No. 763,488. PATENTED JUNE 28, 1904.

C. HOLMSTROM.

WOOD SAWING MACHINE.

APPLICATION FILED JAN. 27, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

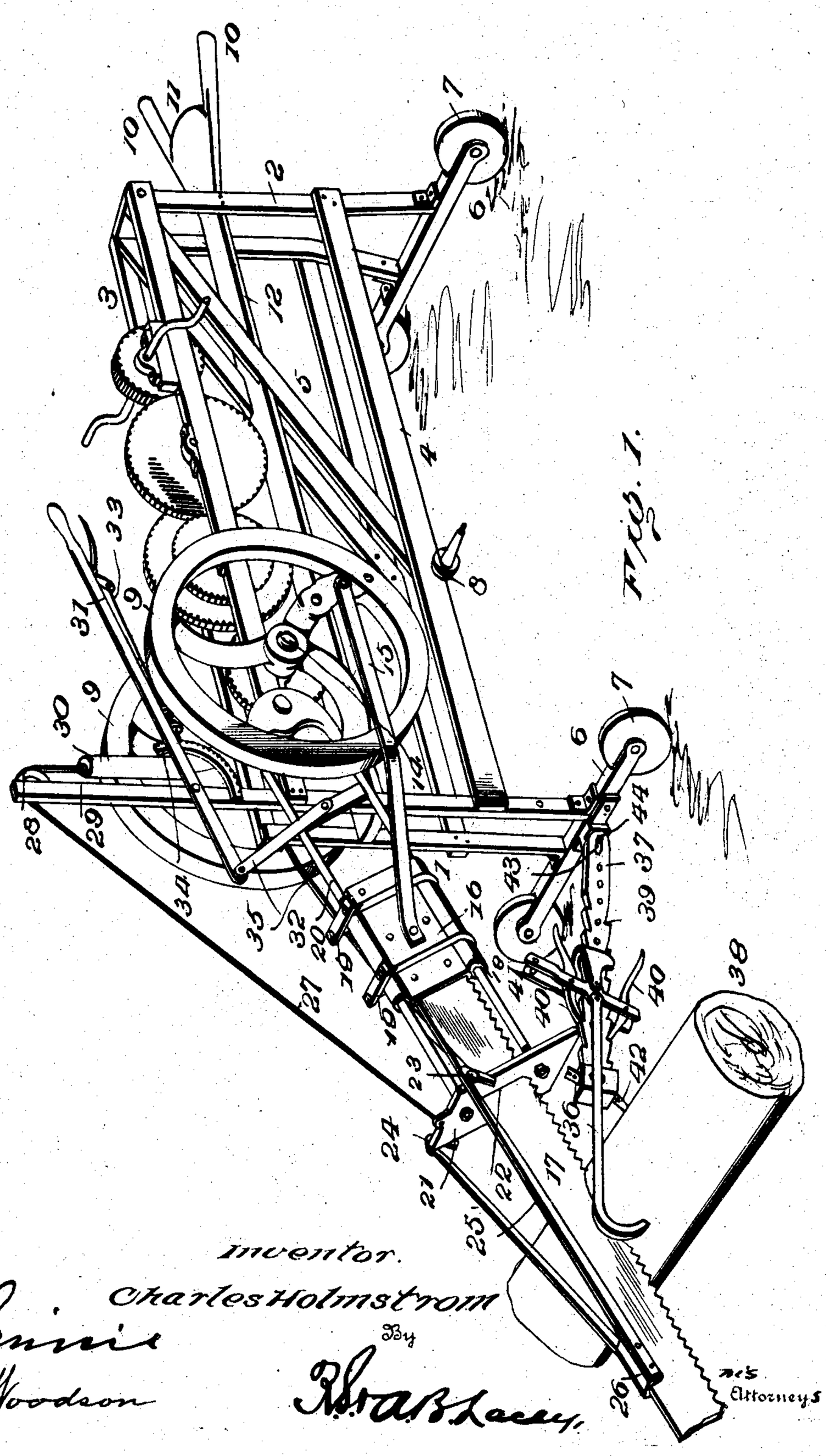

FIG. 1.

Witnesses
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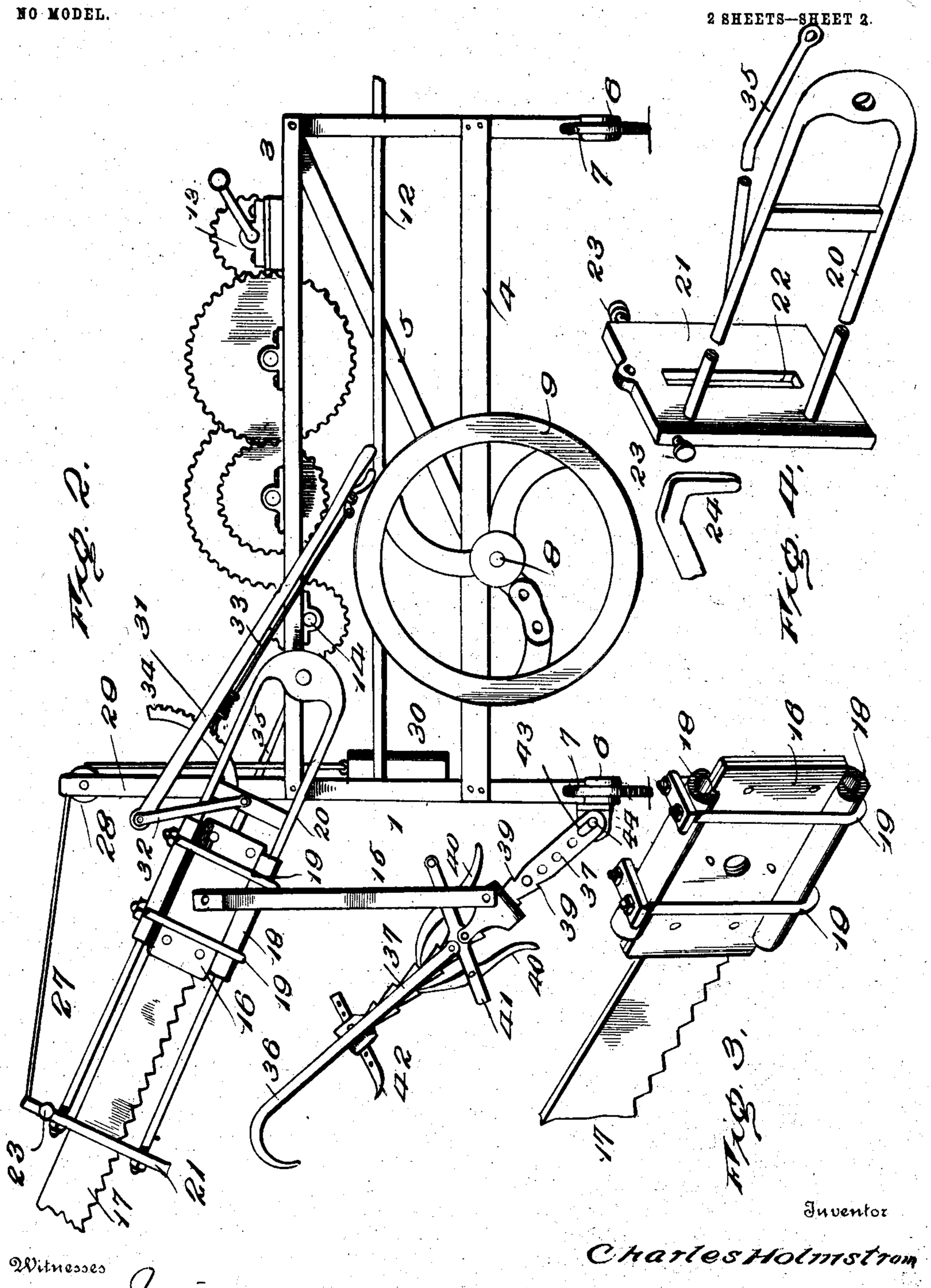

Fig. 2.

Fig. 4.

Fig. 3.

Witnesses

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No. 763,488. Patented June 28, 1904.

UNITED STATES PATENT OFFICE.

CHARLES HOLMSTROM, OF SCANDIA, KANSAS.

WOOD-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 763,488, dated June 28, 1904.

Application filed January 27, 1904. Serial No. 190,811. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HOLMSTROM, a citizen of the United States, residing at Scandia, in the county of Republic and State of Kansas, have invented certain new and useful Improvements in Wood-Sawing Machines, of which the following is a specification.

This invention has relation to machines designed primarily for sawing logs either for fire-wood or other purpose and which are designed to be operated by a single person.

This invention has for its object to devise a machine of the character aforesaid which is easy of manipulation, capable of being readily shifted or transported, and in which the saw and log-clamp are capable of being easily operated to meet varying conditions.

One of the features of the invention is the provision whereby corresponding wheels or pulleys may be utilized in the capacity of fly-wheels and ground or supporting wheels, according to their position, said wheels being adapted to be mounted either upon a shaft included in the train of gearing or upon the arms of an axle attached to the frame.

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 drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a wood-sawing machine embodying the invention, showing the relation of the parts when the machine is in active operation. Fig. 2 is a side elevation of the machine, showing the saw and log-clamp elevated and the balance-wheels applied to the axle for supporting the machine during transportation. Fig. 3 is a detail perspective view of the inner end of the saw and guides clamped thereto. Fig. 4 is a perspective view of the guide-frame for directing the saw in its rectilinear movements.

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 framework for supporting the operating parts may be of any construction, depending upon the finish and design of the machine, and is unimportant within the purview of the invention. As illustrated, the framework comprises end standards 1 and 2, upper and lower longitudinal bars 3 and 4, braces 5, and sills 6, the latter forming base-pieces for the respective standards 1 and 2 and provided at their ends with ground-wheels 7. The ends of the sills 6 are forked or bifurcated, and the ground-wheels 7 are mounted upon pins connecting the bifurcations or forked members at their outer ends. The sills 6 and ground-wheels 7 are arranged transversely of the machine and in planes at right angles to the plane of motion of the saw, so as to steady the machine and prevent it following the movements of the saw and obviating the necessity of providing extraneous anchoring means. An axle 8 is connected to the lower bars 4, intermediate of their ends, and is adapted to receive the balance-wheels 9 when the latter are used as ground-wheels for supporting the machine during transportation, as indicated most clearly in Fig. 2. Handles 10 extend rearward from the machine and are gripped when trundling upon the ground-wheels 9 from one place to another. The handles 10 project rearward and laterally from the seat 11, which is located at the rear end of the machine in convenient position for the operation. While the seat 11 may be of any construction and provided in any manner, it is preferred to have it form part of an intermediate longitudinal bar 12, thereby simplifying the construction and providing a substantial framework.

The train of gearing comprises the shaft 13, to which the power is applied and which in the present instance is provided with cranks for operation by hand. Said train of gearing also comprises the shaft 14, from which the power is taken for operating the saw, said shaft being connected to the shaft 13 by means

of cog-gearing, so as to attain any required speed. The balance-wheels 9 are fitted to the extremities of the shaft 14 and are secured thereon by any suitable means, such as clamp-screws, and are of a diameter so that when fitted to the arms of the axle 8 they serve to support the machine a distance from the ground to admit of trundling the same from one place to another. The pitman 15 for transmitting motion from the balance-wheel to the head 16 of the saw is adapted to be adjustably connected with the balance-wheel, so as to admit of varying the stroke of the saw as may be required.

The head 16 may be of any structural type and secured to the inner end of the saw 17 in any substantial manner and, as shown, consists of plates riveted or otherwise fastened to opposite sides of the saw. Tubes 18 are fitted to the upper and lower edges of the head 16 and are held in place by clips 19. These tubes 18 constitute guides for coöperation with a suitable frame to direct the saw in its reciprocating movements. The guide-frame 20, provided for coöperation with the guides 18, is pivoted at its inner end to the framework of the machine and comprises upper and lower rods or bars, upon which the respective tubes 18 are slidably mounted. A plate 21 is connected to the outer ends of the members of the pivoted frame 20 and is slotted, as shown at 22, for reception of the saw 17. Headed studs 23 project from opposite edges of the plate 21, near the upper end thereof, and receive the hooked ends 24 of bars 25, constituting members of a frame for steadying and assisting in directing the saw 17 in its rectilinear movements. The bars or members 25 are forwardly converged and are attached at their front ends to an iron 26, which constitutes a handle to rest upon and embrace the upper edge portion of the saw 17. A cord, chain, or analogous connection 27 is attached at one end to the plate 21, and its opposite end portion passes over a sheave 28 of a standard 29 and is provided with a weight 30, which counterbalances in a measure the weight of the saw and coöperating parts. The saw is adapted to be raised and lowered by means of the lever 31, fulcrumed to the standard 29 and connected to the guide-frame 20 by means of the link 32, said lever being held in an adjusted position by the usual hand-latch 33 and toothed bar 34. The guide-frame 20 is braced laterally by means of the stay 35, which is connected at its front end to the plate 21 and at its rear end to the framework of the machine in line with the pivotal support of the guide-frame 20.

The log-clamp has pivotal connection with the framework of the machine and comprises members 36 and 37, which are slidably related. The member 36 consists of a rod or bar and terminates at its outer end in a hook which is adapted to engage with the log 38 or timber to be cut. The member 37 consists of a rod or bar and is pivoted to the front sill 6 and is provided upon opposite edges with ratchet-teeth 39, with which dogs 40, applied to a yoke 41, coöperate so as to hold the member 36 in the adjusted position. The yoke 41 is pivoted midway of its ends to the member 36 and pivotally supports the dogs 40, which are spring-actuated so as to alternately engage with the teeth upon opposite edges of the member 37. A tooth 42 is applied to the outer end of the member 37 and in conjunction with the hooked end of the member 36 secures the log or timber 38 when the machine is properly adjusted for operation. The member 37 has a slot 43 at its pivotal end to receive the pivot-fastening 44, upon which the said member turns, and has a limited sliding movement when it is required to hold the log-clamp in a vertical position.

Fig. 1 illustrates the relative arrangement of the parts when the machine is set up for operation. After the log has been cut the log-clamp is released therefrom and the saw elevated, when the machine may be moved parallel with the log to a position for the next cut by pushing it laterally upon the wheels 7. When moved to the new position, the machine is made fast by attaching the log-clamp to the timber or log, after which the saw is lowered into position by means of the lever 31 and a reciprocating movement imparted thereto by operating the shaft 13. When it is required to transport the machine from one place to another, the saw and log-clamp are elevated about as indicated in Fig. 2 and the balance-wheels are removed from the shaft 14 and fitted to the axle 8, after which the machine may be trundled to the required point by grasping the handles 10 and moving the machine in the well-known manner of operating a wheel or hand barrow.

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

1. In a wood-sawing machine, the combination of the framework provided with the sawing mechanism and drive-gearing, a log-clamp pivoted to the framework, and a brace adjustably connecting the log-clamp with the framework, said log-clamp comprising slidable members, each provided with means for engaging with the log or work, and one of said members having opposite edges toothed, a yoke pivoted to the other member and dogs pivoted to said yoke and adapted to coöperate with the teeth of said toothed bar, substantially as set forth.

2. In a wood-sawing machine, the combination of the framework, a reciprocating saw,

actuating means therefor, a guide-frame for directing the saw in its reciprocating movements and comprising a plate having laterally-extended headed studs, a supplemental guide-frame comprising members having their rear ends hooked to make engagement with the aforesaid headed studs, and a saddle at the outer ends of said members and placed astraddle of the back of the saw, substantially as set forth.

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

CHARLES HOLMSTROM. [L. S.]

Witnesses:

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