

(No Model.)

2 Sheets—Sheet 1.

A. W. VIOLETT, Jr.
WOOD SAWING MACHINE.

No. 485,755.

Patented Nov. 8, 1892.

Fig. 1.

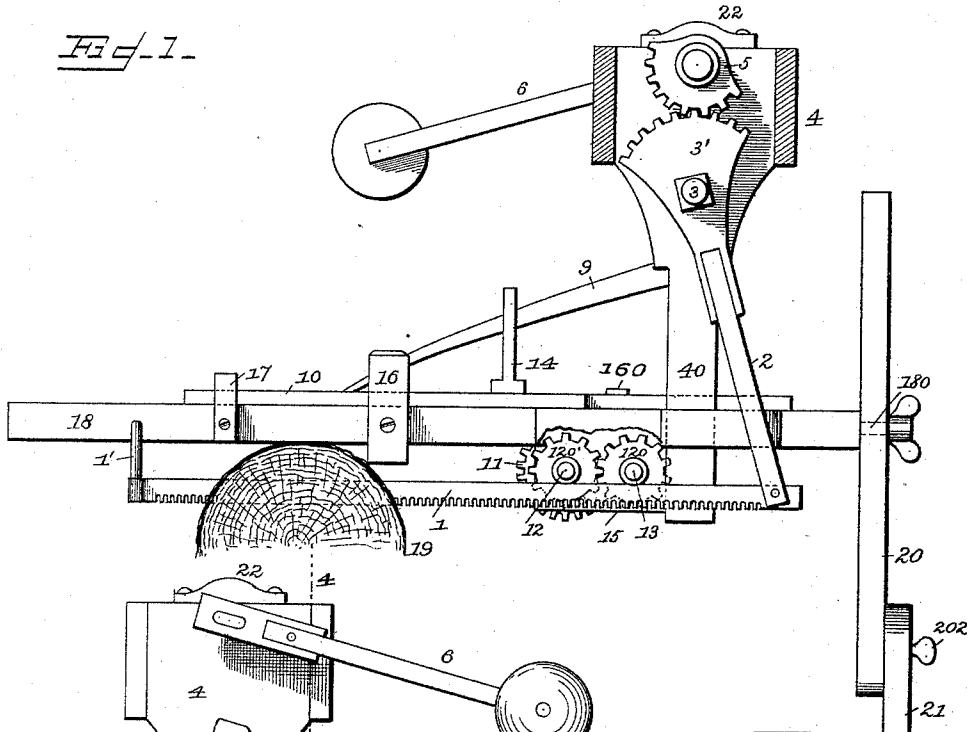
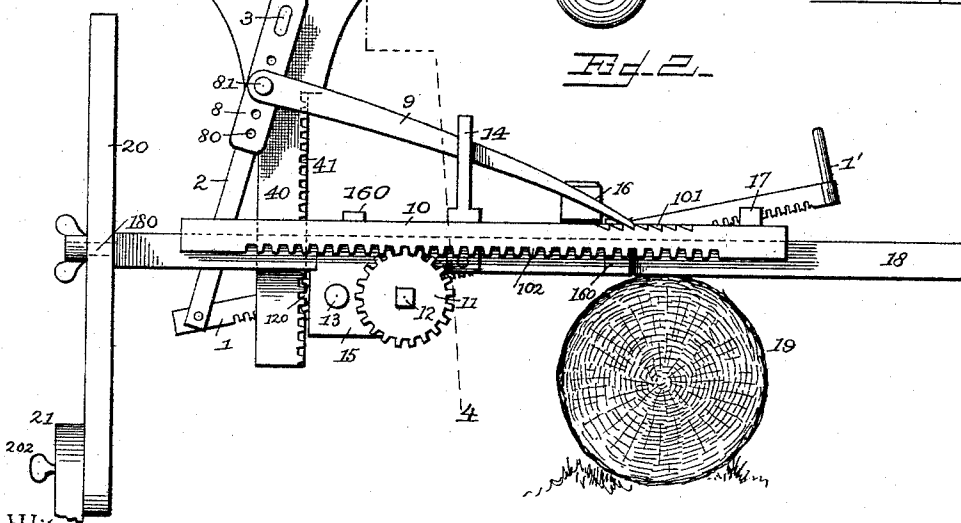


Fig. 2.



Witnesses

Inventor

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By his Attorneys, Ashford W. Violet, Jr.

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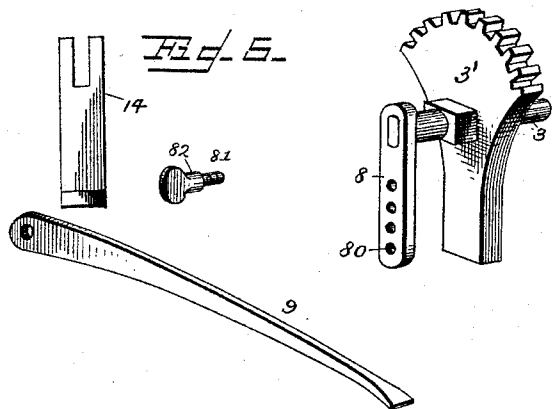
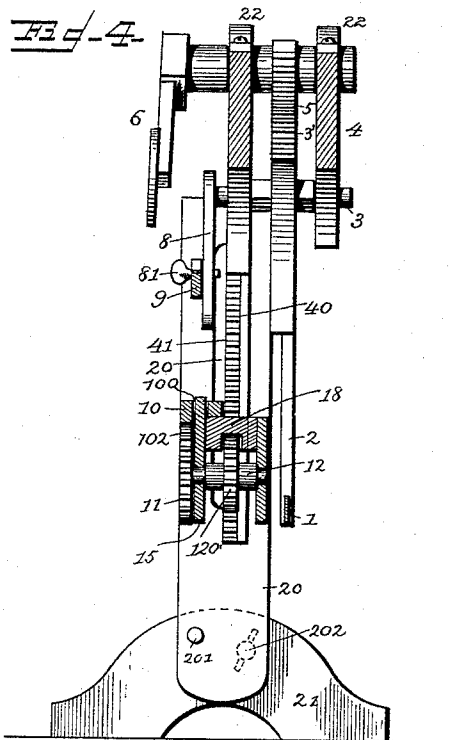
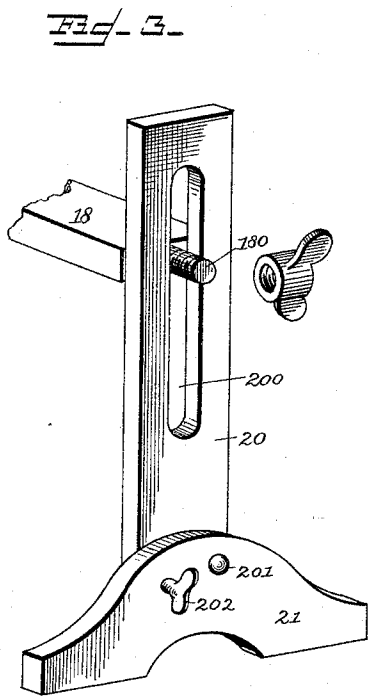
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Charles Curand.

Inventor

Ashford W. Violet, Jr.

By his Attorneys,

W. Hollamer.

C. Snow & Co.

UNITED STATES PATENT OFFICE.

ASHFORD W. VIOLETT, JR., OF BARDWELL, KENTUCKY, ASSIGNOR OF TWO-THIRDS TO ROBERT H. WEBB AND FRANK W. TURK, OF SAME PLACE.

WOOD-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 485,755, dated November 8, 1892.

Application filed July 23, 1891. Serial No. 400,507. (No model.)

To all whom it may concern:

Be it known that I, ASHFORD W. VIOLETT, Jr., a citizen of the United States, residing at Bardwell, in the county of Carlisle and State of Kentucky, have invented a new and useful Wood-Sawing Machine, of which the following is a specification.

This invention relates to wood-sawing machines having reciprocating saws; and the object of the same is to effect certain improvements in devices of this character.

To this end the invention consists in the general and specific details of construction, hereinafter more fully described and claimed, and as illustrated on the two sheets of drawings, wherein—

Figure 1 is a front elevation of this improved machine, showing the saw as passing through a log, certain parts of the device being omitted or broken away. Fig. 2 is a rear elevation, the saw resting in the saw-support. Fig. 3 is a perspective detail of the support for the right end of the frame, the latter being shown, and the thumb-nut being slightly removed. Fig. 4 is a cross-section on the line 4 4 of Fig. 2. Fig. 5 is a perspective detail of the lever-shaft, its adjustable crank, and the pushing-pawl.

Referring to the said drawings, 18 is the main frame of my machine, which has one end 180 reduced and threaded, so as to pass through a slot 200 in an upright 20, the latter being pivoted at 201 to a foot 21, and a set-screw 202 passed through the foot near said pivot and bearing against the upright, whereby the frame can be supported, even on hillsides, in a proper position. Rising from the frame is an L-shaped guide 16 and a stud 160, and sliding on the frame is a rack-bar 10 of L-shaped cross-section, as seen in Fig. 4, which moves beneath the upper end of the guide 16, and which has a slot 100 in its body moving over said stud 160.

14 is a guide rising from the frame 18, its body passing through said slot 100, and its upper forked end guiding the pushing-pawl 9, hereinafter described, the upper side of the rack-bar 10 being provided with ratchet-teeth 101, with which the tip of this pawl engages.

15 is a casing depending from the frame 18 near its inner end, and in this casing is jour-

naled a shaft 12, bearing a gear-wheel 11, which engages the gear-teeth 102 of the rack-bar 10, the said shaft being provided with another gear 120', which meshes with an idler-gear 120, whose shaft 13 is also journaled in the casing. Passing vertically through the frame 18 is a standard 40, having teeth 41 on one edge engaging the gear 120, and at the upper end of this standard is a casing 4, which is partially omitted in Figs. 1 and 4, to show the contained mechanism.

1 is the saw, having a handle 1' at one end and shown in Fig. 1 as passing through the log 19. The other end of the saw is pivoted in the lower end of the swing-lever 2, which is connected at its upper end to the shaft of a large segment 3', journaled in the casing 4, and 5 is a smaller gear-segment intermeshing with that numbered 3' and whose shaft 3 is pivoted in strap-bearings 22 at the top of the casing 4, the rear end of this shaft carrying a pendulum 6, as best seen in Fig. 2. By this means when the saw is operated by its handle to cut the log the pendulum is caused to be moved to a greater degree than the swing-lever on account of the difference in diameter of the two gear-segments, and the movements of this pendulum will greatly assist the operator in reciprocating the saw.

To the rear end of the shaft 3 of the large gear-segment 3' is keyed a depending crank 8, having a number of threaded holes 80 in its body, and 81 is a set-screw whose threaded portion is adapted to fit said holes and whose shank is provided with a slightly-enlarged cylindrical portion 82 of a size to fit loosely in a cylindrical opening at the upper end of the pushing-pawl 9. By this means when the saw is reciprocated the oscillation of the shaft 3 causes the movement of the pushing-pawl. When not in use, the saw-blade is rested in the saw-support 17. When it is desired to saw a log, the frame is adjusted to the proper position in the slot 200 of the upright, the saw is taken from the saw-support, and the operator begins to reciprocate it over the log by its handle. At each pull of the saw-blade the crank 8 moves forwardly and drives the pawl 9 and rack-bar 10 in the same direction, and by the intermeshing-gears in the casing this movement of the rack-bar causes a downward

movement of the standard 40, which carries the swing-lever 2. Thus it will be seen that the reciprocation of the saw automatically causes its inner end to be moved downwardly step by step. By means of the several holes 5 80 in the crank 8 and the set-screw 81, the pawl can be adjusted so that it will move the rack-bar a distance at each stroke equal to the distance the saw-blade sinks into the log, and this is of course governed by the size and 10 wood of the log and the shape of the saw-teeth. A machine of this character can be cheaply made and easily operated by a single workman, and by the specific form of support 15 it can be adjusted to any desired height or angle. Considerable change in the specific details of construction may be made without departing from the spirit of my invention.

What is claimed as new is—

20 1. In a sawing-machine, the combination, with the horizontal frame, a rack-bar moving horizontally and longitudinally thereon and having ratchet-teeth on its upper side and gear-teeth on its lower side, a casing on the 25 frame, a shaft therein having two gears, one engaging the teeth on the rack-bar, a second shaft in the casing having an idle-gear engaging the second gear on said first shaft, and a standard movable vertically through the 30 frame and having teeth engaging said idle-gear, of a casing at the upper end of the standard, an oscillating shaft therein, a crank on one end of said shaft, a pawl pivoted to said crank and engaging said ratchet-teeth, a 35 swing-lever on the other end of said shaft, and a saw connected to said lever, substantially as described.

2. In a sawing-machine, the combination, with a standard, a shaft journaled therein 40 and carrying a large gear-segment, a swing-lever depending from said shaft, and a reciprocating saw-blade pivoted to said lever, of

another shaft journaled removably in said casing and carrying a small gear-segment engaging with said larger one, and a pendulum 45 depending from this shaft, as and for the purpose set forth.

3. In a wood-sawing machine, the combination, with the frame, the rack-bar sliding thereon, the standard movable vertically 50 through said frame, and connections, substantially as described, between the rack-bar and the standard, of a casing on the standard, two shafts journaled therein and carrying intermeshing gear-segments, a swing-lever depending 55 from the lower shaft, a reciprocating saw-blade pivoted at one end thereto, a crank on this shaft, a pawl adjustably connected to this crank and engaging the rack-bar, and a pendulum on the other shaft, as and for the purpose 60 set forth.

4. In a wood-sawing machine, the combination, with the frame, the toothed rack-bar sliding thereon, the standard movable vertically through the frame, and connections, 65 substantially as described, between said rack-bar and standard, of an oscillating shaft journaled in said standard, a swing-lever connected to one end thereof and carrying the saw-blade, a crank on the other end thereof 70 having a number of threaded openings, a set-screw removably engaging one of said openings, a pawl pivoted on the shank of said set-screw and engaging the teeth of the rack-bar, and a guide on the frame embracing the body 75 of the pawl, as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ASHFORD W. VIOLETT, JR.

Witnesses:

M. T. SHELBORNE,
J. H. BLACK.