June 15, 1926. **1,588,892**

G. HUMISTON ET AL

MOTOR OPERATED DRAG SAW

Filed Jan. 28, 1925 **2 Sheets-Sheet 1**

Fig. 1.

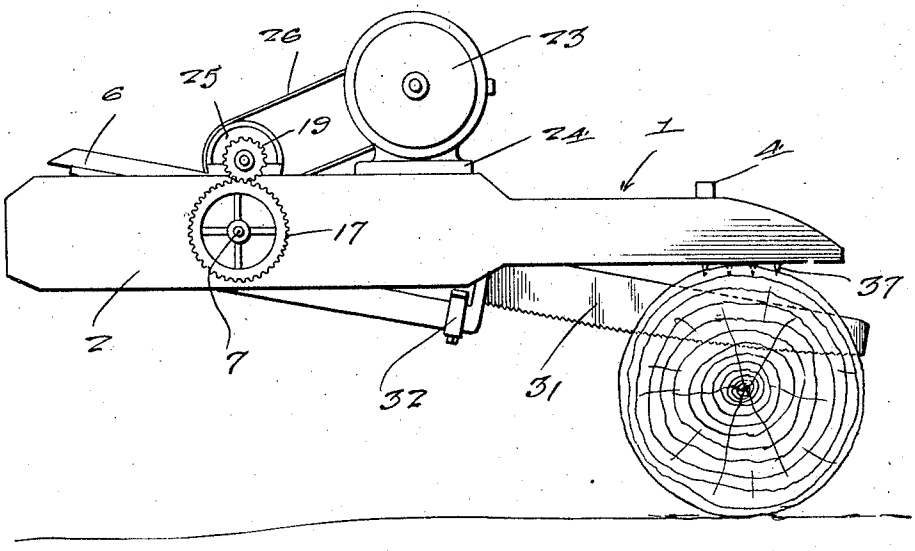
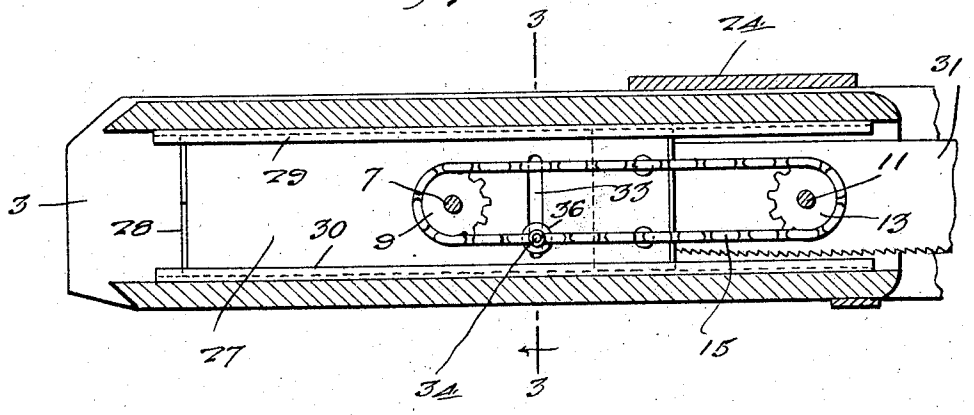


Fig. 4.



Inventors
G. Humiston
W. Humiston

By Clarence O'Brien.

Attorney

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Fig. 2.

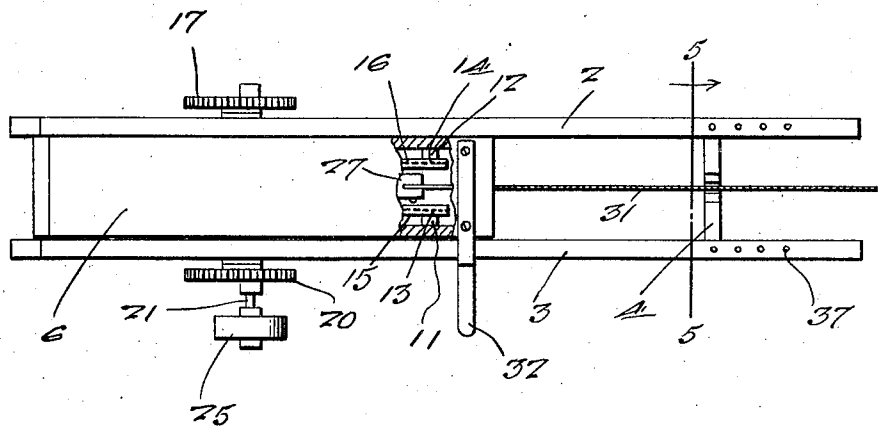


Fig. 3.

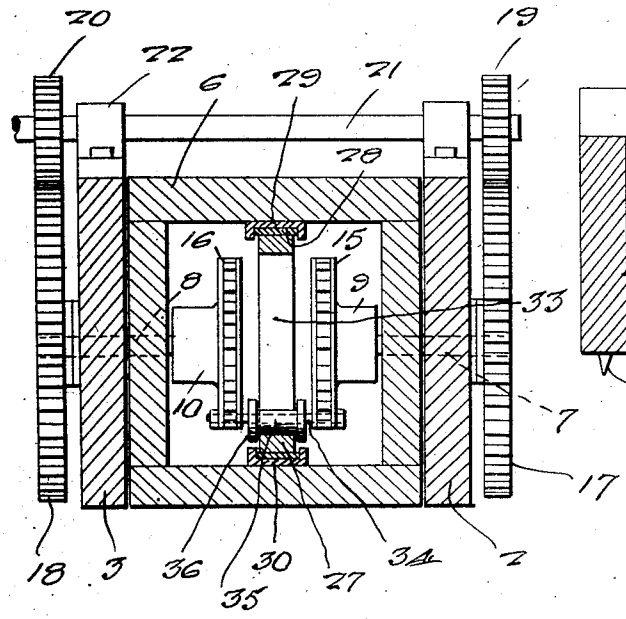
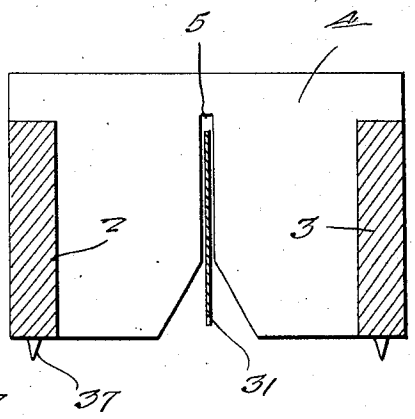


Fig. 5.



Inventors
G. Humiston
W. Humiston

By Clarence A. O'Brien.

Attorney

Patented June 15, 1926. 1,588,892

UNITED STATES PATENT OFFICE.

GEORGE HUMISTON AND WILLIAM HUMISTON, OF REEDSPORT, OREGON.

MOTOR-OPERATED DRAG SAW.

Application filed January 28, 1925. Serial No. 5,271.

This invention relates to improvements in drag saws and is more particularly adapted to one which is electrically operated, whereby considerable time and labor will be saved.

One of the important objects of the present invention is to provide a motor driven drag saw, which will, at all times, be positive and efficient in its operation, the same being of such a construction as to render the device portable.

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

Other objects and advantages of this invention will become apparent during the course of the following detailed description.

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

Figure 1 is a side elevation of our improved device, showing the same in use;

Figure 2 is a bottom plan view;

Figure 3 is a sectional view taken approximately on the line 3—3 of Figure 4.

Figure 4 is a longitudinal sectional view, through the casing, and

Figure 5 is a sectional view, taken approximately on the line 5—5 of Figure 2.

In the drawings, wherein for the purpose of illustration is shown the preferred embodiment of our invention, the numeral 1 designates generally the supporting frame, the same comprising the spaced side beams or sills 2 and 3 respectively, the same being of relatively great length. A spacing block 4 is disposed between the side beams or sills 2 and 3 of the frame 1, adjacent the forward ends thereof, and the same is further provided with a vertical slot 5, which forms a guide means for the saw blade, in a manner to be hereinafter more fully described.

A casing 6 of substantially rectangular configuration is disposed between the side beams of the frame, adjacent the rear end of the latter, the respective ends of the casing being open. A pair of aligning shafts 7 and 8 extend through the side beams 2 and 3 respectively, and through the intermediate portions of the adjacent sides of the casing 6, as clearly illustrated in the drawings, whereby the casing is pivotally supported intermediate its ends on said shafts. A pair of sprocket wheels 9 and 10 are secured on the inner ends of the aligning shafts, the same being disposed within the casing 6, in spaced relation, with respect to each other.

A pair of stub shafts 11 and 12 extend transversely through the respective sides of the casing 6, adjacent the forward end thereof. Suitable sprocket wheels 13 and 14 are supported on the inner ends of the aligning stub shafts and are also arranged in spaced relation with respect to each other, the sprocket wheels on the stub shafts being in alignment with the sprocket wheels on the aforementioned shafts 7 and 8. A pair of sprocket chains 15 and 16 are trained over the aligning sprocket wheels 9 and 13 and 10 and 14 respectively, as clearly illustrated in the drawings.

Supported on the outer ends of the shafts 7 and 8 are the gears 17 and 18 respectively. Suitable pinions 19 and 20 are adapted to engage the gears 17 and 18 respectively, the pinions being supported on a transversely extending shaft 21, which is journaled in suitable bearings 22, secured on the upper edges of the side beams of the frame.

A suitable electric motor 23, of any well-known construction is supported on a platform 24 provided therefor across the intermediate portions of the side beams of a frame. A pulley 25 is associated with one end of the shaft 21, and a belt 26 travels over the pulley and an aligning pulley mounted on the drive shaft of the motor (not shown), whereby the shaft 21 will be rotated when the motor is in operation, thus transmitting rotary motion to the shafts 7 and 8, whereby the endless chains 15 and 16 will be caused to be operated for the purposes to be hereinafter more fully described.

An elongated carriage, in the shape of a flat block or bar 27 is adapted for reciprocatory movement within the casing 6, the edges thereof being reinforced by a metallic strip 28. A pair of channel members 29 and 30 extend longitudinally in the casing, the same being secured to the top and bottom thereof respectively, for cooperation with the upper and lower edges of the carriage, providing a guide therefor, during the reciprocatory movement of the carriage.

A saw blade 31 is detachably secured at its rear end, in the forward slotted end of the carriage 27, the saw blade extending outwardly of the forward end of the casing and between the forward ends of the side beams

of the carriage, the same being further adapted to extend through the guide slots provided therefor in the spacing block 4. A lever 32 is secured on the under side of the forward end of the casing and extends laterally therefrom as is clearly indicated in Figure 2, for the purposes to be presently apparent.

A vertical slot 33 is provided in the forward portion of the carriage, 27. Extending transversely through the slot is the pin 34. A roller 35 is loosely arranged on the pin and is adapted for engagement with the sides of the slot 33 during the upward and downward movement of the pin within the slot. A pair of washers or the like, illustrated at 36 are carried by the pin 34, the same being disposed on opposite sides of the carriage for preventing the displacement of the roller 35 from the slot 33. The ends of the pins 34 extend through one of the links of each of the endless sprocket chains 15 and 16, the pin being further secured to said link so that the same will operate simultaneously with the actuation of the sprocket chains, to effect the reciprocatory movement of the carriage, and the saw blade carried thereby.

A plurality of spurs, such as are shown at 37, are arranged in the bottom edges of the forward ends of the side beams of the frame, and provide a means for supporting the forward end of the frame on the log, which is to be cut, in the manner as clearly illustrated in Figure 1. The rear end of the frame may be supported on the ground or may be elevated as is shown in Figure 1 and supported in this elevated position by the operator or by any suitable supporting device.

The operation of the saw may be briefly stated as follows:

When the motor 23 is started, the shafts 7 and 8 will be caused to rotate through the gearing heretofore described, and the sprocket chains will be caused to travel over the aligning sprocket wheels. The pin 34, being secured to the sprocket chain, will travel therewith, and as a result will cause the carriage and the saw carried thereby to reciprocate within the casing, the slot 33 permitting the pin to move vertically therein, so as to not interfere with the reciprocatory movement of the carriage, when the links of the chain to which the ends of the pin are secured travel around the sprocket wheels. The lever 32 enables the operator to steady the saw. Furthermore, the pivotal supporting of the casing on the frame enables the saw to automatically lower itself during the sawing of a log or the like.

It will thus be seen from the foregoing description that a motor driven drag saw has been provided, which will not only save considerable time and labor, but will also be positive and efficient in its operation at all times.

While we have shown the preferred embodiment of our invention, it is to be understood that various changes in the size, shape, and arrangement of parts may be restorted to, without departing from the spirit of the invention and the scope of the appended claim.

Having thus described our invention, what we claim is:

A sawing machine of the class described including, in combination, a supporting frame comprising a pair of spaced elongated parallel side beams, one end of which are provided with teeth for engaging a log or like article to be sawed, a casing pivotally supported intermediate its ends between intermediate portions of the guide beams adjacent their other ends, and including an upper and a lower wall, a pair of channel members, one supported on the upper wall, and one supported on the lower wall, a carriage slidable in the channel members, a saw blade secured to one end of the carriage and extending in the same general direction with the first mentioned ends of the side beams, said saw being slidable through one end of the casing, and means for reciprocating the carriage.

In testimony whereof we affix our signatures.

GEORGE HUMISTON.
WILLIAM HUMISTON.