

(No Model.)

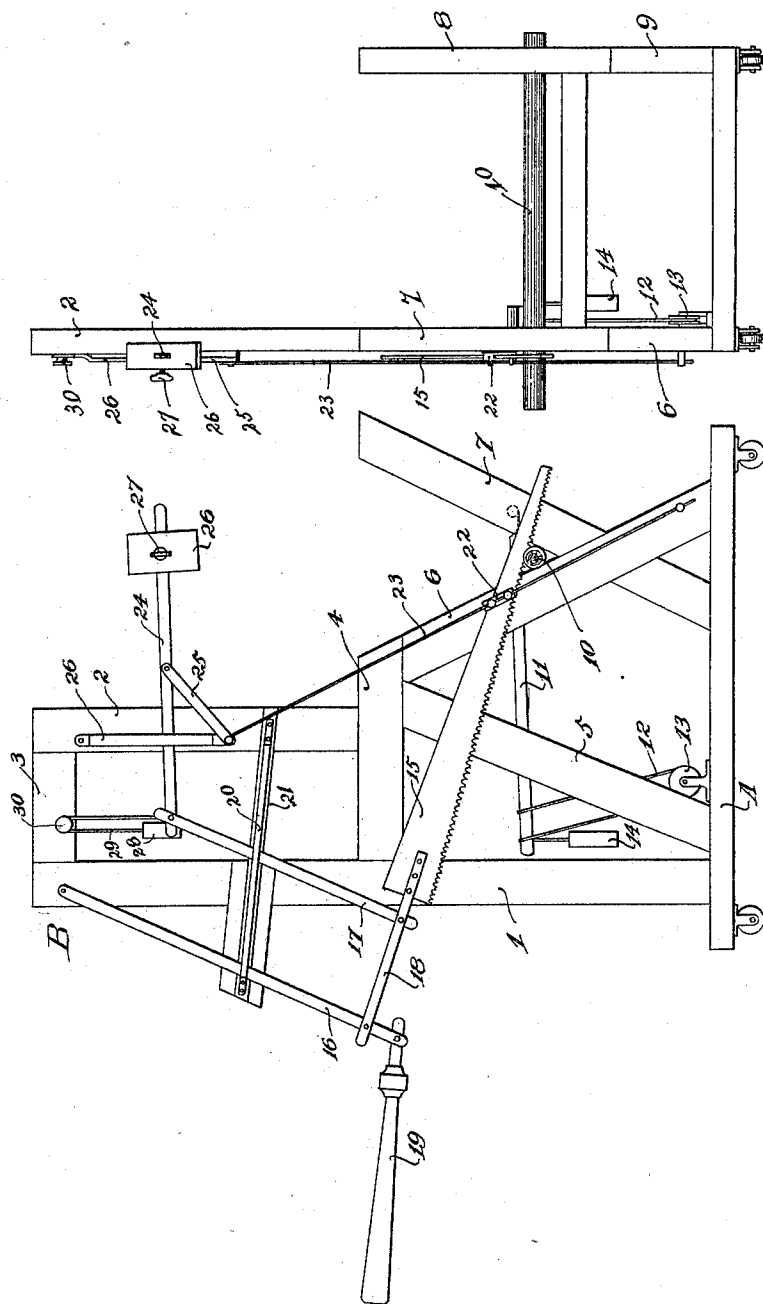
F. L. T. GERHARD.
HAND SAWING MACHINE.

No. 509,574.

Patented Nov. 28, 1893.

Fig. 2.

Fig. 1.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRIEDRICH L. T. GERHARD, OF CHICAGO, ILLINOIS.

HAND SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 509,574, dated November 28, 1893.

Application filed June 13, 1893. Serial No. 477,504. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH L. T. GERHARD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Hand 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 a novel construction in sawing machines and consists in the features of construction and combinations of parts hereinafter fully described and specifically claimed.

In the accompanying drawings,—Figure 1 is a side elevation of a sawing machine constructed in accordance with my invention. Fig. 2 is an end elevation of the same.

Referring now to said drawings, A indicates the base of the machine which consists preferably of a rectangular frame. At one side of this rectangular frame A is a supporting frame B consisting of uprights 1 and 2 joined at their upper ends by a top piece 3. The upright 1 rests at its lower end upon the frame A, while the upright 2 is shorter than the upright 1 and rests at its lower end upon a cross piece 4 that is connected at one end by the upright 1 and is supported at its other end by the inclined supports 5 and 6. The inclined support 6 stands upon the other side of the frame A from the upright 1, and serves as one of the pieces of a saw horse to support the piece of wood to be sawed, while another inclined leg 7 is attached to the frame adjacent to this inclined support or leg 6, as shown in Fig. 1. On the other side of the frame A is another member of a saw horse consisting of the two legs 8 and 9 that are crossed in the usual manner, so that, as shown, the log or piece of wood 10 can be supported by this saw horse. To hold the log or piece of wood 10 in place and to prevent it from rising or shifting an arm 11 is pivoted at one end to the leg 7 of the saw horse a little above the crotch and extends toward the other side of the machine. The free end of this arm is held down under yielding tension preferably by means of a rope or strand 12 that is attached at one end to the said arm 11 and then

is carried around a pulley 13 upon the frame A of the machine and then up and over the arm 11 and is provided at its end with a weight 14. In this way it will be seen that the weight serves to create an adjustable tension upon the arm 11 for the purpose stated.

The saw 15 is supported at its rear end by two spring rods 16 and 17. These rods are pivoted to an extension 18 of said saw, while the rod 16 is pivoted at its upper end to the supporting frame B of the machine. The said rod 16 is pivoted near the outer end of the extension 18 and extends a little below said extension and is provided with a pivoted handle 19 by means of which it can be vibrated to move the saw back and forth. The other rod 17 is pivoted inwardly of the rod 16 and is provided at its upper end with devices for regulating the pressure upon the saw, so that the machine can be operated efficiently by people whether they are strong or not. Both of these rods 16 and 17 are confined by a guide bar 20 between which and the cross piece 21 of the machine, to which said guide bar 20 is secured, the said rods 16 and 17 are located. The saw 15 passes between the legs of a bifurcated guide plate 22 at its forward end portion; said guide plate 22 having a sliding connection with an upright rod 23 secured to the frame of the apparatus and upon which it is free to slide up and down. The said guide plate 23 serves to prevent the saw blade from bending and at the same time will rise and fall upon said rod 23 as the saw is moved back and forth.

It will be seen from the foregoing description that the fulcrum point of the saw is located at the pivotal connection between the extension 18 and the vibrating rod 16, and that the weight of the saw tends to hold the same in contact with the work to make it bite, and that as the saw is moved back and forth by means of a handle 19 said saw will cut through the piece of wood 10 that is supported by the saw horse, in an obvious manner. To regulate the pressure, however, upon the saw so that the machine can be operated by strong or weak people I have constructed the devices now to be described: A lever 24 is pivoted upon a projection 25 upon the supporting frame B of the machine and is confined by a guide 26 upon the upright 2. To the rear

end of this lever 24 the upper end of the rod 17 is pivoted, while the other end of the lever 24 is provided with a counterbalancing weight 26 that can be moved toward and away from the pivot of the lever 24 and secured in any adjusted position by a set screw 27. I make the rod 17 of heavy metal so that it will serve to hold the saw down to its work and then by moving the counterbalancing weight 26 back and forth from the pivot of the lever 24 I am enabled to create greater pressure upon the saw, by reason of said lever thereby serving to counteract more or less the weight of the rod 17, in an obvious manner. For instance, if a strong man is using the machine the weight 26 will be moved close to the pivot of the lever 24, so that its counterbalancing effect will be slight, thereby permitting the rod 17 to exert the greatest pressure upon the saw, while, if a child or weak person was using the saw the weight 26 will be moved out near the end of the lever 24, so that its counterbalancing effect will be increased.

To even up and make the operation of the machine smooth and even I employ a counterbalancing weight 28 that is attached to one

end of a cord or strand 29 that is carried up and over a pulley 30 upon the frame of the machine and then is brought down and connected to the lever 24 and rod 7 at their pivot connection.

I claim as my invention—

In a sawing machine, the combination with the frame and saw horse, of a saw 15 pivoted at its rear end to a rod 16 that is pivoted to the frame of the machine, a handle 19 secured to said rod 16 for vibrating the same, and a rod 17 pivoted to said saw at one end and at its other end to a lever 24 pivoted upon the frame of the machine and provided with an adjustable counterbalancing weight 26, and a sliding guide plate to receive the forward end portion of said saw mounted upon a rod 23 secured to the frame of the machine, substantially as described.

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

FRIEDRICH L. T. GERHARD.

Witnesses:

JOHN W. WILKIE,
JOHN KEHRIG.