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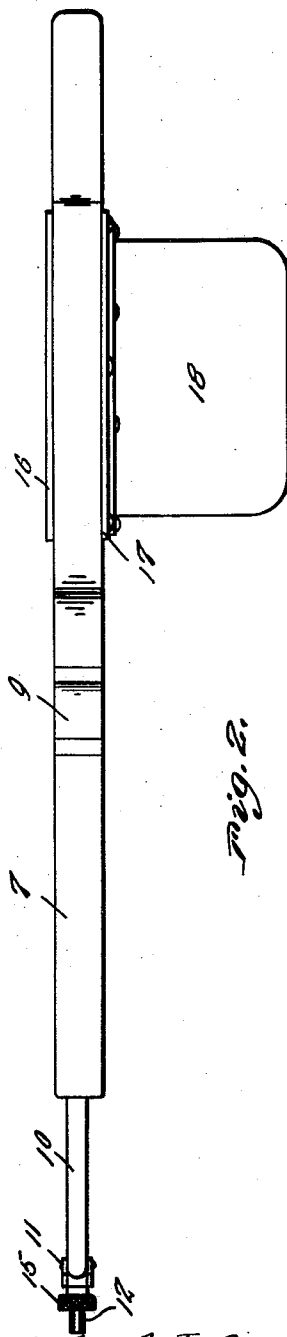
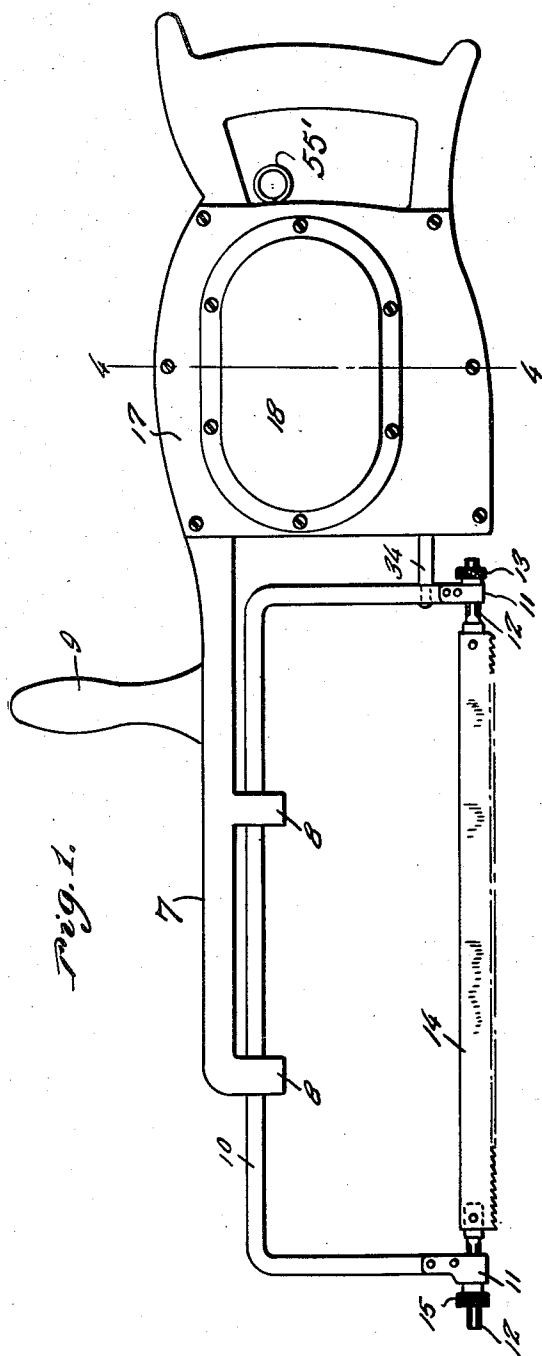
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ELECTRIC HACK SAW

Filed Nov. 21, 1930

3 Sheets-Sheet 1



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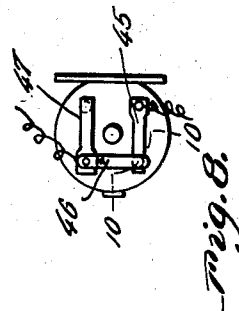
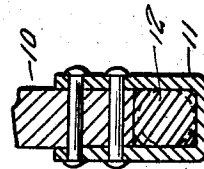
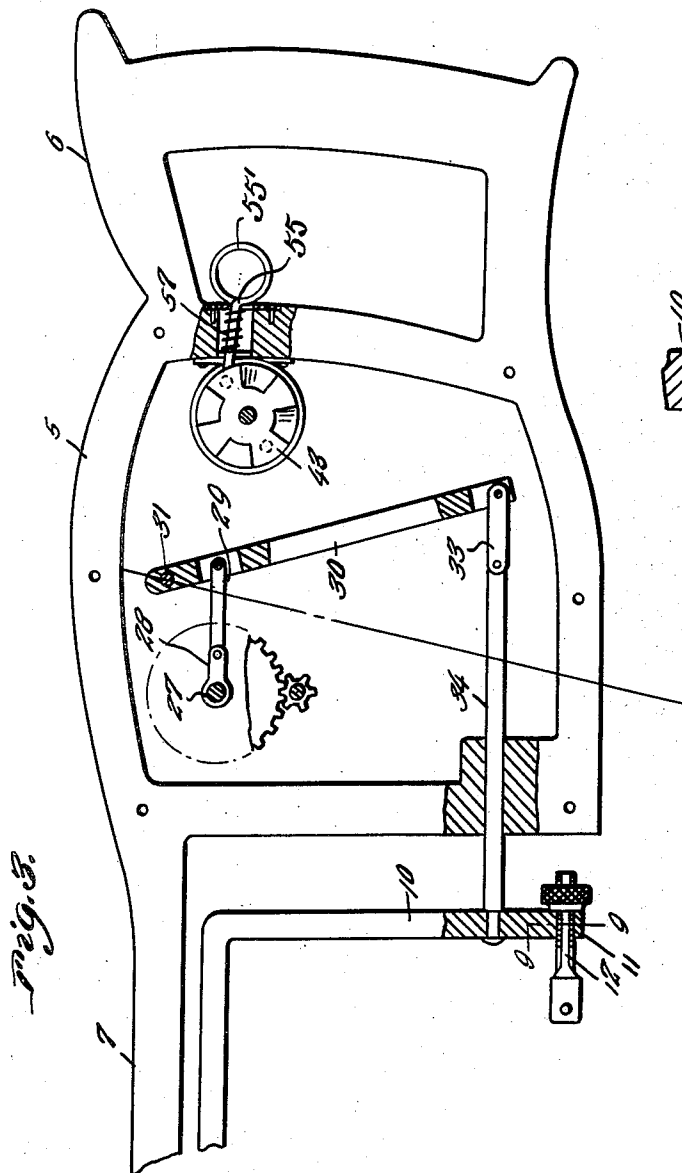
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3 Sheets-Sheet 2



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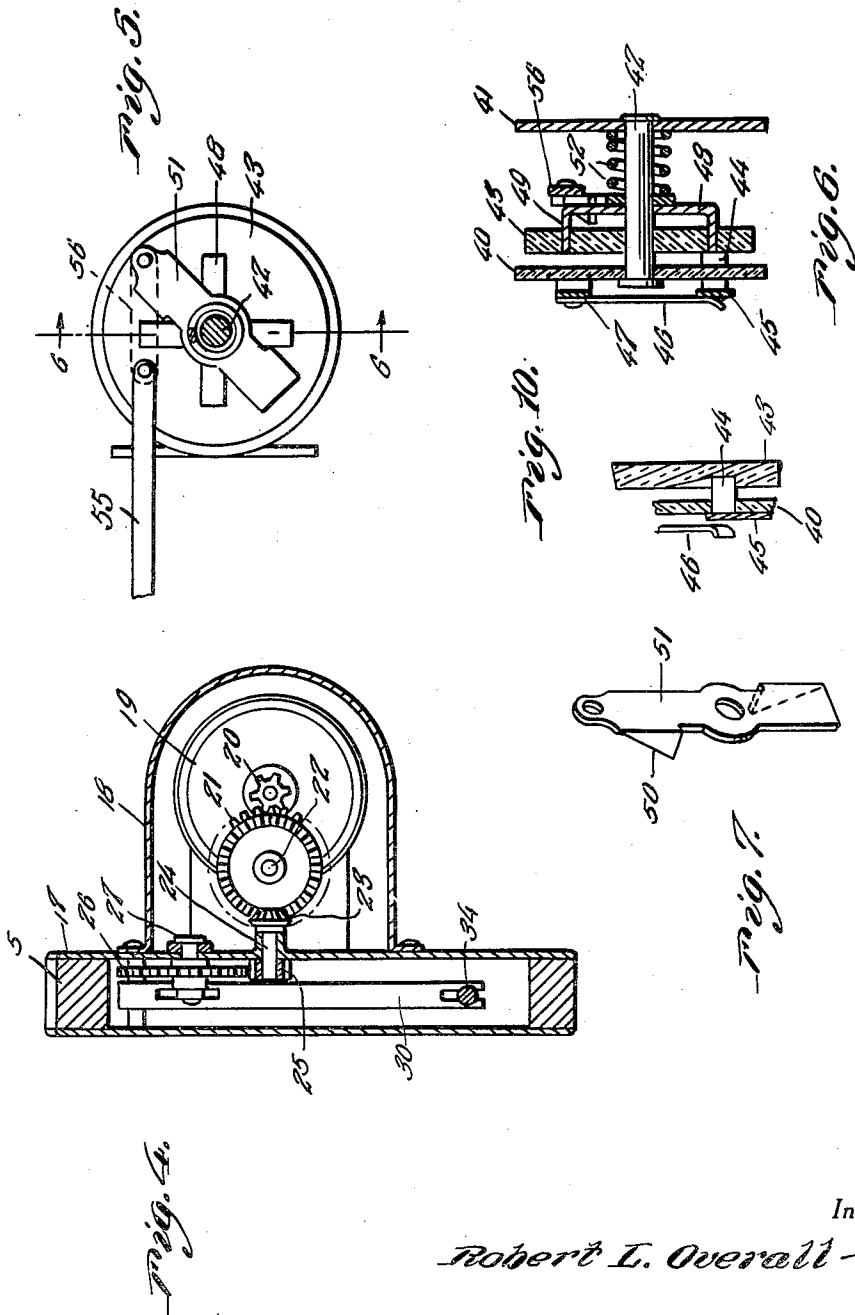
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ELECTRIC HACK SAW

Filed Nov. 21, 1930

3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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ELECTRIC HACK SAW

Application filed November 21, 1930. Serial No. 497,294.

The present invention relates to an electric hack saw and has for its prime object to provide a saw wherein the blade thereof is reciprocated through the action of an electric motor.

Another very important object of the invention resides in the provision of an electric hack saw of this nature which is simple in its construction, comparatively inexpensive to manufacture, strong and durable, compact and convenient in its arrangement of parts, easy to manipulate and otherwise well adapted to the purpose for which it is designed.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a side elevation of a hack saw embodying the features of my invention,

Figure 2 is a top plan view thereof.

Figure 3 is a fragmentary sectional elevation showing one of the side plates removed.

Figure 4 is a sectional view taken substantially on the line 4—4 of Figure 1.

Figure 5 is a sectional view through the switch.

Figure 6 is another sectional view there-through taken substantially on the line 6—6 of Figure 5.

Figure 7 is a perspective view of the rocker,

Figure 8 is an end elevation of the switch,

Figure 9 is an enlarged detail section taken substantially on the line 9—9 of Figure 3, and

Figure 10 is a detail section taken substantially on the line 10—10 of Figure 8.

Referring to the drawings in detail it will be seen that numeral 5 denotes a frame on one end of which is formed a handle 6. From the other end extends an elongated arm 7 having bearings 8 depending therefrom and handle 9 rising therefrom. A blade frame 10 is of inverted U-shaped formation and the

cross member thereof is slidable in the bearings 8.

Strap loops 11 are mounted on the ends of the blade frame to receive squared portions of bolts 12 attached to the ends of saw blade 14. The extremities of these bolts 12 are threaded to receive nuts 15 for placing the proper tension on the saw blade 14.

Side plates 16 and 17 are mounted on the frame 5 to close the same being detachably held in place by screws or similar means. A casing 18 is mounted on the side plate 17 and houses an electric motor 19 having a gear or pinion 20 on its armature shaft meshing with a combination spur gear and bevel gear 21 rotatable on shaft 22 in the casing. The bevel pinion 23 is in mesh with the bevel gear teeth of the gear 21 and is on a shaft 24 journaled through the plate 17. A pinion 25 is on this shaft 24 to drive a relatively large gear 26 journaled on a shaft 27 mounted in the plate 17. The pinion 25 and the gear 26, of course, are within the frame 5. On the shaft 27 is a crank 28 connected with a link 29. A rocker 30 is rockable at its upper end on a pin 31 and the link 29 is pivotally engaged with the rocker 30 below the pin 31. A link 33 is pivotally engaged with the lower end of the rocker 30 and with a rod 34 slidable through said other end of the frame 5 and connected with the saw blade frame 10. Therefore when the electric motor is operating a reciprocatory motion is imparted to the frame 10 and the blade 14.

The electric motor is electrically connected with a circuit closer. This circuit closer comprises a pair of plates 40 and 41 mounted on said one end of the frame 5 to be located within said frame. A pin 42 extends between the plates 40 and 41. A disk 43 is rockable on the pin 42 and has off center pins 44 projecting therefrom through the plate 40. These pins 44 are not connected to the disk 43. The pins 44 are adapted to engage spring contacts 45, 46 and 47 for the purpose of closing the circuit to the motor, the contacts being normally broken.

A disk 48 is mounted on the disk 43 by means of a flange 49 and has depressions formed therein to be engaged by teeth 50 on

rocker 51 rockable on the pin 43 and held against the disk 48 by spring 52. The disk 43 is formed with depressions in which the pins 44 may be seated when the circuit is to be open. A rod 55 is slidable through the end of the frame and has a link connection 56 with the rocker and the outer end of the rod 55 is bent to form a ring 55'. Therefore by pulling on the rod 55 against the tension of its spring 57 the rocker is actuated to turn the disk 43 so as to place the pins 44 in the recesses thereof or to force the pins out of the recesses for opening or closing the circuit respectively.

It is thought that the construction, operation, utility and advantages of this invention will now be quite apparent to those skilled in this art without a more detailed description thereof.

The present embodiment of the invention has been disclosed in considerable detail merely for the purposes of exemplification since in actual practice it attains the features of advantage enumerated as desirable in the statement of the invention and the above description.

It will be apparent that changes in the details of construction, and in the combination and arrangement of parts may be resorted to without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

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

A saw of the class described comprising a frame having a substantially rectangular shaped part and a substantially U-shaped part connected to one end of the rectangular part for forming a handle, side plates secured to the rectangular part to form there-with a casing, and said frame having an arm formed on that end thereof which is opposite to the end to which the handle part is located, guides depending from the arm, a saw carrying frame of yoke shape having its bight slidably arranged in the guides, a rod connected to the inner limb of the yoke-shaped frame and passing through the lower front part of the rectangular shaped part of the frame, an oscillatory member located in the casing, a link connecting the lower end thereof with the inner end of the rod, a shaft journalled in one of the side plates and having a crank on its inner end, and a link connecting the crank with the upper part of the oscillatory member, a gear on the shaft located in the casing, a second shaft passing through said plate and having a pinion on its inner end meshing with the gear, a housing connected to the said plate enclosing the outer ends of the shafts, a motor in the housing, and means for connecting the pinion carrying shaft with the motor.

In testimony whereof I affix my signature.
ROBERT L. OVERALL.