No. 775,247. PATENTED NOV. 15, 1904.

J. R. REID.

SAWING MACHINE.

APPLICATION FILED JUNE 20, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

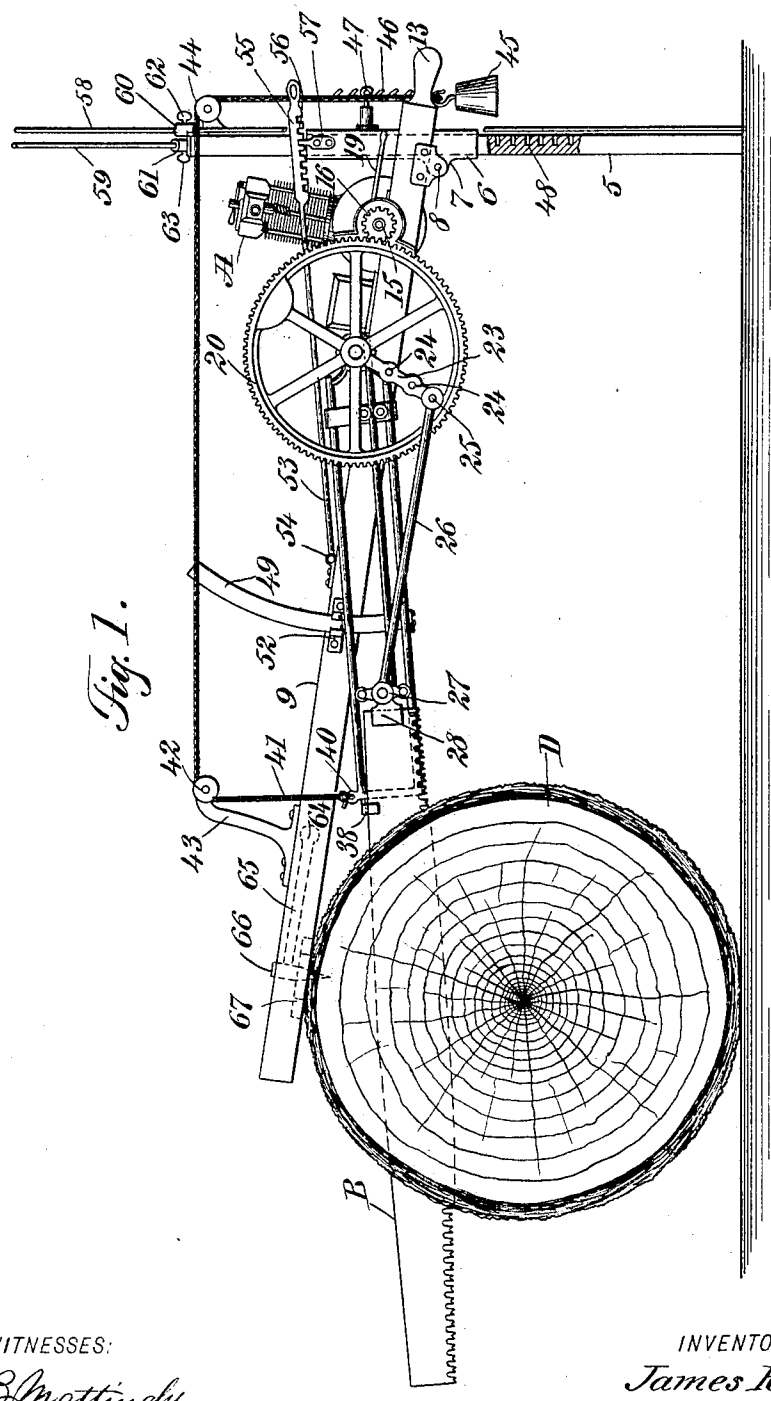


Fig. 1.

WITNESSES:

A. B. Mattingly

R. B. Cavanagh.

INVENTOR

James R. Reid

BY Munn & Co

ATTORNEYS.

PHOTO LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 775,247. PATENTED NOV. 15, 1904.

J. R. REID.

SAWING MACHINE.

APPLICATION FILED JUNE 20, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

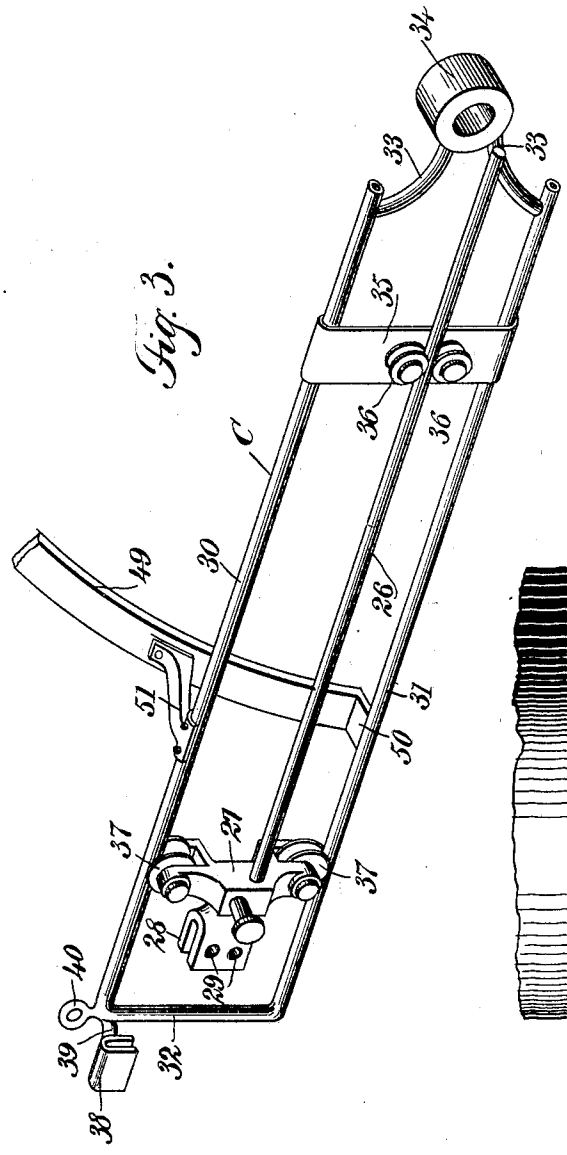
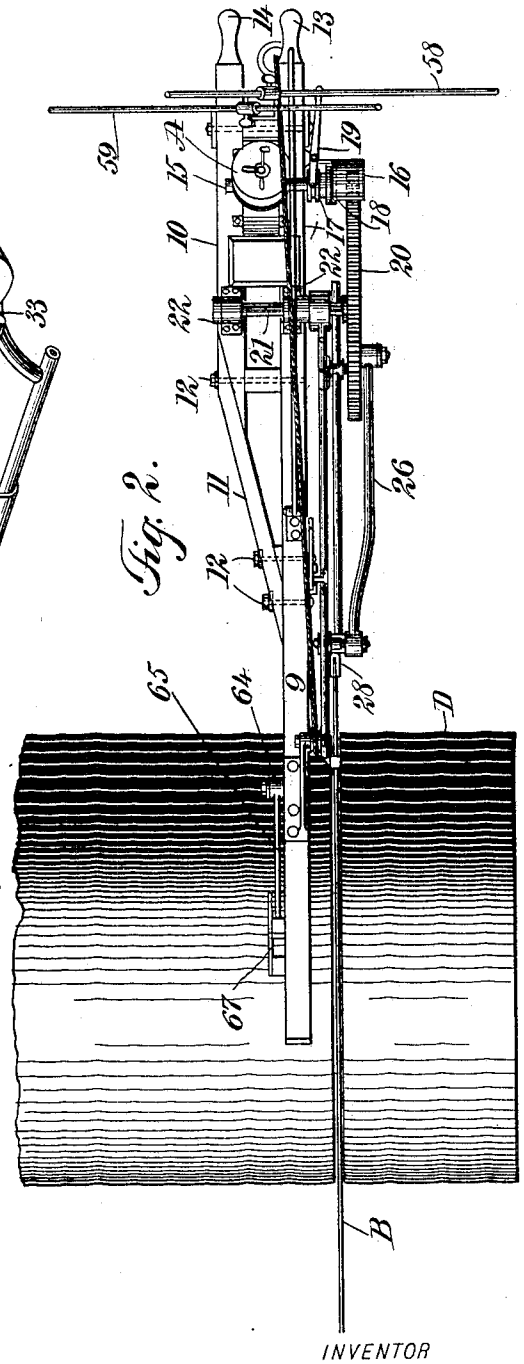


Fig. 2.



WITNESSES:

A. B. Mattingly

R. B. Cavanagh.

INVENTOR

James R. Reid

BY

Munn & Co

ATTORNEYS.

No. 775,247. Patented November 15, 1904.

UNITED STATES PATENT OFFICE.

JAMES ROBERT REID, OF VANCOUVER, WASHINGTON.

SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 775,247, dated November 15, 1904.

Application filed June 20, 1903. Serial No. 162,354. (No model.)

To all whom it may concern:

Be it known that I, JAMES ROBERT REID, a citizen of the United States, and a resident of Vancouver, in the county of Clarke and State of Washington, have invented new and useful Improvements in Sawing-Machines, of which the following is a full, clear, and exact description.

This invention relates to sawing-machines, and has particular application to certain novel and useful improvements in a motor-driven drag-saw mechanism.

One of the principal objects of the present invention is to devise a mechanism such as above referred to which shall embody the essential desired features of durability, economy of space, lightness, simplicity, and inexpensiveness.

A further object of the present invention is to provide a sawing-machine which may be easily carried or transferred from place to place over rough and uneven ground, such as generally found in wooded localities, without the necessity of employing teams or consuming time in clearing a path for the passage of the machine through the woods.

A further object of my invention is to provide a novel machine the saw whereof is designed to be driven by a suitable engine or motor mounted upon the frame.

With the above-recited objects and others of a similar nature in view my invention consists in the construction, combination, and arrangement of parts, as is described in this specification, delineated in the accompanying drawings, and set forth in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a view in side elevation of a machine embodying my improvements, said view being also illustrative of the position occupied by the mechanism when in use. Fig. 2 is a top plan view of the machine shown in Fig. 1; and Fig. 3 is a perspective view of the saw, cross-head, driving-rod, and guide for the same.

Referring now to the accompanying drawings in detail, 5 designates a vertical standard or bar which is designed to form the supporting-leg or rest for the machine, said standard having a sleeve 6 mounted thereon, and the standard is provided with an extended or ear-like portion 7, to which is pivotally secured, through the medium of a hinge 8, a relatively long beam 9 and a shorter beam 10, said latter beam being connected or jointed with the relatively long beam 9 through the medium of a bar or scantling 11, said scantling being secured by bolts 12. The rear ends of the bars 9 and 10 are formed with handle portions 13 and 14, respectively, by means of which handle portions the machine may be conveniently moved. It is to be noted that the vertical standard 5, the beam 9, and the bar 10, together with the connecting scantling or bar 11, form a main frame for the driving mechanism and the devices hereinafter described.

Suspended or mounted on the portion of the frame formed by the parallel members 9 and 10 is a motor or engine A of any suitable type or character, such as a small gasolene-motor, and this member A is designed to impart motion to and drive a small horizontally-disposed shaft 15, said shaft having loosely mounted at one of the outer end portions thereof a toothed pinion 16 and half of a clutch device 17, mounted to slide on the shaft 15, the other portion, 18, of such clutch mechanism being arranged to rotate with the shaft 15, the construction being such that when the part 17 of the clutch is shifted into engagement with the portion 18 thereof, through the medium of a lever 19, motion will be imparted to the clutch and to the small pinion 16. This pinion 16 in turn meshes with and drives the relatively large cog-wheel 20, carried by the shaft 21, which shaft is rotatably mounted in bearings 22 22, secured to the frame members 9 and 10. One of the spokes 23 of the large cog-wheel 20 is provided with a series of apertures 24, designed to permit the passage of a pivot-pin 25, through the medium of which a pitman 26 is secured at one end to said wheel, the opposite end of said pitman 26 carrying a cross-head 27, to which cross-head is designed to be secured the saw-blade B, a clasp or jaw-clamp 28 being formed on said cross-head, said clamp having apertures, as at 29, therein, through

which bolts may pass for securing the head of the saw-blade to such clamp.

In order to guide the saw-blade and the cross-head and pitman in its movement, I provide a guiding-frame, (clearly shown in detail in Fig. 3 and designated as a whole by C,) said frame comprising, essentially, the longitudinal bars 30 and 31, the front end member 32, and rear bars 33 33, the latter bars supporting a collar 34, designed to surround the shaft 21, the construction being such that the frame will be partially supported by said shaft. A vertically-arranged plate 35 is secured to the bars 30 and 31, said plate carrying bearing-rollers 36 36, designed to assist in guiding the pitman 26, the cross-head 27 having at each end thereof similar rollers 37 37, designed to slide back and forth upon the longitudinal bars 30 and 31, this construction greatly reducing the friction of the pitman 26 and cross-head 27. A small clip 38 is carried by an arm 39, formed at the outer end of the guide-frame, this clip 38 acting as a guide for the saw-blade B when the latter is reciprocated by the movement of the pitman. An apertured lug or ear 40 is formed on the frame adjacent to said clip 38, said ear being designed to have one end of a rope or cable 41 secured thereto, said cable passing up over a roller 42, carried by an arm 43, and thence passes longitudinally of the machine and over a second roller, 44, carried by the standard 5, the free end of the cable having secured thereto a weight 45, while the portion of the cable near the end is provided, preferably, with loops 46, which may be fastened or secured to a spring-pin 47, this pin 47 being designed to pass through the sleeve 6 and seat within slots or bores 48, formed in the standard 5, the construction being such that the sleeve may be moved into any adjusted position and held through the medium of the pin 47, seating in one of the apertures 48. The cable construction just described is employed for the purpose of moving the saw-blade as desired by the operator, and the loops or rings upon the end of the cable permit the saw to be supported by the rope in any preferred position.

A segmental or arc-like arm 49 is connected at 50 and 51 to the guide-frame C, said arm passing through and being guided by a bracket 52, secured to the side of the beam 9, said bracket having an opening therein wide enough to permit the passage of the connection 51 just described. In order to hold the beam members 9 and 10 rigid with the standard 5, a rod 53 is hinged at 54 to the beam 9, the opposite end of said rod being flattened, as at 55, and having formed therein a series of teeth, as shown at 56, said teeth being designed to engage a latch 57, secured to the standard 5, the construction being such that the pivoted beam portion of the frame may be held rigidly in a position of adjustment by this connecting-rod 53, and when the toothed portion of the rod is released from the latch 57 the standard 5 may be folded under and parallel with the beam 9, whereby the entire mechanism may be easily transported from place to place.

To further assist in supporting the frame of the machine in a rigid position when in use, I have provided supporting-legs 58 and 59, adapted to diverge downwardly, so that a tripod-like structure will be formed by the standard 5 and the legs 58 and 59, said legs being adjustable through the medium of the sleeves 60 and 61 and the set-screws 62 and 63, said sleeves being secured to the upper end of the standard 5.

When in use, it is desirable that the saw-frame shall have no movement relative to the log being cut, and in order to accomplish this purpose I have hinged to the outer end of the beam 9, as at 64, an arm 65, said arm carrying at its free end a dog 66, adapted to bite into a log, such as shown at D, said dog being guided through the medium of a bracket-plate 67, secured to one side of the aforesaid beam 9.

From the above description, taken in connection with the accompanying drawings, the construction and operation of my improved mechanism will be readily apparent. When the frame has been assembled in the proper position relative to the log D, the motor is started and motion is imparted from the small pinion 16 to the large drive or cog wheel 20, which in turn actuates the pitman 26, thereby reciprocating the saw-blade back and forth across the log D. The saw may be adjusted to conveniently cut large or small logs, and the blade may be readily removed from the kerf of the log by lifting or pulling upon the cable 41, connected with the saw-frame C.

There are many advantages incident to my improvement other than those heretofore recited; but as they will be evident to those skilled in the art to which mechanisms of this character appertain it is unnecessary to dwell upon the same here in detail.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of a standard, a sleeve adjustable thereon, a beam member pivoted directly to said sleeve, a saw adjustable relative to the beam member and arranged parallel to the plane of movement thereof, and means for driving said saw.

2. The combination of a standard, a sleeve vertically adjustable thereon, a lug carried by said sleeve, and a beam member pivotally secured to said sleeve, a saw, means for adjusting said saw relatively to the beam member, a guide for said saw, a motor mounted on the beam member for driving said saw, and power-transmitting elements interposed between the motor and saw.

3. The combination of a standard, a sleeve

adjustable thereon, beam members pivoted to the sleeve, a saw and means carried by the beam member for actuating said saw, said means including a pitman-rod and cross-head, a guide-frame for the pitman-rod and cross-head, an arm carried by said frame and designed to move in a bracket secured to one of the beam members, and flexible means connected with the guide-frame for holding said frame in a position of adjustment relatively to the beam.

4. The combination of a standard, a sleeve adjustable thereon, a beam carried by said sleeve, a saw adjustable relatively to the beam, means for driving the saw, a guide for the saw, a vertically-extended adjustable segment arm and bracket directing the movement of the saw-guide, and means for retaining the guide in a position of adjustment, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES ROBERT REID.

Witnesses:
C. C. GRIDLEY,
WILBERT BISSELL.