July 8, 1930. I. G. BLUNDELL 1,770,294

MOTOR OPERATED SAW

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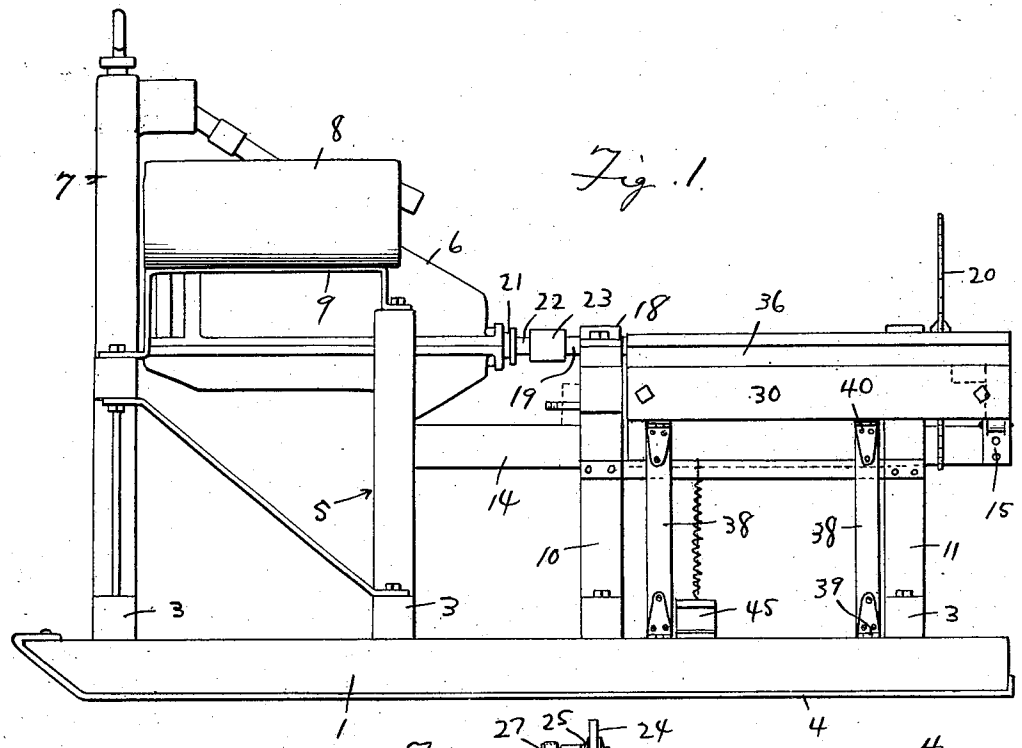


Fig. 1.

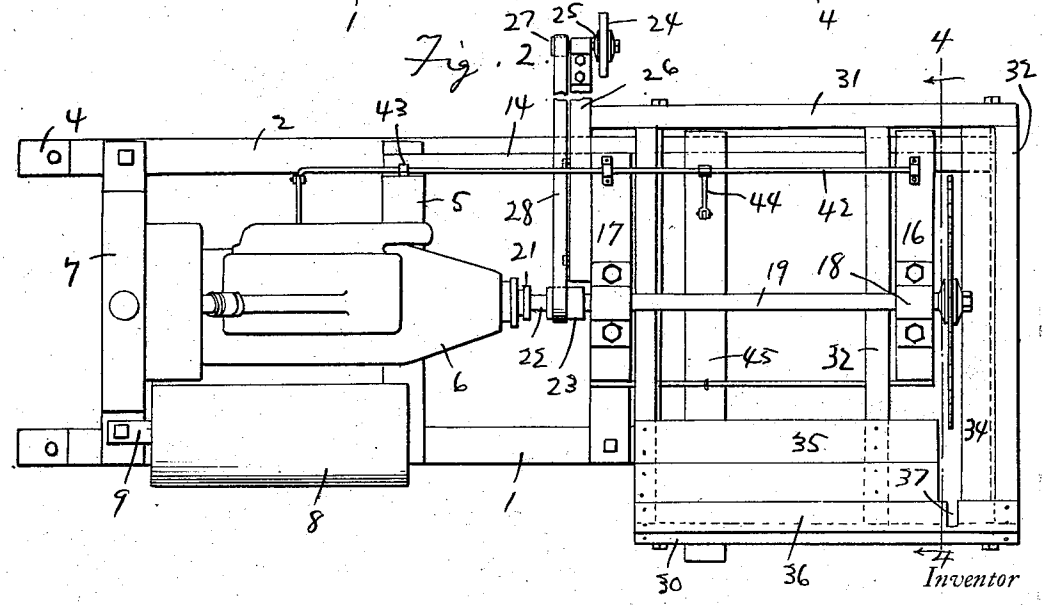


Fig. 2.

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Fig. 3.

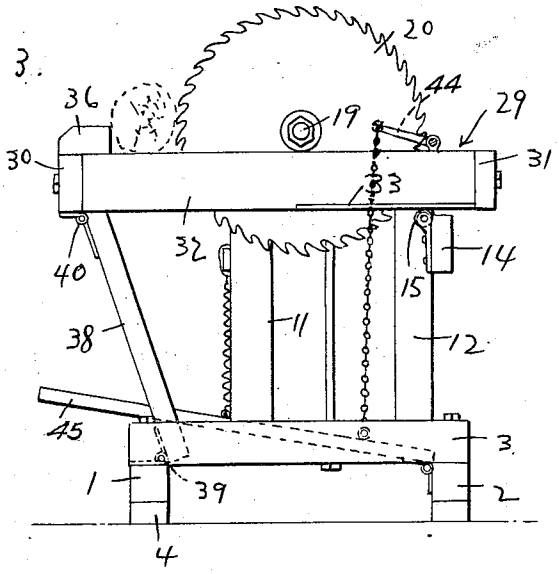
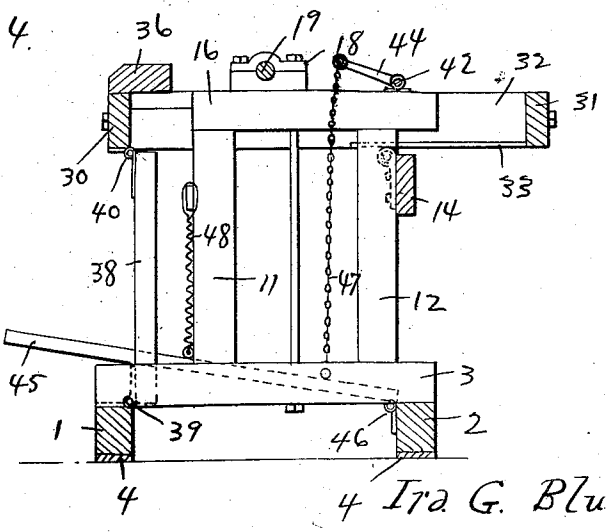


Fig. 4.



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Fig. 5.

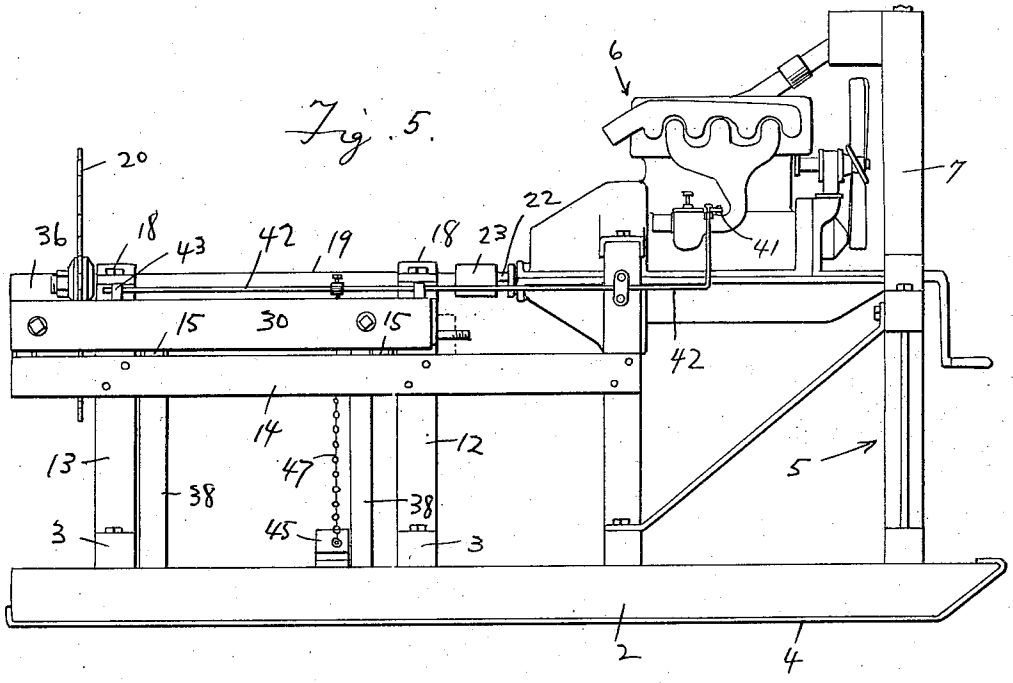


Fig. 6.

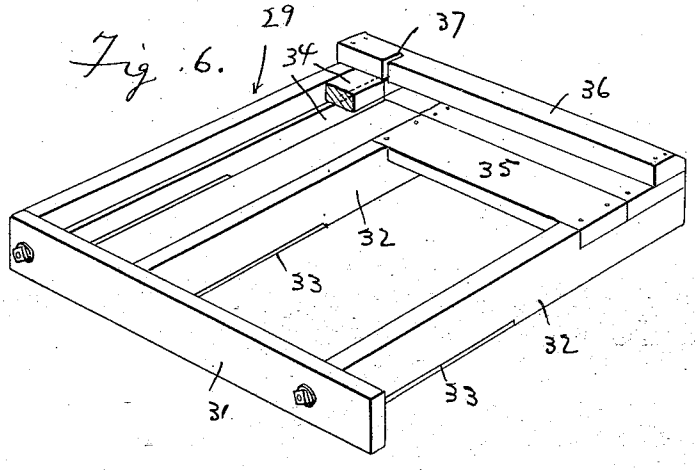
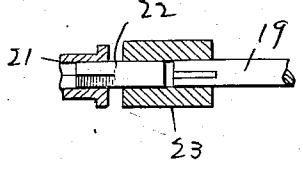


Fig. 7.



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UNITED STATES PATENT OFFICE

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MOTOR-OPERATED SAW

Application filed March 12, 1928. Serial No. 261,009.

The present invention relates to improvements in wood sawing machines and has for its principal object to provide a motor operated saw that will at all times be positive and efficient in its operation.

A further object of the invention is to provide a motor operated saw that includes a rotatable saw carrying shaft, a sliding carriage or table being mounted on a stationary base for feeding the material to the saw blade.

A further object is to provide a motor operated saw of the above mentioned character which is simple in construction, inexpensive, strong and durable, and further well adapted to the purpose for which it is designed.

Other objects of the invention will become apparent as the nature of the invention proceeds and when taken in connection with the accompanying drawings.

In the accompanying drawings, forming a part of this application and in which like numerals designate like parts throughout the several views:

Figure 1 is a front side elevation of the motor operated saw embodying my invention.

Figure 2 is a top plan view thereof.

Figure 3 is a rear end elevation.

Figure 4 is a sectional view, taken approximately on the line 4—4 of Figure 2, looking in the direction of the arrows.

Figure 5 is a rear side elevation.

Figure 6 is a detail perspective view of the slidable carriage or table.

Figure 7 is a detail illustrating the coupling between the driven shaft and the drive shaft.

In the drawings, wherein for the purpose of illustration is shown the preferred embodiment of my invention, the numerals 1 and 2 designate a pair of longitudinally extending spaced beams. Suitable bracing members 3 extend transversely across the upper faces of these beams. Runners 4 are secured to the bottom faces of these beams, the ends of the runners being disposed upwardly against the respective ends of the beams as clearly shown in the drawings.

An engine supporting frame designated generally by the numeral 5 is arranged on the forward ends of the beams, and an internal combustion engine of any well known construction is supported on this frame, in any appropriate manner, the engine being designated generally by the numeral 6. The radiator 7 that is operatively associated with the engine is supported at the front end of the frame 5 and also supported on the frame at one side of the engine is the gasoline tank 8, the supporting bracket therefor being shown at 9, with reference more particularly to Figure 1 of the drawings. Suitable standards 10 and 11 extend upwardly from the opposite end portions of the base formed by the longitudinal beams 1 and 2, these standards being arranged at the front side of the machine. Similar standards 12 and 13 extend upwardly from the opposite sides of the machine and these vertical standards are arranged in pairs.

An elongated rail 14 extends across the outer faces of the rear pair of standards 12 and 13, as more clearly shown in Figure 5 and the forward end of this rail is secured to the rear portion of the engine supporting frame 5. Suitable rollers 15 are carried by the rail 14, and the purpose thereof will be hereinafter more fully described.

Cross bars 16 and 17 extend transversely across the upper ends of the respective pairs of standards. Suitable bearings 18 are arranged on the upper faces of the cross bars 16 and 17 in alignment with each other, for accommodating the longitudinally extending driven shaft 19. A circular saw blade 20 is secured on the rear end of the driven shaft 19 for disposition adjacent the outer side face of the rearwardmost cross bar 16, as clearly shown in Figure 2.

A socket 21 is operatively associated with the drive shaft of the engine 6 and fitted in the outer end of this socket and rotating therewith, is the stub shaft 22, that is arranged in horizontal alignment with the forward end of the driven shaft 19 and a pulley 23 affords a coupling between the adjacent ends of the drive and driven shafts, the adjacent ends of the drive and driven shafts

being keyed in the respective ends of the pulley as shown very clearly in Figure 7.

This pulley 23 may be employed for driving other machinery and in Figure 2, there is illustrated the use of the pulley in driving an emery wheel 24 which is secured on one end of a stub shaft 25, supported in the outer end of the transverse arm 26, which is secured to the outer face of the cross bar 17. The other end of the stub shaft has arranged thereon a small pulley 27 and a belt 28 is trained over the pulleys 23 and 27.

The invention further comprehends the provision of a carriage or table for supporting the material to be sawed and this unit is designated generally by the numeral 29 in Figure 6. This carriage or table comprises a pair of parallel spaced front and rear side bars 30 and 31 respectively, and extending transversely between these side bars are the parallel spaced rails 32. A metal plate 33 is secured on the bottom face of the rear end portion of each rail 32 and these rails are spaced with respect to each other in such relation as to dispose the rails in position over the several rollers 15, and the metal plates 33 will ride over these rollers as clearly shown in the drawings. As is further illustrated in the drawings, the rails 32 are of such length as to extend beyond the respective sides of the beams 1 and 2, and the ends of the cross bars 16 and 17. These cross rails 32 provide bracing means for the carriage or table 29, and additional bracing members 34 are provided.

A pair of boards 35 extend across the forward ends of the forwardmost pair of cross rails to provide a support for the piece of wood that is to be cut into small pieces by the circular saw blade 20 and extending upwardly from the front side bar 30 is the stop 36. This stop is in the form of a piece of wood that extends for the full length of the side bar 30 and the same is formed with a slot 37, adjacent the rear end portion thereof to accommodate the teeth of the circular saw blade 20.

The carriage or table 29 is adapted for slidable movement across the rear end portion of the machine and as heretofore explained, the rear end portions of the cross rails 32 ride over the rollers 15.

The supporting means for the front side of the carriage or table 29 comprises a pair of leg members designated by the numeral 38. These leg members are hingedly secured at their lower ends to the beam 1, as at 39, while the upper ends of the leg members are hingedly secured to the front side rail 30 as at 40. It is of course to be understood that the leg members 38 are not disposed in the same vertical plane with the cross rails 32, so that said cross rails will not interfere with the swinging movement of the hinged leg members during the actuation of the slidable and tiltable carriage 29.

For the purpose of controlling the throttle lever, 41, that is associated with the carburetor of the internal combustion engine 6, at a point remote from the engine, I provide the elongated rod 42. The forward end of this rod is operatively connected to the throttle rod 41 and the same extends rearwardly across the cross bars 16 and 17, through suitable brackets shown at 43.

An arm 44 is fixedly secured at its rear end to the rod 42.

A transversely extending foot actuated treadle 45 is hingedly secured at its rear end to the rear longitudinally extending beam 2 as at 46, at a point below the sliding carriage or table 29, and this swinging foot treadle is operatively connected to the forward end of the arm 44 by means of the chain 47. A spring 48 is associated with the foot treadle for normally holding the same in a raised position and this feature is more clearly illustrated in Figure 4 of the drawings.

The operation of my improved wood sawing machine may be briefly stated as follows:

When the parts are arranged as shown in Figure 2, the sliding carriage or table 29 is in its forwardmost position. A log or other piece of wood which is to be cut up, is placed across the forward portion of the carriage as shown in Figure 3, so that the same will extend across the board 35 and will rest against the stop 36. With the engine 6 in operation, rotary movement will be imparted to the saw carrying shaft 19. The material is then fed rearwardly against the saw blade 20 by pushing rearwardly on the sliding carriage or table 29, until the saw blade has cut entirely through the material and has entered the slot 37. It will be observed upon considering Figure 3, that the supporting legs 38 are disposed at an incline when the carriage or table is in its forwardmost position, whereas, when the carriage has moved to its rearwardmost position, these front supporting legs are disposed substantially vertically as shown in Figure 4. The rollers 15 cooperate with the metallic plates 33 to facilitate the free sliding movement of the carriage across the rear end portion of the machine and the carriage may be returned to its normal position by pulling the same forwardly. The table will reciprocate with a slight tilting motion of the front portion thereof due to the hinged effect afforded by the provision of the leg members 38. The operator may control the speed at which the saw carrying shaft rotates by actuating the throttle lever 41, through the medium of the foot pedal 45 that is located in close proximity to the saw blade.

It will be seen from the above description that I have provided a wood sawing machine that will save considerable time and labor, and furthermore due to its simplicity, the

machine can be constructed at a very low cost. Instead of employing runners, wheels may be associated with the base of the machine whereby the same is rendered portable so that it can be moved from place to place, whenever desired.

While I have shown the preferred embodiment of my invention, it is to be understood that minor changes in the size, shape, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the appended claim.

Having thus described my invention, what I claim as new is:

In a motor operated wood sawing machine, a base, an engine supported on one end of the base, a frame arranged on the other end of the base and including front and rear pairs of standards extending upwardly from the base, bars extending transversely across the respective pairs of standards, a driven shaft extending longitudinally of the frame across the bars, means for operatively connecting the forward end of the driven shaft with the drive shaft of the engine, a circular saw blade secured on the rear end portion of the driven shaft for rotation therewith, a carriage arranged for slidable movement transversely across the frame for feeding the material to be cut to the saw blade, supporting means for the slidable carriage, said supporting means comprising leg members hingedly secured at their lower ends to the base, the upper ends of the leg members being hingedly secured to the forward end portion of the slidable carriage, a rail extending across the rear pair of standards, rollers carried by the rail, and extending upwardly therefrom, the rear portion of the cariage adapted to travel over said rollers.

In testimony whereof I affix my signature.

IRA GEORGE BLUNDELL.