PORTABLE MOTOR OPERATED MANICURING DEVICE

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1 Claim. (Cl. 132—73.6)

This invention relates to a manicure device, especially one that is electrically driven.

One object of our invention is to provide a compact manicure device that is self-contained and yet can be held in a lady's hand while she manipulate her nails or otherwise uses it, and will fit in a pocket or purse.

Another object is to provide such a device with a switch so constructed that it moves sure and smooth within the housing, and so arranged that it can be turned on or off by a finger or thumb of the hand that is holding the device.

A further object is to provide such a device with different compartments that make possible an unusual and orderly arrangement of the principal parts, which compartments retain them firmly, and also present the principal working parts outside the compartments where they can be conveniently used.

A still further object is to provide such a device that is attractive in appearance, the parts of which are relatively simple and can be made in large volume at comparatively low cost, thus to make possible a selling price within the buying range of the ordinary consumer.

The foregoing and other objects will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and arrangement of parts such as is disclosed by the drawings. The nature of the invention is such as to render it susceptible to various changes and modifications, and therefore, we are not to be limited to the construction disclosed by the drawings nor to the particular parts described in the specification; but are entitled to all such changes therefrom as fall within the scope of our claim.

In the drawings:

FIG. 1 is a top plan view of our manicure device, including a cover on the top thereof.

FIG. 2 is a side elevation view thereof.

FIG. 3 is an end elevation view thereof.

FIG. 4 is an enlarged, side elevation view of said device, with part of the housing removed and showing the cover for it in section.

FIG. 5 is a sectional view taken on the line 5—5 of FIG. 4, showing the switch for device in normal position, the dash lines showing it moved to “on” position.

FIG. 6 is a diagrammatic view showing the electrical circuit for my device.

FIG. 7 is a perspective view of a switch contact member for said switch.

FIG. 8 is a perspective view of a contact member for the batteries.

FIG. 9 is a perspective view of another battery contact member.

FIG. 10 is a perspective view of a cover for the storage compartment provided in my device.

FIG. 11 is a perspective view of a sanding disc used as one of the working instruments of my device.

FIG. 12 is a perspective view of an emery drum used as another of said working instruments.

As illustrated, my device has a housing 10 that has a section 11 with small holes 12 at side edges thereof and an elongate slot 14 near the bottom thereof. Said housing also has another section 16 with small pintles 18 therein which enter said holes 12 when the sections are joined, and it also has an elongate slot 20 that is opposite said slot 14 when the two housing sections are joined, as by cement or a colorless band wrapped around them. Said housing has a top 21. A sliding cover 22 slides in said slots 14 and 20 and provides a bottom for said housing 10. A removable top cover 24 protects said housing and the interior mechanism therein. It has a portion that is serrated as at 26, the ridges of which run crosswise of said cover, to thereby provide means for further manipulating one's fingernails. Said top cover 24, when removed from the housing, serves as a fine tool or instrument by bringing said serrations 26 in rubbing contact with the edges of a person's fingernails to smooth rough places thereon and otherwise give said edges a finish.

In said housing is a battery compartment 30 having projecting ribs 32 and 34 on said sections 11 and 16, respectively, between which upper and lower batteries 38 and 40 are respectively held. In said compartment 30, at one side thereof, is a metal contact 42 having two bulging portions that provide connecting points 44 for said batteries. At an opposite side of said compartment is a spring contact insulating plate 46 from which extend interiorly two spring metal contacts 48 and 50 which are fastened to said plate 46 by rivets 52. Next to and above said battery 38 is a strip of sponge rubber 54 to provide a cushion therefor. Said strip 54 is next to a partition 55 in said housing 10 that separates said battery compartment 30 from other compartments.

Above said compartment 30 is a motor compartment 56 in which is acting means such as a well-known motor 58 having a shaft 60 extending through said top 21 and outside said housing 10. Said shaft has a sleeve 62 having a screw-threaded hole 64 therein in which screw 68 is received to hold a manicuring or other instrument such as a flat sanding disc 66 shown in said FIGS. 2 and 4. An emery drum 67, shown in FIG. 12, may also be used instead of said disc 66 or other instrument, and which is suitable for smoothing or otherwise operating on rough places on a person's skin or nails. Rotation of said disc or drum enables one to manipulate or otherwise operate on fingernails, cuticle and other parts, using the housing as a hand grip for our device.

In said housing 10 is a switch compartment 70 next to said motor compartment 56 having a slot 72 in the top 21 of the housing to guide and limit the movement of a switch 74 as it slides a predetermined distance from “off” to “on” position and vice versa. Said switch 74 has a main body 76 at the bottom of which a metal contact plate 78 is attached. It also has a lower flange guide 80 and an upper flange guide 82 which are spaced apart and which serve to guide the movement of said switch in said compartment between compartment partitions 84 and 86. A knob or button 88 at the top of said switch is spaced from said upper guide 82, which knob permits said switch to be moved easily by a finger of the person holding our device from one position to another. Said knob 88 overhangs said body 76 more at the left side, in position of use, than at the right side, as shown in said FIG. 5, thus leaving a space between said body 76 and the adjacent portion of said housing for attachment of a wire 126, later referred to, to said contact plate 78. A portion of the housing top 21 extends into the space between said knob 88 and upper flange guide 82 and the switch slides on said top, with the narrow part 90 of said switch body directly opposite said housing top 21.

A switch contact member 92 has a tapered insulating plate 94 the lower and wider portion 95 of which fits, and is retained, in a slot 96 in said switch compartment 70. A metal contact 98 has a retainer 100 fastened to said plate 94 and it has a blade 101 that extends diagonally upward, being in the path of movement of said contact plate.
78, and making contact therewith when said switch 74 reaches a predetermined or "on" position, as shown by the dash lines in said FIG. 5. Below said plate 94 said contact 98 has a metal attaching plate 102 through which said rivet 100 passes and bears against.

Next to said switch compartment 70 is a storage compartment 106 to hold accessories such as said disc 66 and drum 67. Pins 108 and 110 are fixed in said compartment 106 at opposite sides thereof. A cover 112 has sides 113 with holes 114 and 116 therein through which holes said pins 108 and 110 respectively extend to thereby movably connect said cover to said housing. Said cover 112 includes a spring locking clip 118 at one extremity which bears against a side of said housing 10 when in closed position.

As shown in said FIG. 6, an electric conductor wire 122 extends from said switch contact plate 78 to said motor 58. Another wire 124 extends from said motor to said battery contact 50. Still another wire 126 extends from said battery contact 48 to said switch contact 98. When the switch 74 is in closed position an electrical circuit is established, and said motor shaft rotates.

Said housing 10, the cover 24 therefor, switch 74 and insulating parts may be made mainly of plastic, fiber or similar material.

In using the word "manicure" I do not intend to limit the claim solely to an instrument to manicure the fingernails; since it can be used on other parts of the body, such as parts of the feet and fingers, to smooth over callouses, trim corns and similar things.

What we claim is:

A manicure device comprising a rectangular housing of a size to be grasped by a person's hand having a top member, a partition dividing said housing into upper and lower compartments, actuating means in said upper compartment, a partition in said upper compartment providing a storage compartment at one side thereof, said actuating means embodying a shaft extending outside said housing, a manicuring tool attached to said shaft, a switch in said upper compartment movable within said housing embodying a movable knob outside of said housing top member, electrical contact means in said upper compartment adapted to be contacted by a predetermined movement of said switch, and battery means in said housing lower compartment adapted to be electrically connected to said actuating means and to said contact means upon said predetermined movement of said switch, said switch being between said storage compartment and said actuating means.

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