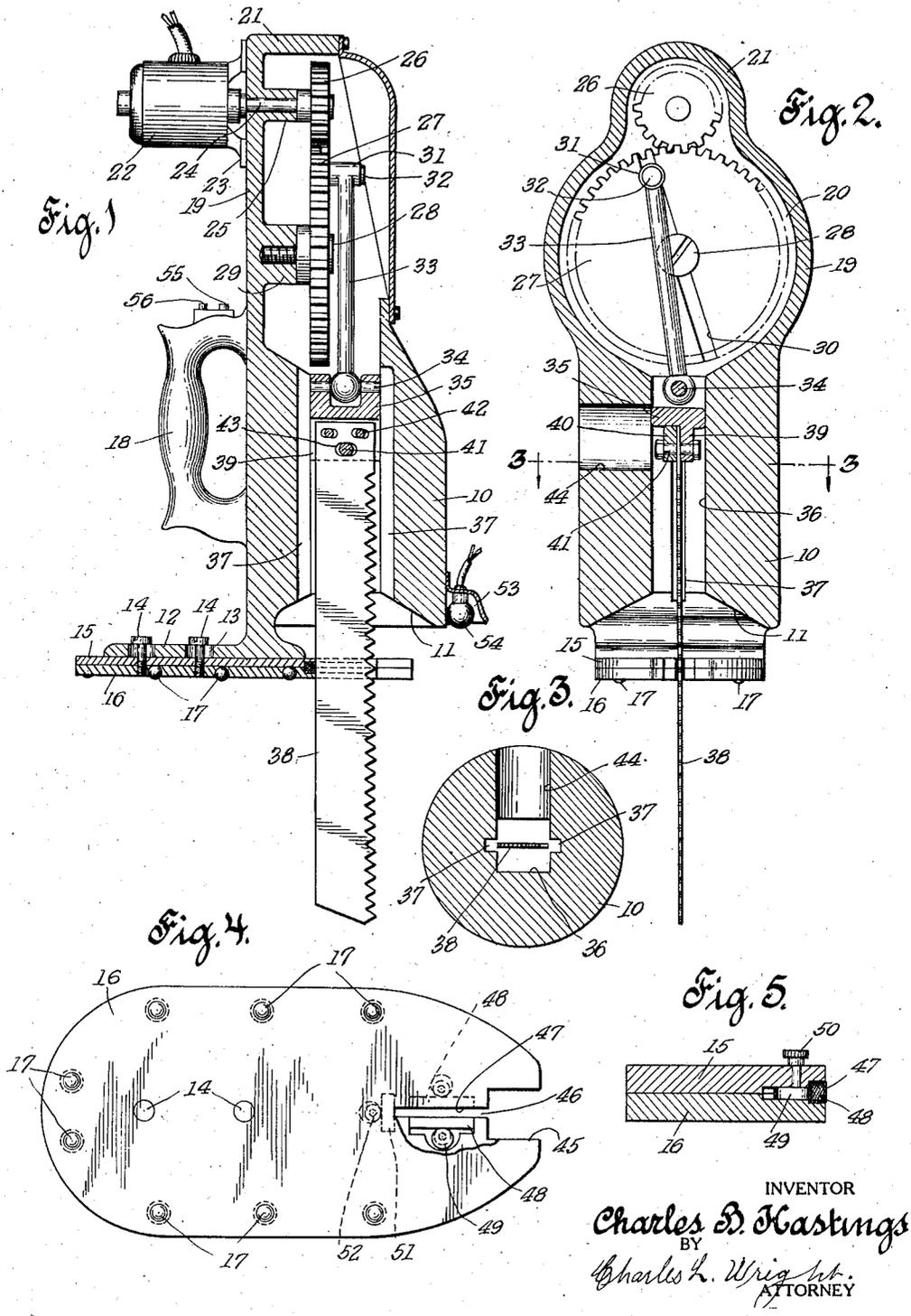


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C. B. HASTINGS
PORTABLE ELECTRIC SAW
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INVENTOR
Charles B. Hastings
BY
Charles L. Wright
ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES B. HASTINGS, OF NEW YORK, N. Y.

PORTABLE ELECTRIC SAW.

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To all whom it may concern:

Be it known that I, CHARLES B. HASTINGS, a citizen of the United States, and resident of New York, in the county of Bronx and State of New York, have invented certain new and useful Improvements in Portable Electric Saws, of which the following is a specification.

This invention relates to improvements in sawing machines in which a toothed cutting blade is moved reciprocately.

One of the aims of the invention is to provide a strong but light frame having a base mounted on antifriction elements whereby it may be easily moved on any level support, a handle being provided for controlling the apparatus.

Another object is to provide an electrically actuated motor for reciprocating the saw blade, which is effectively guided between lubricated blocks adjustable in the base.

Another purpose is to provide a lighting means enabling the saw to be used in dark places as well as in the light.

Other objects, such as simplicity, compactness and ease of operation, together with the foregoing, are attained by the novel construction, combination and arrangement of parts hereinafter described and shown in the accompanying drawing, forming part hereof and in which:—

Figure 1 is a longitudinal sectional view taken through the center of an embodiment of the apparatus.

Figure 2 is a similar view of the same taken in a plane at a right angle to Fig. 1.

Figure 3 is a transverse sectional view taken on line 3—3 of Fig. 2.

Figure 4 is a bottom plan view of the base drawn to an enlarged scale.

Figure 5 is a further enlarged sectional view taken on line 5—5 of Fig. 4.

The frame of the apparatus consists of a cylindrical body 10 preferably an aluminum casting having a conical depression 11 in its lower portion, from one side of which extends a projection leading to a rearwardly extending foot 12.

This foot has a level lower surface at a right angle to the axis of the body 10 and contains two spaced elongated openings 13 through which pass bolts 14, screw-threaded in a pair of plates 15 and 16 constituting the base.

The lower plate 16 contains a plurality of openings at spaced intervals along the side

and rear edges, adapted to contain free rolling antifriction elements as the balls 17, held in position by contracting the lower edges of the openings, these balls being in contact with the surface of the upper plate 15.

A handle 18, preferably similar in shape to that of an ordinary carpenter's hand saw, is fixed to the body 10, centrally above the base, the upper extending portion of the body being expanded and flattened to present a circular casing 19 its rear wall 20 extending upward to the reduced arcuate casing element 21.

An electric motor 22 is provided with a flanged base 23 secured to the wall 20, centrally of the casing element 21, the shaft 24 of the motor being journaled in a boss 25 integral with the wall 20, and carrying a spur pinion 26.

This pinion meshes with a gear 27 rotatably mounted on a stud 28 set in a boss 29 extending in from the wall 20, central of the chamber enclosed by the casing 19.

An undercut slot 30 diametrically across the face of the gear 27 acts as a guide for a block 31 adjustably clamped therein and carrying a stud 32 on which is pivoted one end of a connecting rod 33.

The other end of the rod 33 is pivotally connected by a pin 34 to a slide 35 operatively engaged in a rectangular recess 36 extending centrally through the body 10 from the chamber in the casing 19 to the bottom of the body.

The recess 36, at the front and rear is provided with central slots 37 to clear the saw blade 38, this blade being secured to a projection 39 of the slide 35 by a clamp block 40 and bolt 41, which together with pins 42 pass through laterally elongated slots 43 in the end of the saw blade, thereby permitting adjustment as wear takes place, the bolt and pins being readily accessible through an opening 44 in the side of the body 10.

The base plates 15 and 16 are extended to the front of the path of the saw blade, the projecting portions containing a recess 45 through which a line on the work surface can readily be seen, and rearward of the recess is a slot 46 lined at the sides with hardened guides 47 adapted to contact with the sides of the saw blade.

These guides are so shaped as to contain a packing of fibrous material 48 holding a lubricant and are adjustable against the saw blade by any convenient means, as the ec-

centric or cam studs 49 rotatable by their extending heads 50.

The inner end of the saw blade slot 46 is similarly provided with a guide 51, this guide being adjustable by the cam stud 52 similar to those previously described.

At the lower end of the body 10, at the front thereof, is a reflecting shield 53 guarding an electric bulb 54, the rays of which are directed downward in the path of the saw blade, between the edges of the recess 45.

A push button switch 55 on the handle 18 controls the current to the lamp 54 and a similar switch 56 is provided for the motor 22.

The open upper part of the casing, over the gears, is provided with a dust tight cover 57 having marginal screws 58 engaging the front edge of the casings 19 and 21, this cover being removable in order to obtain access to the interior when desired.

Although I have described my improvements with considerable detail and with respect to certain particular forms of my invention, I do not desire to be limited to such details since many changes and modifications may well be made without departing from the spirit and scope of my invention in its broadest aspect.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A portable electric saw comprising an upright body, a motor mounted thereon, a block slidable in the passage of said body containing a rectangular longitudinal passage, operative connections between said motor and block, a saw blade adjustably attached to said block to extend downward below the body means to adjust the length of stroke of the saw, a base adjustable on said body and having a front opening, guides in said base for the saw blade, and cams to adjust said guides with reference to said blade.

2. A portable electric saw comprising an upright body, a motor mounted thereon, a block slidable in said body, operative connections between said motor and block, a saw blade adjustably attached to said block to extend downward below the body, a base adjustable on said body relative to the blade said base having a recess in its front end open to the blade, anti-friction balls carried by said base to permit ready movement in

any direction, hardened guides in said base to contact with the rear of the saw blade, means for independently adjusting said guides, and means for manually operating said body.

3. A portable electric saw comprising an upright body, a motor mounted thereon, a block slidable in said body and, driven by the motor, a saw blade removably engaged to said block, a base through which the saw blade extends, a plurality of hardened steel balls in said base whereby it may be moved in any direction in a level plane, guides at the sides and rear of the saw blade, means to adjust said guides in said base, and means in said guides for carrying a lubricant said guides acting to firmly support the blade.

4. A portable electric saw comprising an elongated upright body, a motor attached thereto, a saw blade operatively connected to said motor to move reciprocatively, a laminated base adjustably attached to said body, a plurality of spherical anti-frictional elements held between the laminations of the base and extending through the lower element thereof, said base having an opening at its front and a narrow slot extending rearwardly from the opening, hardened guides at the sides and rear of the slot cam, means for adjusting said guides relative to the saw blade, means in said guides to carry lubricating material, and means for maneuvering said body.

5. A portable electric saw comprising an elongated upright body, a motor attached thereto, a saw blade operatively connected to said motor to move reciprocatively, a laminated base adjustably attached to said body, a plurality of spherical anti-frictional elements held between the laminations of the base and extending through the lower element thereof, said base having an opening at its front and a narrow slot extending rearwardly from the opening, hardened guides at the sides and rear of the slot, means for adjusting said guides relative to the saw blade, means in said guides to carry lubricating material, means for illuminating the path of the saw blade, a handle fixed on said body, and switches carried by said handle to control said motor and illuminating means.

Signed at New York, in the county of New York and State of New York this 27th day of October, 1924.

CHARLES B. HASTINGS.