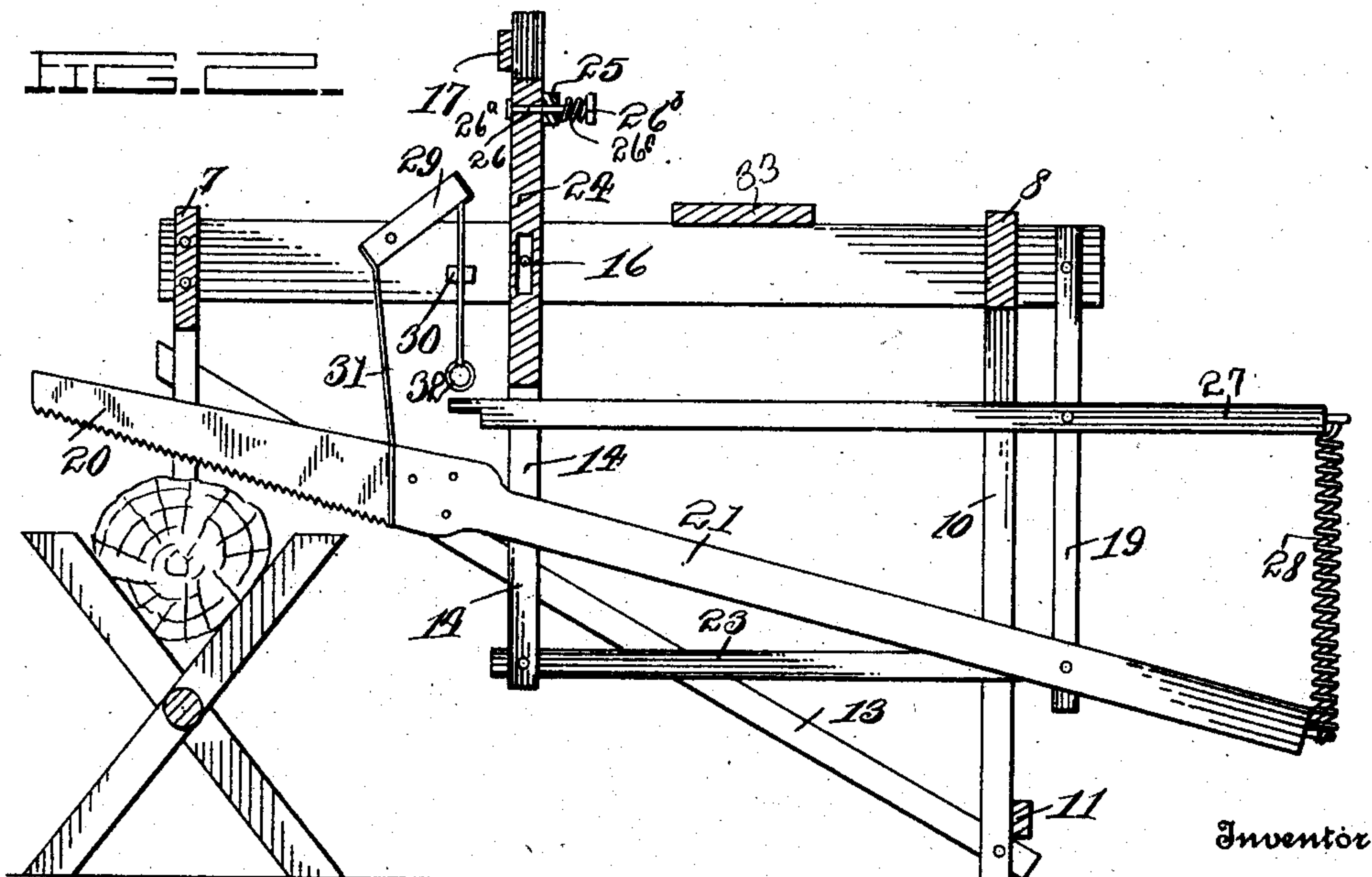
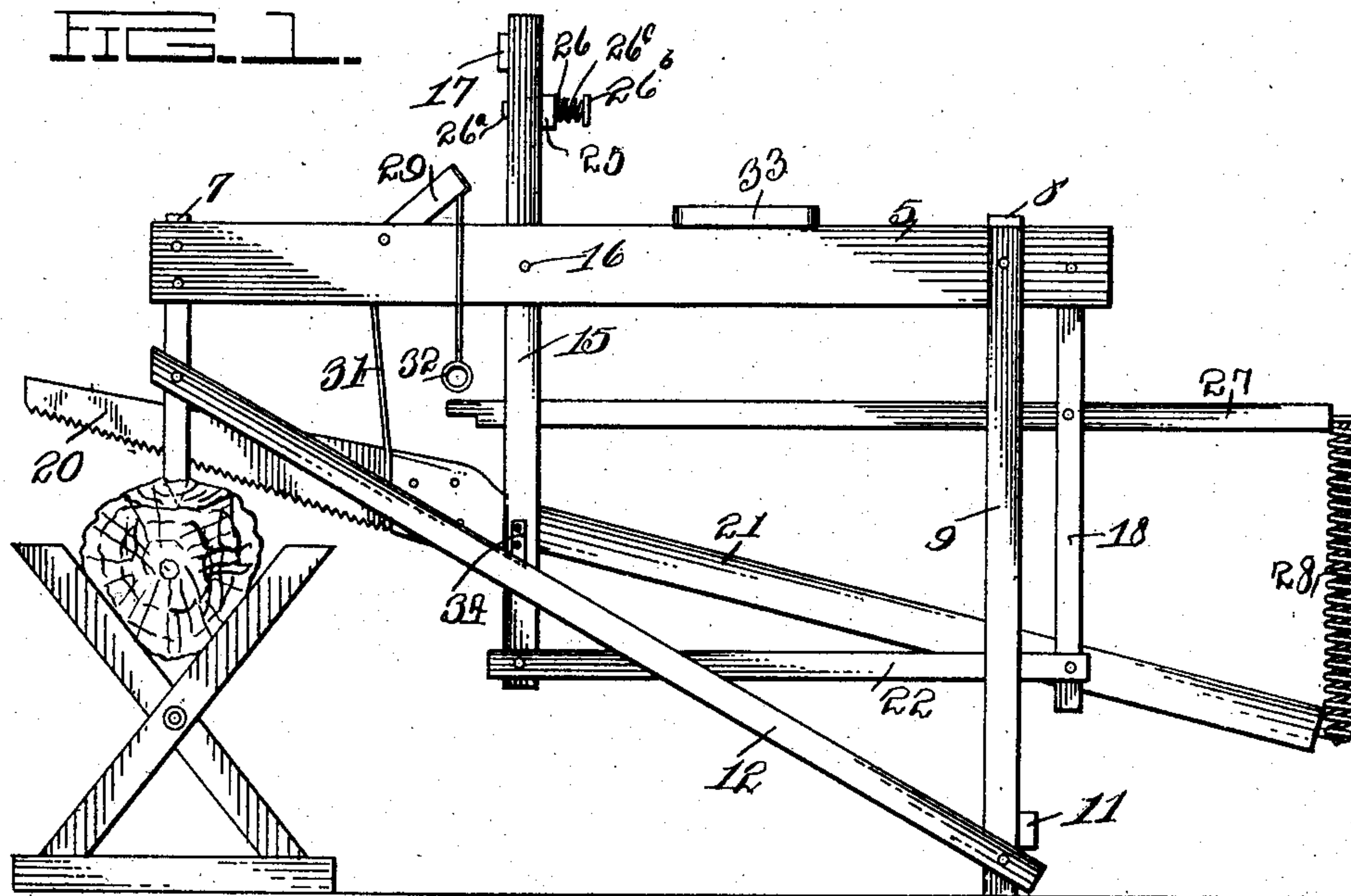


J. C. F. BOLTON.
SAWING MACHINE.
APPLICATION FILED DEC. 22, 1910.

994,568.

Patented June 6, 1911.

2 SHEETS-SHEET 1.



Witnesses
H. Taylor
George L. L.

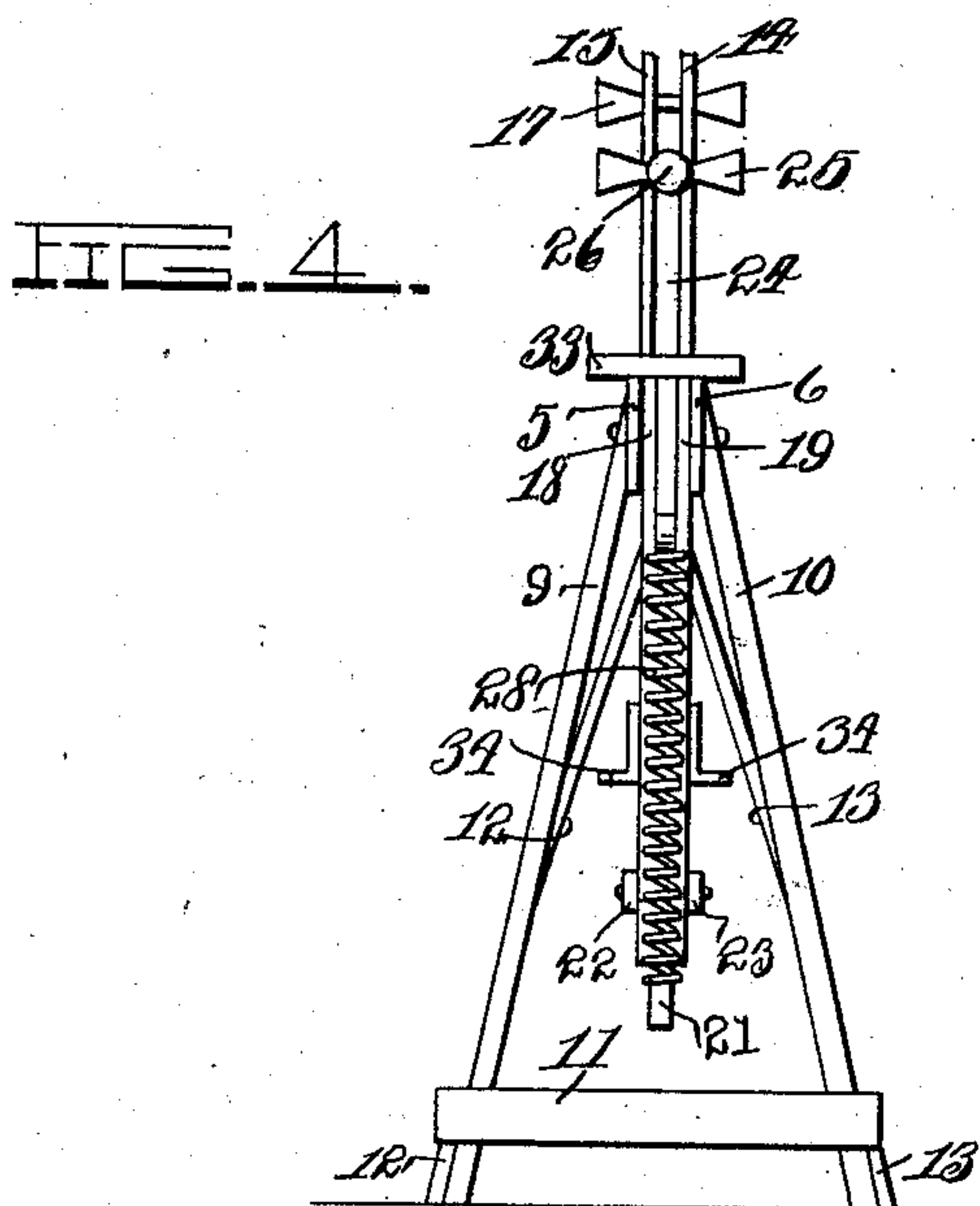
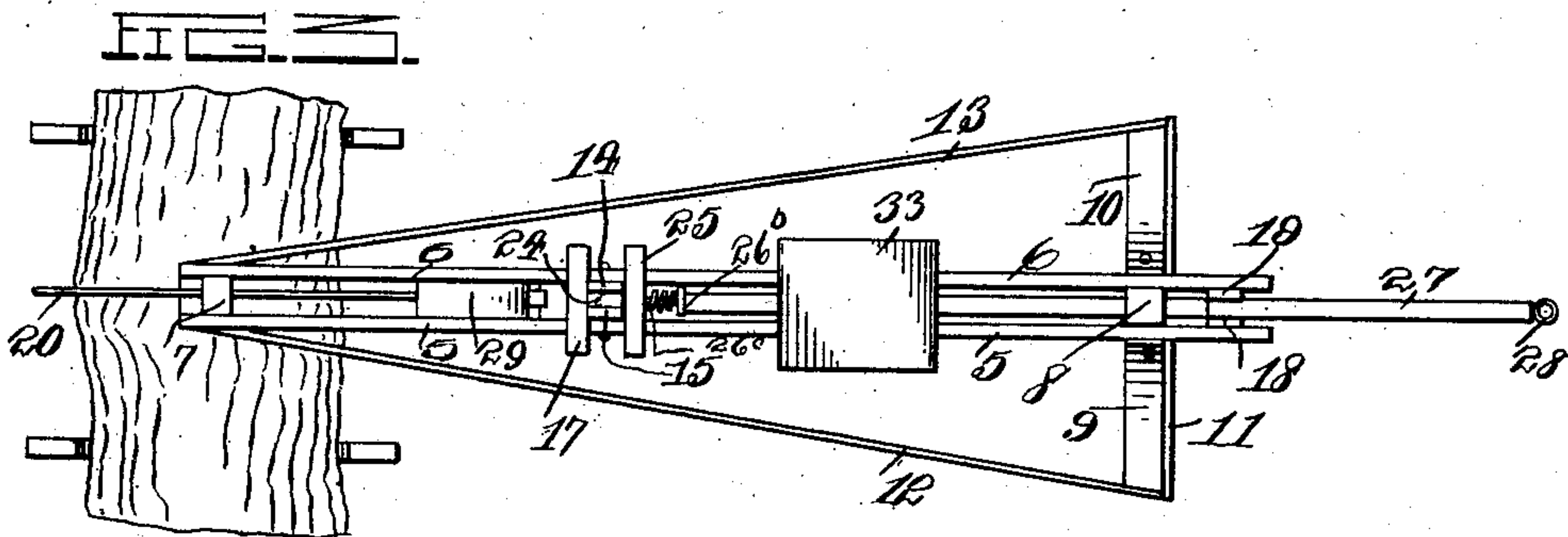
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384 [Signature]
Attorneys

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UNITED STATES PATENT OFFICE.

JOHN C. F. BOLTON, OF IOWA CITY, IOWA.

SAWING-MACHINE.

994,568.

Specification of Letters Patent.

Patented June 6, 1911.

Application filed December 22, 1910. Serial No. 598,706.

To all whom it may concern:

Be it known that I, JOHN C. F. BOLTON, a citizen of the United States, residing at Iowa City, in the county of Johnson, State of Iowa, have invented certain new and useful Improvements in Sawing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in sawing machines and more particularly to that class of sawing machines known as drag-saws.

The invention has for one of its objects the provision of a construction for regulating the pressure of the saw blade to adapt it to various qualities of timber being sawed.

Another object is the provision of an improved form of lift by means of which the saw may be held suspended from engagement with the timber while the frame is being adjusted on another portion of the timber to be sawed.

A still further object of the invention is the provision of a structure which will facilitate the sawing operation by making it possible for the operator to use his feet in addition to his arms in propelling the saw.

With the above and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel details of construction and arrangement of parts, hereinafter more fully described, illustrated in the accompanying drawings, and more particularly pointed out in the claims; it being understood that various changes in the form, proportion, size, and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of the specification:—Figure 1 is a side elevation of the device. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a plan view. Fig. 4 is a rear end view.

Similar numerals of reference are employed throughout to designate corresponding parts.

The frame consists of a pair of side members designated to the numerals 5 and 6. These members are preferably of wood and are substantially rectangular in contour and cross section. The side members may be of

any desired length and are connected at their forward ends and held in spaced relation by means of a head block 7, the upper end of which is placed between the forward ends of the side members and is suitably secured therein. The lower end portion of the head block 7 is provided with a longitudinal slot, which forms a guide for the saw blade. And the lower extremity of the head block may be provided with spikes or spurs to be embedded into the timber to be sawed.

A spacing block 8 is interposed between the rear end portions of the side members 5 and 6 and depending from the said rear end portions are a pair of supporting legs 9 and 10. The supporting legs 9 and 10 are considerably greater in length than the head block 7 and their upper ends are mitered and bolted or otherwise secured to the opposite outer faces of the side members 5 and 6. By having the upper ends of the supporting legs 9 and 10 mitered the said legs will diverge. The lower end portions of the supporting legs 9 and 10 are connected by a cross piece 11 and further connection is established between the said lower ends of the supporting legs 9 and 10 and head block 7 by means of a pair of stringers 12 and 13, the opposite ends of which are secured to the intermediate portions of the head block and lower ends of the supporting legs.

From the foregoing it can be seen that I have provided a supporting frame which will, when the head bears on the timber to be sawed be held against toppling by the supporting legs 9 and 10.

The operating handle consists of a pair of spaced strips 14 and 15 united at their opposite ends and held spaced by suitable blocks. The handle is arranged between the side members 5 and 6 and has its intermediate portion pivoted to the intermediate portions of said side members 5 and 6 by means of a pivot bolt 16, extending through the side members and handle. The lower end of the operating handle extends to a point adjacent the ground, while the upper end is provided with a cross piece 17, forming a hand hold for the operator.

The swinging arm for the saw consists of a pair of spaced strips 18 and 19, the opposite ends of which are held spaced by suitable blocks interposed therebetween. The upper end of the swinging arm is pivoted between the rear end portion of the side

members 5 and 6 and the upper ends of the supporting legs 9 and 10, while its lower end extends to a point adjacent the cross piece 11 connecting the lower ends of said legs.

The saw blade is designated by the numeral 20 and its rear end is provided with a shank 21, the rear end portion of which is pivoted between the strips 18 and 19 of the swinging arm and adjacent the lower end thereof, while its forward end extends through the strips 14 and 15 of the operating handle and is fixedly secured to the rear end of the blade 20. Connection between the lower end of the swinging arm and lower end of the operating handle is established by means of a pair of links 22 and 23, the forward ends of which are pivoted to the lower ends of the strips 14 and 15 comprising the operating arm, and the rear ends of which are pivoted to the outer faces of the strips 18 and 19 constituting the swinging arm. With this construction it is evident when the operating handle is oscillated a reciprocating movement will be imparted to the saw blade 20, through the swinging arms and links 22 and 23.

In order that the pressure on the saw blade may be regulated to adapt it to the various qualities of timber being sawed, the following construction is employed:—Arranged between the strips 14 and 15 of the operating handle is a sliding member 24. This member is somewhat less in length than the length of the operating handle and is provided with a longitudinal slot for the reception of the pivot bolt 16. The upper end portion of the slide is provided with a hook bolt 26, the hooked end 26^a thereof having a frictional engagement with the edges of the members 14 and 15. The other end projects through an operating handle 25 and is provided on its extreme end with a head 26^b, and on its shank between the handle and end with a coiled spring 26^c. Thus the hooked end and the handle frictionally grip the members 14 and 15. By this means the slide member 24 can be held in any desired position. Interposed between the strips 18 and 19 of the swinging frame and adjacent the intermediate portion thereof is a tensioning bar or rod 27. This member is pivoted to the swinging arm and its forward end is arranged between the strips 14 and 15 of the operating handle. Connection between the rear end of the tensioning rod 27 and the rear end of the shank 21 of the saw is established by means of the helical spring 28, the opposite terminals of which are suitably secured to the extremities of the tensioning rod and shank. As before stated the forward end of the tensioning rod extends between the strips 14 and 15 and bears on the lower end of the slide 24. Thus it will be seen that by forc-

ing the slide downwardly, the forward end of the tensioning rod will be likewise depressed while its rear end will be elevated. This lifting movement of the rear end of the tensioning rod will place the spring 28 under tension and will tend to force the saw blade 20 downward. Thus it will be seen that when the parts are positioned as shown in Fig. 1 and the teeth of the blade 20 are in engagement with the timber to be sawed, that the pressure of said teeth on the timber may be regulated by means of the slide 24.

In order that the saw blade may be held from engagement with the timber while the frame is being adjusted, the following construction is employed:—By referring now to Figs. 1 and 2 it will be seen that pivoted between the side members 5 and 6 and in advance of the operating handle is a lifting block 29. This block is oblong in contour and has one end pivoted between the side pieces 5 and 6. A support for the block is designated by the numeral 30 and is arranged between the block and the operating handle and is so positioned that when the block 29 bears on the support, the former will incline rearwardly and be off center. Connection between the forward end of the shank 21 and block is established by means of a flexible strap 31, the lower end of which is fixedly secured to the forward end portion of the shank 21 and the intermediate portion fixedly secured to the block 29, while the free end portion is provided with a handle 32, to be grasped by the operator when it is desired to lift the blade from engagement with the wood.

A seat 33 is arranged adjacent the rear end portion of the sides 5 and 6 and so positioned that the cross-piece 17 and handle bar 25 will be within easy reach of the operator when the latter is upon the seat. Arranged adjacent the lower end portion of the strips 14 and 15 of the operating handle and located on the outer faces of these strips are a pair of stirrups 34 and 35, which receive the feet of the operator when the latter is upon the seat. By providing these stirrups the operator will be enabled to employ his feet in addition to his hands to oscillate the operating handle.

From the foregoing it can be seen that I have provided a device which is comparatively simple in structure, inexpensive to manufacture, embodying few parts, and these so arranged that the danger of derangement will be reduced to a minimum.

What is claimed as new is:

1. In a sawing machine, a supporting frame, an operating handle and a swinging arm both pivoted in the frame, a saw having a shank portion carried by the swinging arm, a connection between the operating handle and swinging arm, a tensioning bar carried by the swinging arm, a connection

between the tensioning bar and shank of the saw and means carried by the operating handle for adjusting the tensioning bar.

2. In a sawing machine, a supporting frame, an operating handle and a swinging arm both pivoted in the frame, said operating handle being provided with an elongated slot in its lower end, a saw having a shank portion projecting through the slot of the operating handle and having its end portion pivoted to the swinging arm, a connection between the operating handle and the swinging arm, a tensioning bar fulcrumed on the shank, a resilient connection between the tensioning bar and shank of the saw, and means carried by the operating handle for adjusting the tensioning bar.

3. In a sawing machine, a supporting frame, an operating handle and a swinging arm both pivoted in the frame, said operating handle being provided with an elongated slot in its lower end, a saw having a shank portion projecting through the slot of the operating handle and pivoted intermediate its ends to the swinging arm, a connection between the operating handle and the swinging arm, a tensioning bar fulcrumed intermediate its ends to the swinging bar and disposed above the saw shank, one end of

the bar projecting through and beyond the slot of the operating handle, a resilient connection between the other end of the bar and the end of the saw shank opposite the saw, and means carried by the operating handle for adjusting the tensioning bar.

4. In a sawing machine, a supporting frame, an operating handle and a swinging arm both pivoted in the frame, said operating handle being provided with an elongated slot in its lower end, a saw having a shank portion projecting through the slot of the operating handle and having its end portion pivoted to the swinging arm, a connection between the operating handle and the swinging arm, a tensioning bar fulcrumed on the swinging arm and disposed above the saw shank, a resilient connection between the tensioning bar and shank of the saw, a slide carried by the operating handle for engagement with the tensioning bar, and means carried by the operating handle for locking the slide in an adjusted position.

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

JOHN C. F. BOLTON.

Witnesses:

H. P. NICKING,
WM. J. PARIZEK.