

No. 730,330.

PATENTED JUNE 9, 1903.

W. T. YARD.
WOOD SAWING MACHINE.
APPLICATION FILED JULY 11, 1902.

NO MODEL.

Fig. 1.

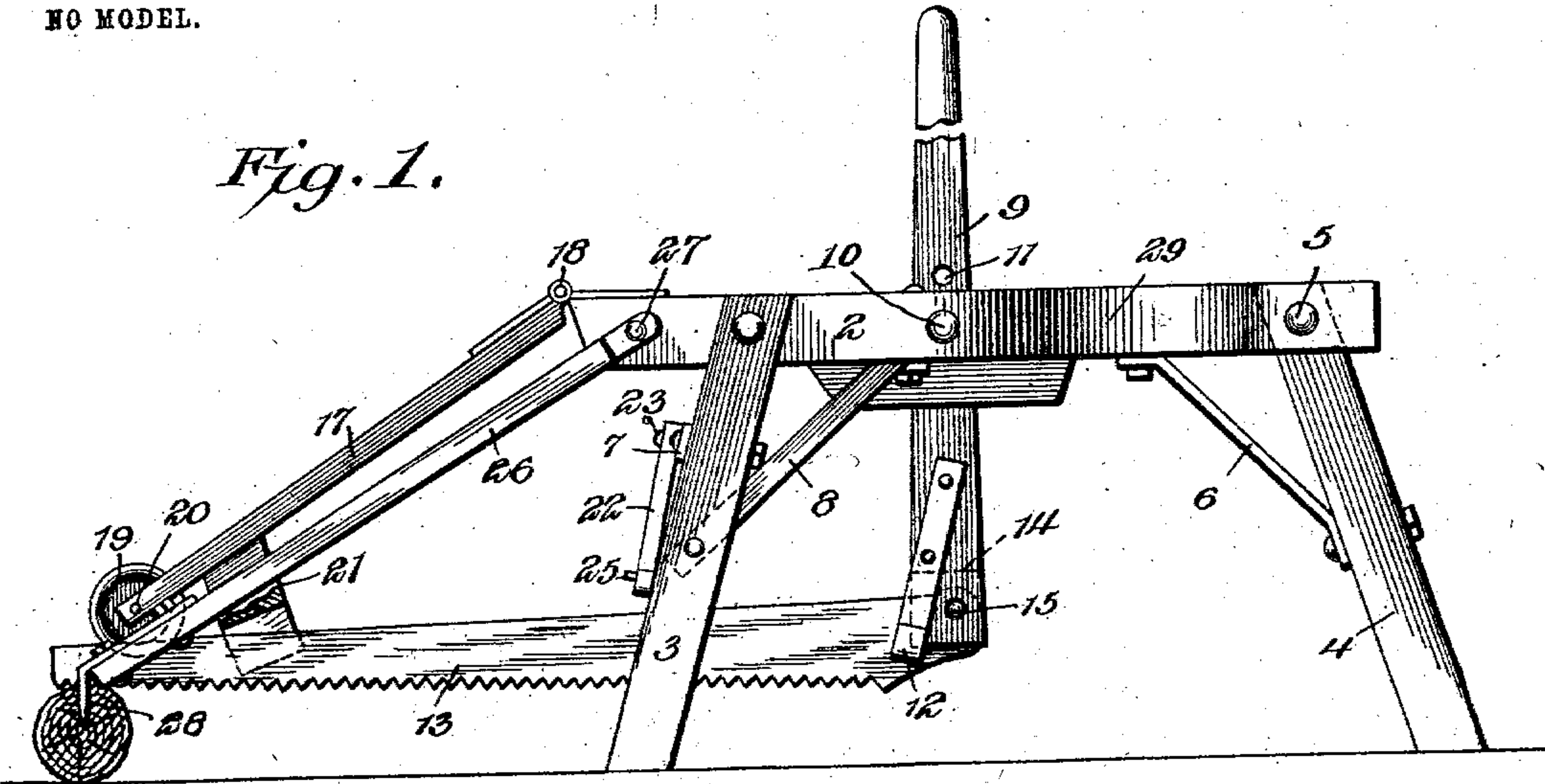


Fig. 2.

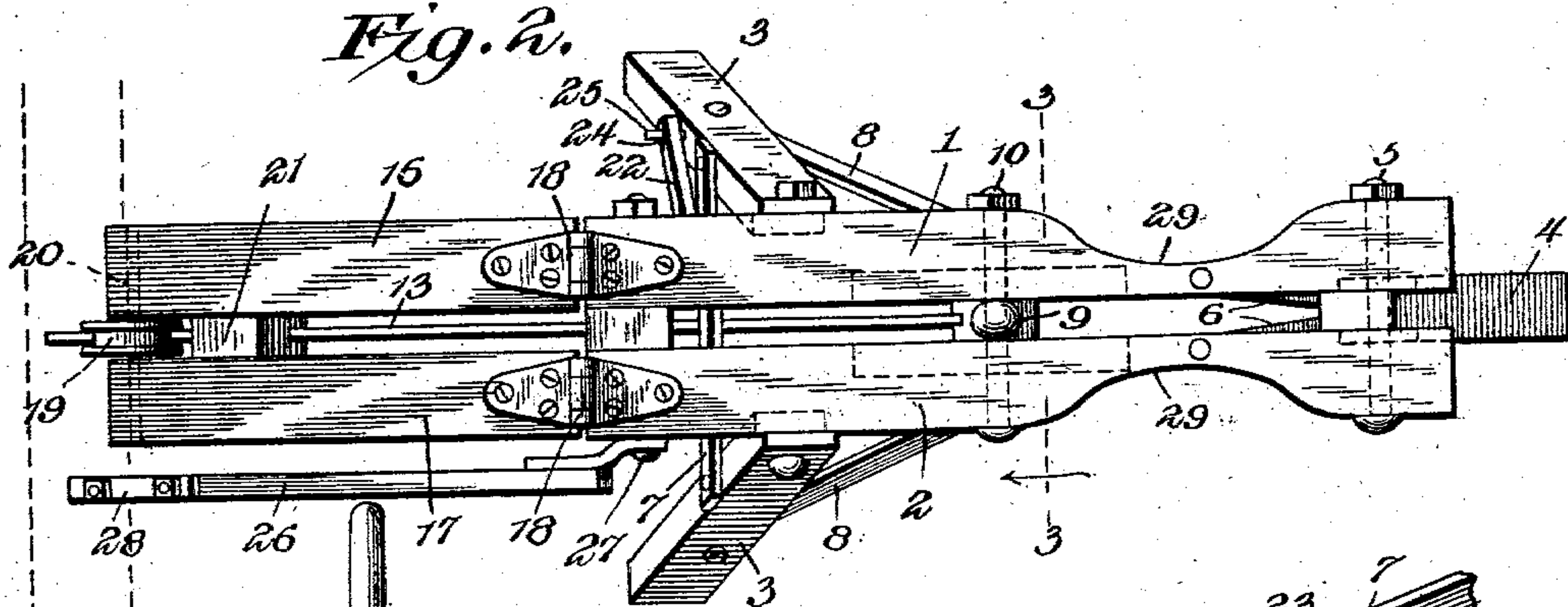


Fig. 3.

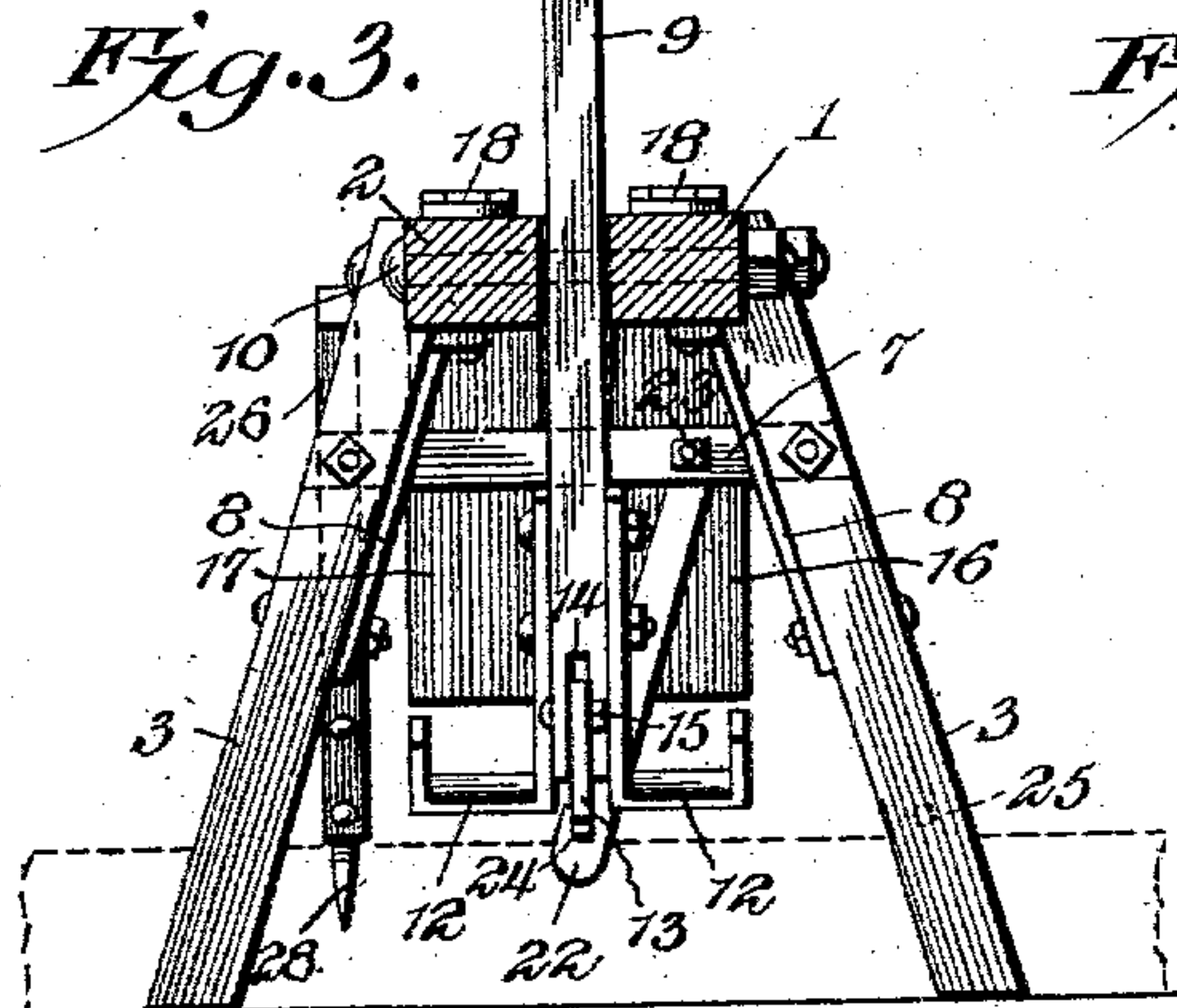
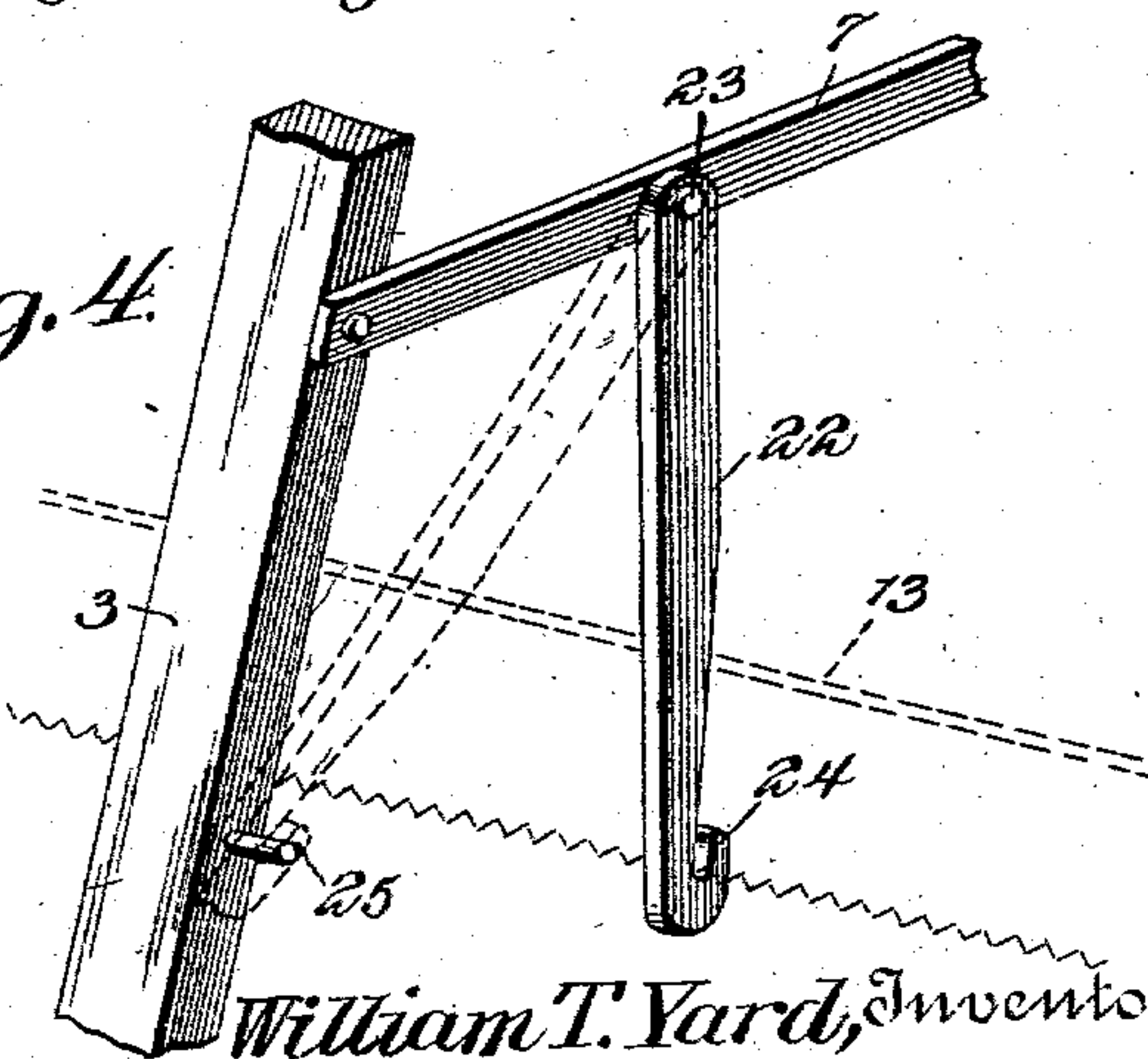


Fig. 4.



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UNITED STATES PATENT OFFICE.

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WOOD-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 730,330, dated June 9, 1903.

Application filed July 11, 1902. Serial No. 115,193. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. YARD, a citizen of the United States, residing at Lawrence Station, in the county of Mercer and State of New Jersey, have invented a new and useful Wood-Sawing Machine, of which the following is a specification.

This invention relates to wood-sawing machines, and has for its object to provide an improved machine which is designed to facilitate the manipulation of a crosscut-saw by a single operator without the aid of an attendant. It is, furthermore, designed to arrange for manipulating the saw by hand and foot power and also to effectively guide the saw and hold the same down upon the log during the sawing operation.

Another object is to hold the log so as to prevent the same from being pushed forwardly during the forward movement of the saw-blade.

Still another object is to provide for supporting the saw-blade in an elevated position when not in use.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation of a wood-sawing machine constructed and arranged in accordance with the present invention. Fig. 2 is a top plan view thereof. Fig. 3 is a cross-sectional view on the line 3-3 of Fig. 2 with the saw-blade supported in an elevated position. Fig. 4 is a detail perspective view showing the means for supporting the saw-blade when not in use.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

The frame of the present machine is in the form of a bench, which is made up of a pair of substantially horizontal spaced members 1 and 2, which are supported at their forward ends by means of the opposite leg-standards

3 and a single rear leg-standard 4, which has its upper end snugly fitted between the members 1 and 2 and connected thereto by means of a transverse bolt 5. The rear leg-standard is provided with a pair of braces 6, which incline upwardly and forwardly and are secured to the under sides of the respective members 1 and 2. The front leg-standards are connected by a cross-bar 7, and each leg is also provided with a brace 8, which inclines upwardly and rearwardly to the bottom of the bench.

At about the middle of the bench or frame there is an upstanding operating-lever 9, which is disposed in the space or slot formed between the members 1 and 2 and is intermediately fulcrumed upon a bolt or bar 10, which is passed transversely through the bench and lever, the latter being provided with a series of openings 11, whereby it may be fulcrumed at different points according to the leverage desired. The upper portion of the lever is formed into a suitable operating-handle, and the lower end is provided with stirrups 12, which are secured to opposite sides of the lever and are designed to receive the feet of the operator when straddling the bench in rear of the lever. The saw-blade 13 has its rear end fitted in a longitudinal bifurcation 14 in the lower end of the lever and pivotally connected thereto, as indicated at 15, with the forward free end thereof projected in front of the bench.

For guiding the free end of the saw there is provided a vertically-swinging frame consisting of opposite longitudinal members 16 and 17, which are independently connected to the front of the bench by means of separate hinges 18 and are separated by a longitudinal space. Between the forward ends of the swinging frame members is a grooved roller 19, which is adapted to travel upon the back edge of the saw and is mounted upon a shaft or journal 20, which pierces the members 16 and 17 and forms a connection therefor. The swinging frame also carries a guide consisting of a head or block 21, which is secured between the members 16 and 17 immediately in rear of the grooved roller, the lower end of the block being bifurcated, so as to form a seat for the reception of the back portion of the saw, whereby the latter is guided and held

against lateral movement, the roller serving as an antifriction-bearing for the guide-frame upon the saw-blade. In addition to guiding the saw the weight of the frame pressing upon the back of the saw holds the latter in contact with the work, and thereby serves to prevent the saw-blade from jumping up out of contact with the log.

When the saw is not in use, it may be supported in an elevated position by means of a saw-holder 22, which consists of an arm having its upper end pivoted to the front cross-bar 7, as indicated at 23, with its lower end provided with a hook or seat 24 to receive the lower or toothed edge of the saw-blade, as indicated in Figs. 3 and 4, so as to support the saw out of engagement with the ground. When the saw is being operated, the saw-holder is swung laterally outward and its hook or seat engaged with a pin or projection 25, carried by one of the legs 3, so as to maintain the holder out of the way of the saw.

To prevent displacement of the log under the action of the saw, there is provided a work-holder consisting of a vertically-swinging arm 26, which has its upper end pivoted to one side of the front end of the bench, as indicated at 27, with its lower free end provided with a pin 28, which depends from the arm and is adapted to be driven into the top of a log, thereby to prevent the latter from being pushed forwardly by the saw.

In operating the machine the log is placed transversely in front of the bench with the work-holding hook 28 embracing the log, the saw being placed upon the top of the log with its back edge received within the guide 21 and the antifriction-roller 19 resting upon the back of the saw. The operator sits astraddle of the bench in rear of the lever 9, the opposite edges of the bench being cut away, as indicated at 29, to form a seat or saddle and to permit of the feet of the operator being placed in the stirrups 12. The saw is then quickly reciprocated by manipulating the lever 9 by the feet at one end thereof and the hands at the upper end, whereby it is apparent that a single operator may conveniently manipulate the saw without the aid of an attendant.

What I claim is—

1. In a sawing-machine, the combination of a stand having a top and provided with front and rear legs, an operating-lever fulcrumed on the stand between the legs, a guide-frame hinged to the top of the stand at the front thereof and extending forward therefrom and composed of inclined members spaced apart, a guide-roller arranged between the front ends of the members, and a guide-block secured between the members in rear of the guide-roller and spacing the same at the front of the saw-guide and provided with

a bifurcation to receive the back of a saw-blade, and means for holding the work, substantially as described.

2. In a sawing-machine, the combination of a stand, a saw-blade, means for actuating the same, and a saw-guide composed of a pair of spaced members hinged at their rear ends to the stand at the top thereof and extending downward therefrom, a roller arranged between the front ends of the said members, and a guide-block secured between the members in rear of the guide-roller and spacing the front portions of the members and provided with a depending bifurcated portion receiving the back of the saw-blade, substantially as described.

3. In a sawing-machine, the combination of a stand provided with legs arranged at the front and back of the machine, a cross-piece connecting the front legs at the upper portions thereof, a saw-holder hinged at one side of the stand to the said cross-piece and arranged to swing laterally, said saw-holder being provided at its lower end with a hook, a projection mounted on the front leg at the opposite side of the machine and arranged to receive the hook for supporting the saw-holder out of engagement with the saw, an inclined saw-guide located in advance of the saw-holder and composed of members spaced apart, a roller mounted between the members, and a guide-block located in rear of the rollers and spacing the front portions of the members and provided with a saw-receiving seat, and means for holding the work, substantially as described.

4. In a sawing-machine, the combination with a stand, comprising a pair of spaced substantially horizontal members, and legs supporting the same, an upstanding lever intermediately fulcrumed between the stand members, with its upper end formed into a handle and its lower end provided with stirrups, a saw-blade pivoted to the lower end of the lever and projected in front of the stand, a swinging guide-frame comprising spaced members which are hinged to the front of the stand, an antifriction-roller journaled between the forward ends of the swinging frame members and traveling upon the back edge of the saw, and a saw-guide pendent from an intermediate portion of the swinging frame with its lower end bifurcated and receiving the back edge of the saw-blade.

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

WILLIAM T. YARD.

Witnesses:

ARTHUR SYKES,
EMMA S. SYKES.