Nov. 25, 1958 A. M. THOMPSON 2,861,578

UTILITY CABINET ASSEMBLY

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FIG. 1

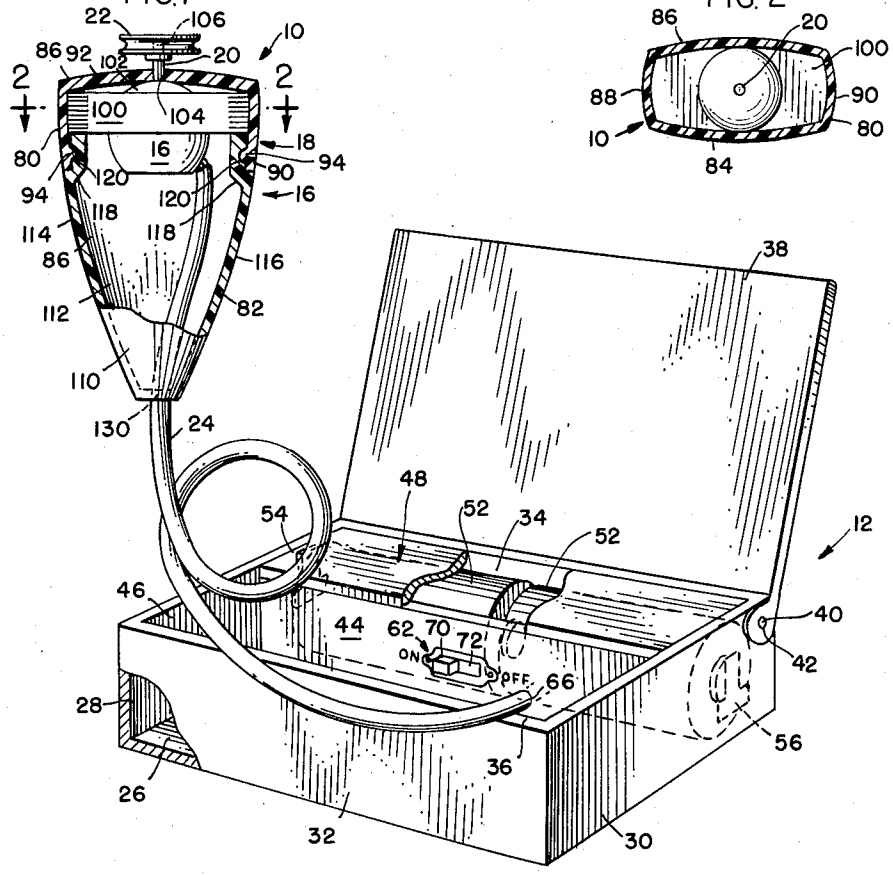


FIG. 2

FIG. 3

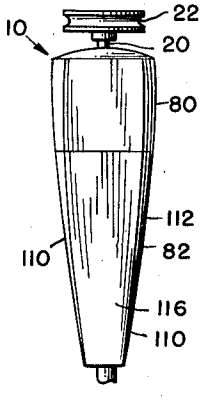
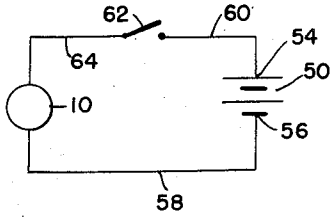


FIG. 4



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UTILITY CABINET ASSEMBLY

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3 Claims. (Cl. 132—73.6)

The improved utility cabinet assembly comprising the present invention has been designed for use primarily as a manicure appurtenance consisting essentially of an electrically powered manicure implement of novel construction and a portable carrying cabinet or case therefor in which there is stored an electrical power supply for the implement, and having associated therewith control means whereby the power supply may, at will, be operatively electrically connected to the implement to operate the same. The invention is, however, capable of other uses and the present utility cabinet assembly may, if desired, with or without modification have associated therewith electrically powered implements of similarly novel construction for performing a wide variety of useful work as, for example, an implement of the electric eraser type such as are used by architects, draftsmen, and the like, buffing implements, woodworking scribes, and various other implements involving rotary work performing tools.

It is among the principal objects of the present invention to provide a utility manicure cabinet assembly in which the implement housing cabinet and its contents are of extremely compact design with little or no waste space being involved and in which the movable control means for energizing the implement proper is mounted within the cabinet in such as manner that when the implement is stored within the cabinet it assumes a concealed and out-of-the-way position wherein it cannot be accidentally operated and the stored implement thus inadvertently energized.

A still further object of the invention is to provide a manicuring implement including an electric motor and a housing therefor, the housing being of two-piece separable construction with the motor loosely fitting within one of the parts and being movable to a final secured "home" position upon application of the other part to the motor-containing part whereby the motor is securely held within the housing against rattling, the entire assembly being accomplished by a snap action between the two parts without requiring the use of fastening screws, bolts, or other independent fastening means.

Convenience of arrangement of parts, simplicity of construction, compactness of design, attractiveness of appearance, low cost of manufacture, convenience of manipulation, and efficiency of operation are further desirable features which have been borne in mind in the production and development of the present invention.

With these and other objects in view, which will become more readily apparent as the following description ensues, the invention consists in the novel construction, combination, and arrangement of parts shown in the accompanying single sheet of drawing forming a part of this specification.

In this drawing:

Fig. 1 is a perspective view of the utility manicure cabinet assembly showing the components thereof in operative position of use, and also showing the manicure implement proper in longitudinal section;

Fig. 2 is a sectional view taken substantially along the line 2—2 of Fig. 1;

Fig. 3 is a side elevational view of the manicure implement proper; and

Fig. 4 is a circuit diagram illustrating the control apparatus for the manicure implement proper.

Referring now to the drawing in detail, and in particular to Fig. 1, the utility manicure cabinet of the present invention involves in its general organization two principal parts, namely, a manicure implement proper **10** and a storage cabinet **12** therefor which, additionally, affords a storage space for the power supply by means of which the implement **10** will be described subsequently, but for the present it is deemed sufficient to state that this implement comprises an actuating motor **16**, enclosed in a surrounding casing **18** and having a motor shaft **20** projecting through a wall of the casing and having mounted thereon a manicuring tool **22** which may be formed of an abrasive material and which, upon rotation thereof, is adapted to be applied to the fingernails for nail filing purposes.

The casing **18** is preferably formed of a moldable plastic material such as Bakelite or similar phenol condensation product, and it may be described as being generally of tear-drop design having an enlarged head portion which carries the motor **16** and a tapered stem portion, the distal end of which terminates substantially in a point and from which point there extends a dual conductor lead-in wire **24** leading to a power supply for energizing the motor **16**.

The cabinet **12** is in the form of a box-like housing of rectangular design having a bottom wall **26**, upstanding side walls **28** and **30**, respectively, a front wall **32**, and a rear wall **34**. The upper end of the box-like structure is open and provides a rectangular rim **36** adapted to be closed by a flat planar cover member or lid **38**, likewise formed of plastic material, and having associated therewith side trunnions **40**, which extend into small openings **42** provided in the side walls **28** and **30**, and by means of which trunnions and openings **40** the lid **38** is hingedly mounted on the structure so that it may be moved from the open position in which it is shown in Fig. 1 to a closed position wherein it rests in coextensive contact with the rim **36**. A partition wall **44** extends across the structure between the side walls **28** and **30** and divides the interior of the structure into two compartments including a storage compartment **46** for the implement **10** and a storage compartment **48** for the power supply or pack. The power pack is designated in its entirety at **50** and is in the form of two dry cell batteries **52** arranged in tandem fashion within the compartment **48** so as to give a three volt output at the terminals thereof. When the batteries **52** are in position in the compartment **48**, the terminals thereof engage respective spring contact strips or elements **54** and **56** which are mounted on the inside face of the side walls **28** and **30** in opposition to each other. The contact **56** is connected directly to the motor **16** through one of the conductors **58** (see also Fig. 4) which comprise the flexible lead-in wire **24** and the other contact **54** is connected through a conductor **60** to one terminal of a single pole, single throw switch **62**, and other terminal of which is connected to the other conductor **64** of the flexible lead-in wire **24**.

The flexible lead-in wire **24** passes through a small hole **66** provided in the partition wall **44** so that this wire extends into the compartment **48** from the compartment **46** and is divided in the compartment **48** with one conductor thereof extending to the terminal **56** and the other conductor thereof extending to the switch **62**.

The flexible lead-in wire **24** is relatively short and need only be sufficiently long to allow freedom of movement of

the manicuring implement 10 when the latter is in operation. Thus, there is ample room in the compartment 46 for storage of both the implement 18 and its attached flexible lead 24. The switch 62 is of conventional design and is of the sliding bar type. It is provided with a manipulating finger 70 which projects through an elongated slot 72 provided in the central regions of the partition wall 44 and the body of the switch is permanently affixed to the partition wall 44 on the side thereof adjacent the power pack 52. It is to be noted that because of the fact that the slot 72 is formed substantially midway between the two ends of the partition wall 44, and because of the fact that the distance from the slot to either side wall 28 or 30 is considerably greater than the longitudinal extent of the enlarged head portion of the casing 18, the manicuring implement 10 may be stored within the compartment 46 in either of two reversed positions, and in either event, clearance is provided for the operating finger 70 so that there will be no danger of the implement striking the switch and moving the same to its "on" position when the implement 10 is stored within the cabinet and the lid 38 closed thereon.

Referring now to Figs. 1 and 2, the composite casing 18 of the implement assembly 10 is comprised of two parts, namely, a head part 80 and a shank part 82. The head part 80 in the position in which it is shown in Fig. 1, is of inverted cup-shaped design and is narrower in one transverse direction than it is in the other so that it is of generally flat configuration having relatively expansive side walls 84 and 86 and relatively narrow end walls 88 and 90 so that it will conveniently fit the hand of the user. A top wall 92 closes one end of the part 80. A pair of attachment ribs 94 extend along the lower edge of the side walls 88 and 90 and perform a locking function that will be set forth presently.

The motor 16 is of conventional design and comprises a generally rectangular frame portion 100 which fits snugly between the end walls 88 and 90 and has a forwardly extending core portion 102 adapted to bear against the inside face of the top wall 92 when the motor is in its "home" position within the part 80. The motor shaft 20 extends forwardly from the portion 102 and passes through a small opening 104 formed centrally in the top wall 92. A set screw 106 serves to secure the nail filing or dressing tool 22 in position on the shaft 20 exteriorly of the housing 18.

The part 82 of the housing 18 is of relatively deep cup-shaped design and has an approximate pyramidal form including relatively wide side walls 110 and 112, and relatively narrow end walls 114 and 116. The upper end of the part 82 is open and is designed for telescopic reception within the open lower end of the part 80. Accordingly, walls 114 and 116 are provided with inwardly offset portions 118 (Fig. 1) adapted to fit between the walls 88 and 90 and having associated therewith grooves 120 designed for cooperation with the ribs 94 when the two parts are in place. By flexing the two walls 114 and 116 toward each other, the distance between the inwardly offset portions 118 may be decreased to such an extent that the part 82 may be telescoped into the part 80 to bring the ribs 94 and grooves 120 into register whereupon after release of such pressure the two parts will snap into their assembled position and be securely held in this position against dislodgment. When the parts are thus assembled, the housing 18 presents a smooth exterior which is generally of tear-drop shape.

One of the principal features of the present invention resides in the fact that when the part 82 is assembled upon the part 80 in the manner previously described, the forward rim of the part 82 abuts against the rectangular frame portion 100 of the motor 16 and forces the motor forwardly in the part 80 so that the portion 102 of the motor abuts against the top wall 92 of the part 80 thus securely anchoring the motor in position against dislodgment, rattling or shifting within the part 80.

The electric cord or lead 24 is electrically connected to the motor 16 and it passes outwardly through the small end of the housing part 82 through an opening 130 which may have a shape conforming to the cross sectional shape of the lead 24 and within which opening the lead may have a tight frictional fit to exclude the entrance of dirt or other foreign material into the housing 18.

The invention is not to be limited to the exact arrangement of parts as shown in the accompanying drawings or described in this specification since various changes in the details of construction may be resorted to without departing from the spirit of the invention. Only insofar as the invention has particularly been pointed out in the accompanying claims is the same to be limited.

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

1. In a utility cabinet assembly of the character described, a generally rectangular box-like structure having a bottom wall, upstanding side and end walls, and an open top, a flat cover plate hingedly secured to said structure adjacent one side wall thereof and swingable between open and closed positions over said open top, a partition wall extending between said end walls medially thereof and dividing the interior of the structure into two compartments, a spring terminal clip secured to the inside face of each side wall within one of said compartments midway between said partition wall and one of said side walls, a battery assembly within said one compartment interposed between and operatively electrically connected to said spring clips and substantially filling said compartment, there being a slot formed centrally in said partition wall midway between said end walls and midway between said bottom wall and the upper edge of said partition wall, the axis of said slot extending horizontally, a switch assembly secured to said partition wall within said one compartment and having an operating finger projecting through said slot into the other compartment for manipulation purposes, an implement assembly having a motor driven tool operatively associated therewith and comprising a housing of generally tapering design having a head portion of less longitudinal extent than the distance between said slot in the partition wall and either end wall and having a tapered stem portion, the overall longitudinal extent of said housing being such that when the housing is positioned in said other compartment shifting movement of the housing within said latter compartment sufficient to cause said head portion to engage said switch operating finger is prevented, there being a hole in said partition wall, and a dual-conductor electric lead operatively connected to said motor and passing outwardly from said housing through the tapered end thereof and passing through said hole, one conductor of said lead being connected directly to one of said spring contacts and the other conductor being operatively connected to said switch, a wire operatively connecting said switch to the other spring contact and a flat cover for said one compartment removably closing the rim thereof, said cover when in position over said one compartment lying substantially below the level of said rim.

2. In a utility cabinet assembly of the character described, a rotary tool implement comprising a two-part separable housing formed of insulating material and including a cup-shaped first part having a bottom wall and flat side walls, a motor including a motor frame fitting snugly between said side walls within the part, there being an opening formed centrally in said bottom wall, a motor shaft projecting outwardly through said opening, an abrasive tool mounted on said motor shaft, opposed locking ribs formed interiorly on said side walls, a second housing part of tapering generally pyramidal configuration having side and end walls and an open rim, said side walls being formed with inwardly offset portions providing said rim, outwardly facing grooves formed on the inwardly offset portions of the side walls and designed for interlocking engagement with said ribs from the first part, the distance between said ribs and the rim of said

second part being such that when the inwardly offset portions of the end walls of the second part are telescopically received within the rim portion of said first part with said ribs and grooves in interlocking relationship the rim of the second part engages said motor frame and forces same forwardly into firm engagement with the bottom wall of said first part to retain the motor in position within said latter part, a dual conductor electric cable operatively connected to said motor and passing outwardly of the housing through the tapered end of said second part.

3. In a utility cabinet assembly of the character described, a generally rectangular box-like structure having a bottom wall, upstanding side and end walls, an open top, a flat cover plate hingedly secured to said structure adjacent one side wall thereof and swingable between open and closed positions over said open top, a partition wall extending between said end walls medially thereof and dividing the interior of the structure into two compartments, a pair of spring terminal clips mounted on certain of said walls and maintained thereon in spaced relationship within one of said compartments, a battery assembly within said one compartment and interposed between and operatively electrically connected to said spring terminal clips and substantially filling said compartment, there being a slot formed centrally in said partition wall midway between said end walls and midway between said bottom wall and the upper edge of said partition wall, the axis of said slot extending horizontally,

a switch assembly secured to said partition wall within said one compartment and having an operating finger projecting through said slot into the other compartment for manipulation purposes, an implement assembly having a motor driven tool operatively associated therewith and comprising a housing of generally tapering design having a head portion of less longitudinal extent than the distance between said slot in the partition wall and either end wall and having a tapered stem portion, the overall longitudinal extent of said housing being greater than the distance between said slot in the partition wall and either end wall whereby, when the housing is positioned in said other compartment, shifting movement of the housing within said latter compartment sufficient to cause said head portion to engage either side of said switch operating finger is prevented, there being a hole in said partition wall, and a dual-conductor electric lead operatively connected to said motor and passing outwardly from said housing through the tapered end thereof and passing through said hole, one conductor of said lead being connected directly to one of said spring contacts and the other conductor being operatively connected to said switch, a wire operatively connecting said switch to the other spring contact, and a flat cover for said one compartment removably closing the rim thereof, said cover, when in position over said one compartment, lying substantially below the level of said rim.

No references cited.