

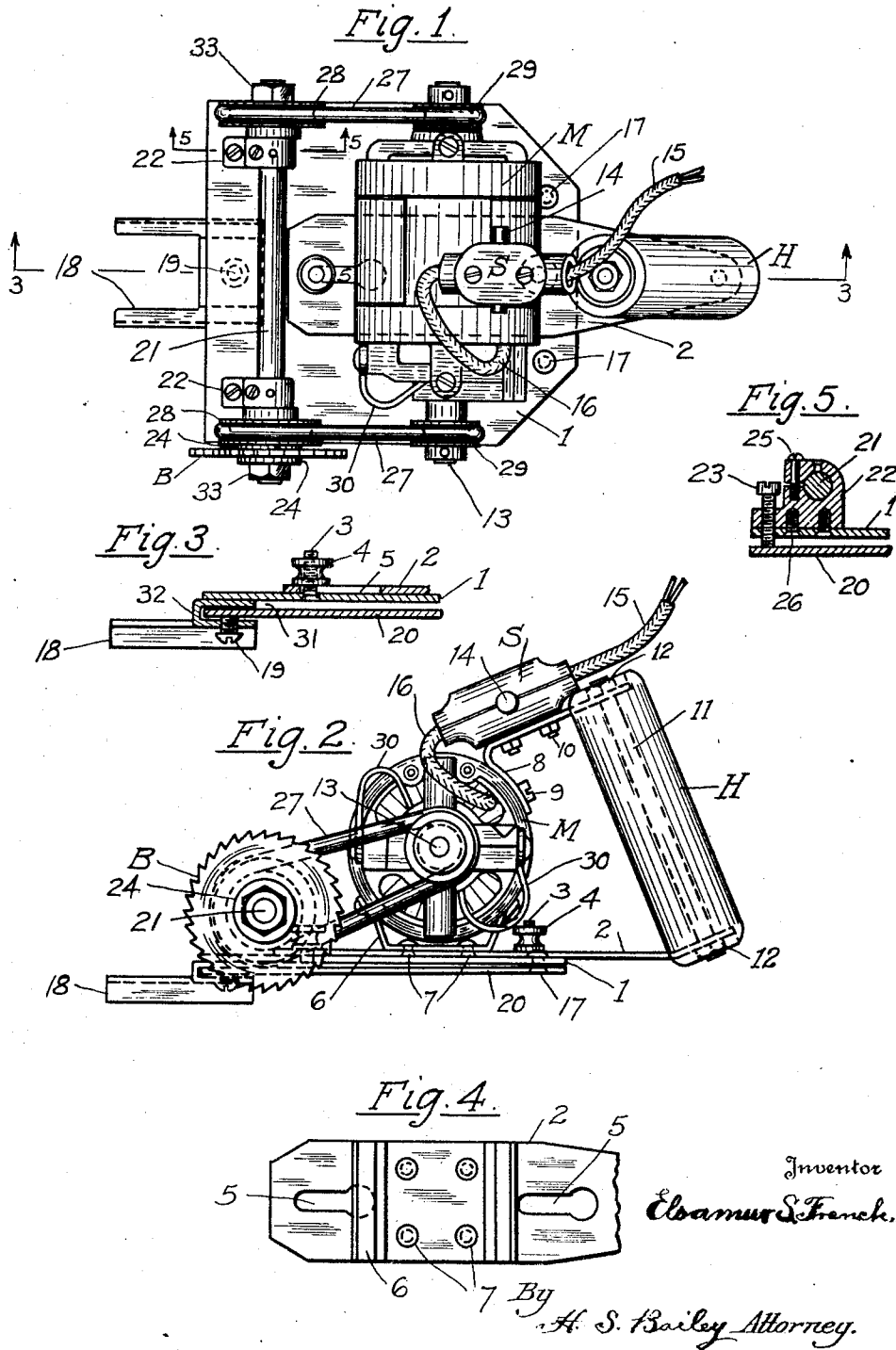
Jan. 5, 1926.

1,568,328

E. S. FRENCH

ELECTRIC HANDSAW AND GROOVING MACHINE

Filed Nov. 27, 1923



UNITED STATES PATENT OFFICE.

ELSAMUR S. FRENCH, OF DENVER, COLORADO.

ELECTRIC HANDSAW AND GROOVING MACHINE.

Application filed November 27, 1923. Serial No. 677,330.

To all whom it may concern:

Be it known that I, ELSAMUR S. FRENCH, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in an Electric Hand-saw and Grooving Machine, of which the following is a specification, reference being had to the accompanying drawing.

This invention relates to certain improvements in portable electric saws specially designed for hand use in grooving for, and the removing of splines in chair bottoms and the like, having cane seats, and for small saw and groove work in general.

My invention consists of a portable hand saw in combination with a small electric motor, and a handle whereby the machine may be properly guided as hereinafter fully described and definitely claimed.

Reference is to be had to the accompanying drawing forming a part of this specification in which:—

Fig. 1 is a plan view of my machine showing a detailed arrangement of the various parts assembled.

Fig. 2 is a side view of my machine showing the parts in entirety.

Fig. 3 is a fragmental section taken on the line 3—3 of Fig. 1, showing a detailed arrangement of the guiding means, and a take-up adjustment for the tension on the belts.

Fig. 4 is a partial plan of the movable base plate on which the motor is mounted, showing the slots for take-up of the driving belts.

Fig. 5 is a fragmental section taken on the line 5—5 of Fig. 1, showing the means of adjustment for the depth of saw cut.

Similar letters and numerals refer to similar parts throughout the several views.

B denotes a small circular buzz saw, M an electric motor with its connections therefrom including a controlling switch designated S, H is a small handle for controlling the forward and backward movement of my portable saw.

In general, 1 denotes a fixed base plate on which is mounted a slidable motor stand 2, and a hinged plate 20 thereunder. 3, 4, and 5 show the screw, nut, and slots for providing adjustment of the tension on the driving belts 27. 6 denotes a stand on which the motor is secured to the movable base 2 by rivets 7, 8, 9, 10, 11, and 12 denotes the

strap with bolt and screw connections by which the handle H and switch S are secured to the motor M and movable base 2, substantially as shown. 13 denotes a motor shaft on which are mounted the driving pulleys 29, secured by small set screws. 14 denotes a push-button control of the switch S, 15, 16, and 30 the connecting wires by which the motor is energized through its electrical field. 17 denotes bolts that secure the two plates 1 and 20 together, 18 a movable member for guiding the plane of the saw secured to the bottom plate 20 by means of a lock screw 19. 21 denotes a rotatable shaft on which the pulleys 28 and saw B are mounted. 22 denotes special bearings provided with an adjustment 23 for controlling the depth of the saw cut by raising the plate 1, thus increasing or decreasing the opening 31. 24 denotes lock washers preferably beveled, by which the saw is secured to the shaft 21, and held in place by nuts 33. 25 denotes an adjustment screw in the bearing 22, whereby the wear may be taken up. 26 denotes a means of securing the bearings 22 to the base plate 1. 27 denotes driving belts preferably of round section, 28 and 29 grooved pulleys on which the belts 27 rotate.

The device is used as follows:—When the operator desires to cut a groove, he first sets the gauge 18, thus fixing the path of the saw in a forward movement. The depth of the saw cut B is regulated through the vertical adjustment screw 23 permitting the saw to be raised or lowered with reference to the bottom plate 20. It will be noted the saw B can be placed at either end of the shaft 21 by simply removing the nuts 33, and washers 24. The gauge 18 can be used from either side to suit the position of the saw.

When the adjustment and gauge are properly set, the operator starts the motor M controlled by the switch S imparting motion to the saw B through the driving belts 27. By grasping the handle H the operator can now move the sawing device in any plane desired.

The machine is very light, easily handled, and manufactured at a nominal price; the motor, switch, handle and screws all being taken from regular stock.

My machine will be found of special usefulness in the grooving of windows for

weather strips, chair bottoms, and other furniture, and can be adapted for cabinet making and small saw work.

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

1. The combination in an electrically operated hand saw and grooving machine of the fixed plate, the slidable motor supporting stand mounted on said fixed plate; and the hinged plate underneath said fixed plate, and hinged thereto; with an electric motor operatively mounted on said sliding stand having an axial shaft provided with belt pulleys on its opposite ends, a saw supporting shaft rotatably mounted in adjustable bearings at a short distance from said motor, that are secured to said fixed plate, and a saw removably mounted on one end of said shaft; a hand grasping handle secured to said motor on the opposite side of said motor from said saw supported shaft; with means, including an adjustable screw, threaded through said adjustable bearings and said fixed plate, and bearing on top of the plate hinged underneath said fixed plate for controlling the cutting depth of said saw; a belt pulley on each end of said

saw supporting shaft and belts mounted thereon and extending to and mounted on the pulleys of the shaft of said motor; the laterally movable guide member for guiding the plane of the saw; and means including the screw and the slot for adjusting the tension of the driving belts of the saw.

2. The combination in an electrically operating hand saw and grooving machine; of the fixed base; having a plate hinged underneath it; a slidable motor stand mounted on said fixed base, an operative electric switch controlled motor secured to said stand; straps secured at one end to said motor and projecting rearward therefrom; a hand grasping handle secured at its opposite ends to said straps; adjustable bearings secured to said fixed plate at a short distance from said motor on the opposite side of it from said handle and a saw supporting shaft rotatably supported in said adjustable bearings; with means including a screw for adjusting the tension of the driving belts of the saw.

In testimony whereof I hereunto affix my signature.

ELSAMUR S. FRENCH.