No. 824,480. PATENTED JUNE 26, 1906.

C. B. HASTINGS.

MOTOR TOOL HOLDER.

APPLICATION FILED MAR. 28, 1906.

FIG. 1.

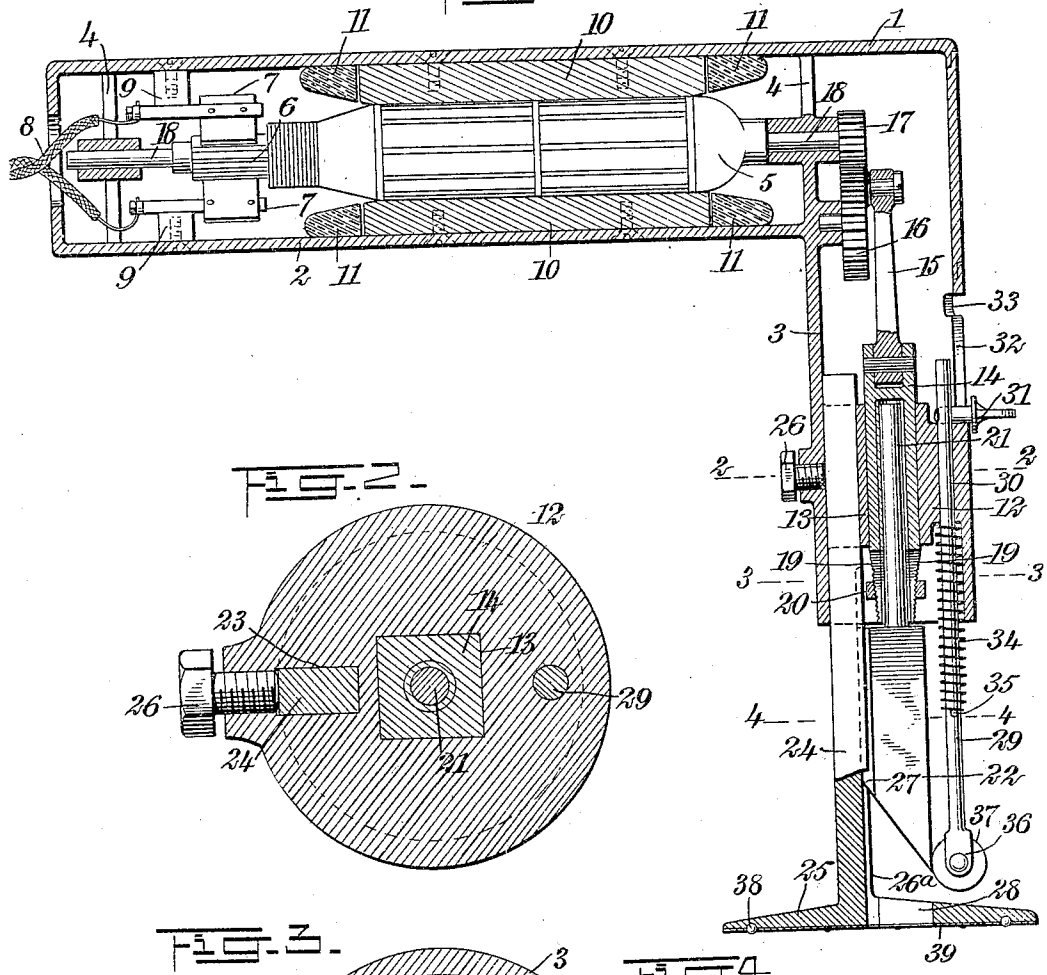


FIG. 2.

FIG. 3.

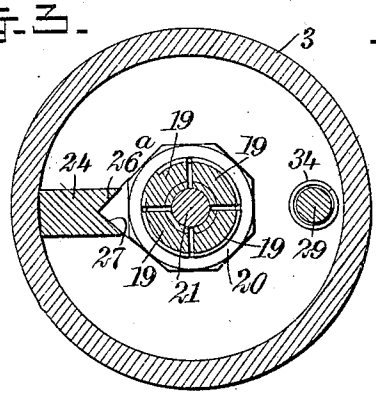
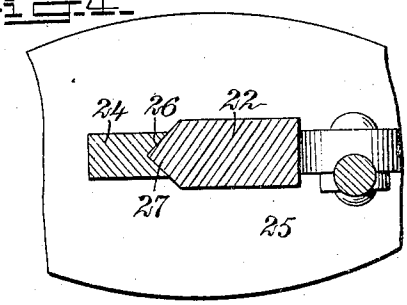


FIG. 4.



WITNESSES

L. B. Sanford Handle

F. D. Cameron

INVENTOR

Charles B. Hastings

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

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

MOTOR-TOOL HOLDER.

No. 824,480. Specification of Letters Patent. Patented June 26, 1906.

Application filed March 28, 1906. Serial No. 308,474.

To all whom it may concern:

Be it known that I, CHARLES B. HASTINGS, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and improved Motor-Tool Holder, of which the following is a full, clear, and exact description.

This invention relates to motor-tools such as are adapted to be held in the hand when applied to the work.

The object of the invention is to produce a tool-holder of simple construction having means for guiding the tool in a vertical plane and having a construction enabling the tool-holder to be readily adjusted, so as to change the elevation at which the tool operates.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical central section through the tool-holder and showing a knife or cutter mounted therein. Fig. 2 is a cross-section taken on the line 2 2 of Fig. 1. Fig. 3 is a cross-section on the line 3 3 of Fig. 1, and Fig. 4 is a cross-section on the line 4 4 of Fig. 1. Figs. 2, 3, and 4 are upon an enlarged scale.

Referring more particularly to the parts, 1 represents the case of the tool, which has a horizontal extension or arm 2 and a vertical extension or leg 3. This arm 2 and the leg 3 are of tubular form. Within the arm 2 heads 4 are provided which afford means for mounting the shaft of an armature 5, the commutator 6 of said armature being engaged by brushes 7 in connection with electric conductors 8. The said brushes may be supported upon suitable blocks 9, attached on the inner side of the arm, as shown. On the inner side of the arm at the armature 5 pole-pieces 10 are provided which may be energized by feed-coils 11. In the lower portion of the leg 3 a head 12 is formed through which a central guide-opening 13 extends, the same being preferably of angular or square form, as shown in Fig. 2. In this guide-opening a chuck 14 is slidably mounted, and the upper extremity of this chuck is attached pivotally to a pitman 15. This pitman is attached at its upper extremity to a gear-wheel 16, which is driven by a gear-wheel 17, attached to the extremity of the shaft 18 of the motor. The lower extremity of the chuck 14 is preferably split, as indicated in Fig. 3, into segments 19, this part being preferably tapered and threaded to receive a clamping-nut 20. From this arrangement the shank 21 of the tool 22, held in the chuck, may be readily clamped by tightening the nut.

The head 12 is further provided with a guide-opening 23, which passes vertically therethrough, and in this guide-opening there is received a post 24, which extends downwardly and is provided at its lower extremity with a foot 25. This post supports the tool-holder, and by means of a set-screw 26 the tool-holder may be clamped to the post at any desired height. This post 24 may be considered, then, an extension of the leg 3. The edge of the post 24 which is disposed near the tool 22 is provided with a guide-groove 26ª, preferably **V**-shaped, as shown in Fig. 4, and the adjacent edge of the tool is provided with a beveled edge 27, which is received in the groove, as indicated. In this way as the tool reciprocates it is guided upon the post. The foot 25 just below the tool 22 is provided with an opening 28, in which the pointed tool may reciprocate when the tool is in operation. In this connection it should be understood that the goods to be cut are laid upon the upper side of the foot 25 in a position to be struck by the tool as it descends. The tool will be used largely for cutting cloth or similar material, and in order to prevent the same from rising when the tool is withdrawing itself therefrom I provide a presser-foot 29. This presser-foot 29 consists of a stem which is guided vertically through an opening 30, formed in the head 12. It projects beyond the head, as indicated, and carries a stud 31, which projects through the wall of the leg 3, running in a vertical slot 32. The upper extremity of this slot 32 is formed with an offset or notch 33.

A helical spring 34 is disposed about the body of the presser-foot and thrusts at its upper extremity against the under side of the head 12. Its lower extremity thrusts against a pin 35, carried by the presser-foot. From this arrangement the spring operates to force the presser-foot down against the case. The lower extremity of the presser-foot is formed into a head 36, carrying a roller 37. The spring 34 normally operates to hold the roller 37 quite close to the foot 25. By pull-

ing the presser-foot upwardly by means of the stud 31 the presser-foot may be rotated upon its longitudinal axis, so as to bring the stud into the notch 33, in this way locking the presser-foot in an elevated position.

In order to facilitate the moving of the foot 25 upon a horizontal surface, such as that presented by a table, the under side of the foot 25 is provided with a plurality of balls 38, which are retained by a plate 39, said plate having openings through which the balls project, as shown.

In the illustration the tool 22 is represented as a knife; but in practice tools of other form and description may be used.

As indicated in Fig. 1, the rear face of the roller 37 touches the forward face of the tool 22, so that the roller operates as a guide for the tool.

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

1. A motor-tool holder having a tubular casing, presenting a horizontal arm and a substantially vertical leg, a motor mounted in said arm, a post slidably mounted in said leg, means for clamping said leg to said post in different positions, a chuck adapted to carry a tool, means for guiding said chuck in said leg, and means for driving said chuck from said motor.

2. In a motor-tool holder, in combination, a tubular casing having a substantially horizontal arm and a substantially vertical leg, a motor mounted in said arm, a post slidably mounted in said leg, means for clamping said leg to said post at different heights, a chuck, a tool mounted in said chuck, means for guiding said tool on said post, and means for driving said chuck from said motor.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES B. HASTINGS.

Witnesses:
F. D. AMMER,
JNO. M. RITTER.