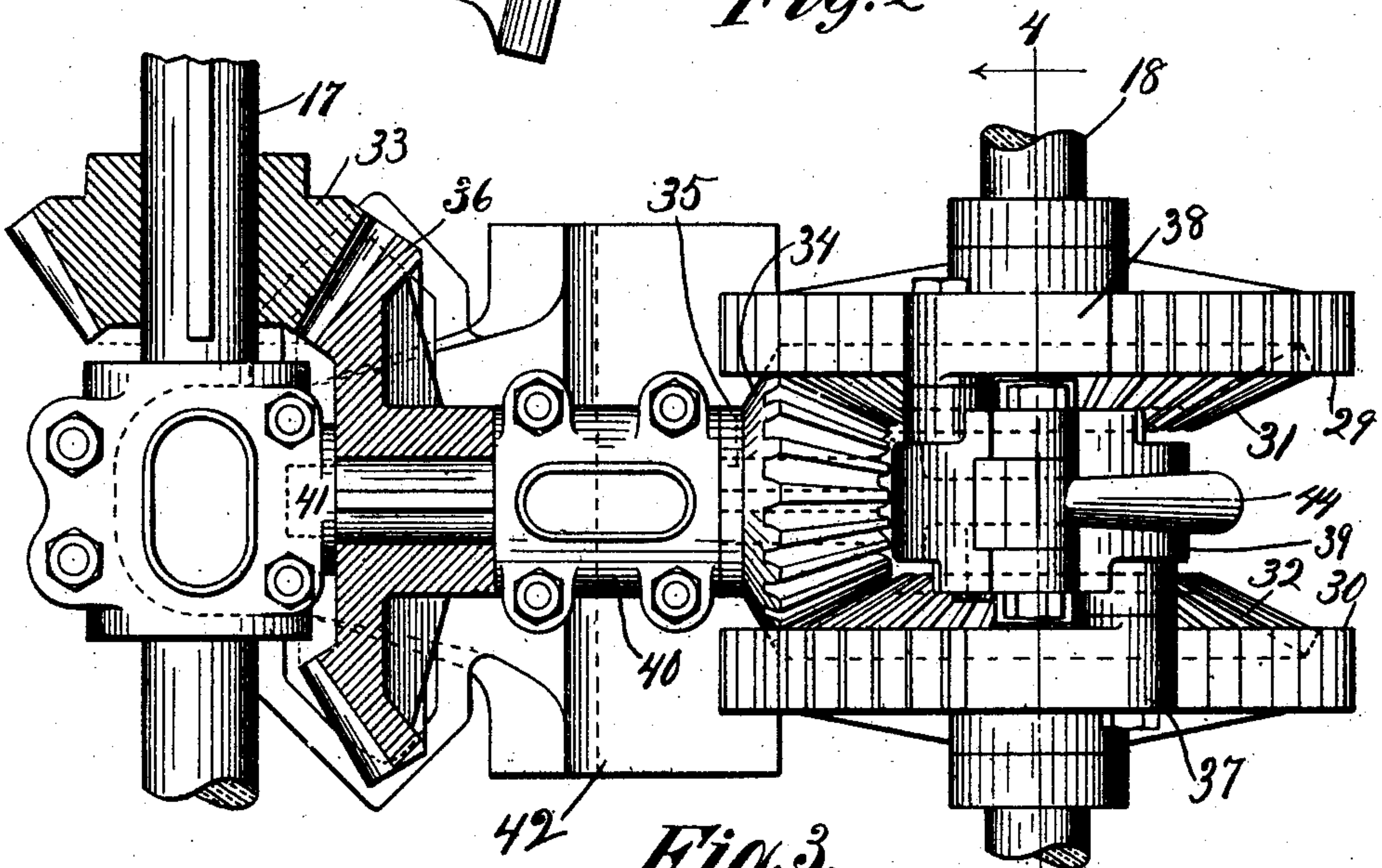
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2 SHEETS—SHEET 2.



*Fig. 2*



*Fig. 3.*

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# UNITED STATES PATENT OFFICE.

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## SAWMILL SETTING AND RECEDING MECHANISM.

973,588.

Specification of Letters Patent.

Patented Oct. 25, 1910.

Application filed May 16, 1908. Serial No. 433,289.

*To all whom it may concern:*

Be it known that I, IRA M. THURLOW, a citizen of the United States, and resident of Menominee, county of Menominee, and State of Michigan, have invented certain new and useful Improvements in Sawmill Setting and Receding Mechanisms, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to power mechanisms for actuating the knees of saw-mill carriages, its object being to provide improved means for connecting a motor with the knees, and more particularly to provide for the movement of the knees in either direction by the action of a single motor.

The invention consists in the structure hereinafter described, and which is illustrated in the accompanying drawings, in which,—

Figure 1 is a detail plan view of a saw-mill carriage showing the setting and receding mechanism, some parts being broken away; Fig. 2 is a side elevation, partly in section, of the gearing for effecting the recession of the knees; Fig. 3 is a plan view of the same, partly in section; and Fig. 4 is a sectional view on the line 4—4 of Fig. 3.

The longitudinal and transverse sills of a saw-mill carriage are shown at 10, 11 and 12, and one of the head blocks thereof at 13. A knee running on the head block 13 is represented at 14, and is provided with the usual rack bar 15 at its base, with which coöperates a gear 16 fixed upon the set shaft 17.

The usual rocker shaft is shown at 18, and as being operatively connected with the set shaft 17 by means of the usual ratchet and pawl mechanism, the ratchet-wheel casing being shown at 19, the links for actuating the pawls at 20, 21, and the crank arms fixed upon the rocker shaft 18 and carrying links at 22, 23. A reciprocating motor is represented at 24, and acts upon the rocker shaft through the medium of a pair of rack bars shown at 25, 26 and carried by the cross head 27 of the motor. The ratchet and pawl mechanism is provided with a suitable pawl lifting device, conventionally shown at 28. All of these parts being old and well known, they are not shown and described in detail, and may give place to any preferred form

of motor and transmitting mechanism for advancing the knees.

The recession of the knees is accomplished by means of the same motor, rocker shaft and set shaft, the two shafts being operatively connected by means of a pair of ratchet wheels 29, 30 loosely mounted on the rocker shaft, having oppositely faced teeth and being provided with beveled gears 31, 32 formed upon their adjacent faces; a beveled gear 33 fixed upon the set shaft 17; a beveled gear 34 fixed upon a shaft 35 and meshing with the gears 31, 32; a beveled gear 36 fixed upon the shaft 35 and meshing with the gear 33; and pawls 37, 38 carried by a pawl-carrying arm 39 fixed upon the rocker shaft 18 and coöperating respectively with the ratchet wheels 29, 30. The shaft 35 is journaled in suitable boxes 40, 41 mounted upon a bracket 42 within which is journaled the set shaft 17, and which is mounted upon the sill 11. A link 43 suspended from a cam lever 44 loosely engages studs 45, 46 projecting laterally from the pawls 37, 38, thereby providing means for raising the pawls out of engagement with the teeth of the ratchet wheels 29, 30, the cam head 47 of the lever 44 riding upon the upper face of the pawl-carrying arm 39. A spring 48 is preferably provided to bear downwardly upon the link 43 to hold it in its lowered position. The gears 34 and 36 are suitably proportioned relatively to the gears with which they intermesh in order to insure a quick receding action.

In operation, but one of the transmitting mechanisms connecting the rocker shaft to the set shaft is in action at any time, the pawls connected with the other being raised. That is to say, when the knees are to be advanced, the pawls 37, 38 are raised and the pawls actuated by the links 20, 21 are lowered. At each stroke of the motor, the set shaft 17 is advanced to move the knees forwardly. When it is desired to recede the knees, this set of pawls is raised and the pawls 37, 38 are lowered, thereby turning the shaft 17 backwardly at each stroke of the motor piston, but at an increasing speed.

I claim as my invention—

1. In a saw-mill setting and receding mechanism, in combination, a rotatable shaft, a rocker shaft, two sets of pawl and ratchet mechanisms connecting the rocker



shaft with the rotatable shaft and arranged to act in alternation and to drive the rotatable shaft in opposite directions.

2. In saw-mill knee-actuating mechanism, 5 in combination, a rotatable shaft, a rocker shaft, means for actuating the rocker shaft, a pair of wheels loosely mounted on the latter shaft, each having a ratchet face and a gear face, the two sets of ratchet teeth being oppositely directed, an arm fixed on said 10 last-named shaft, pawls carried by the arm and cooperating with the two ratchets, a gear meshing with the gear faces of such wheels, and a gear mounted rigidly with the 15 last-named gear and intermeshing with a gear fixed on the rotatable shaft.

3. In saw-mill setting and receding mech-

anisms, in combination, a rocker shaft, a set-shaft, direct pawl and ratchet connection between the two shafts, a pair of ratchet 20 wheels loose on the rocker shaft and having oppositely-directed teeth and gear teeth on their adjacent faces, an arm fixed on the shaft between such two ratchet wheels and carrying pawls and engageable therewith, a 25 gear on the set-shaft, a countershaft, and gears on the countershaft engaging, respectively, the gear teeth of the two ratchet wheels and the set shaft gear.

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Witnesses:

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