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HANDLE SWITCH HOUSING
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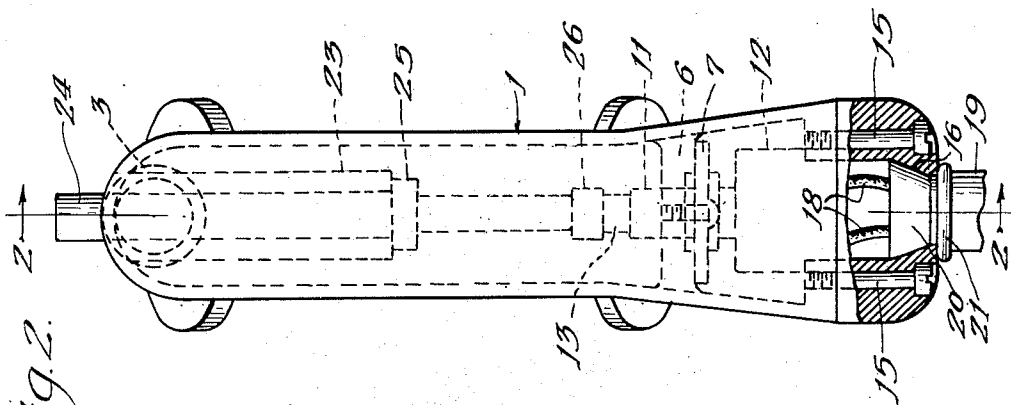


Fig. 2.

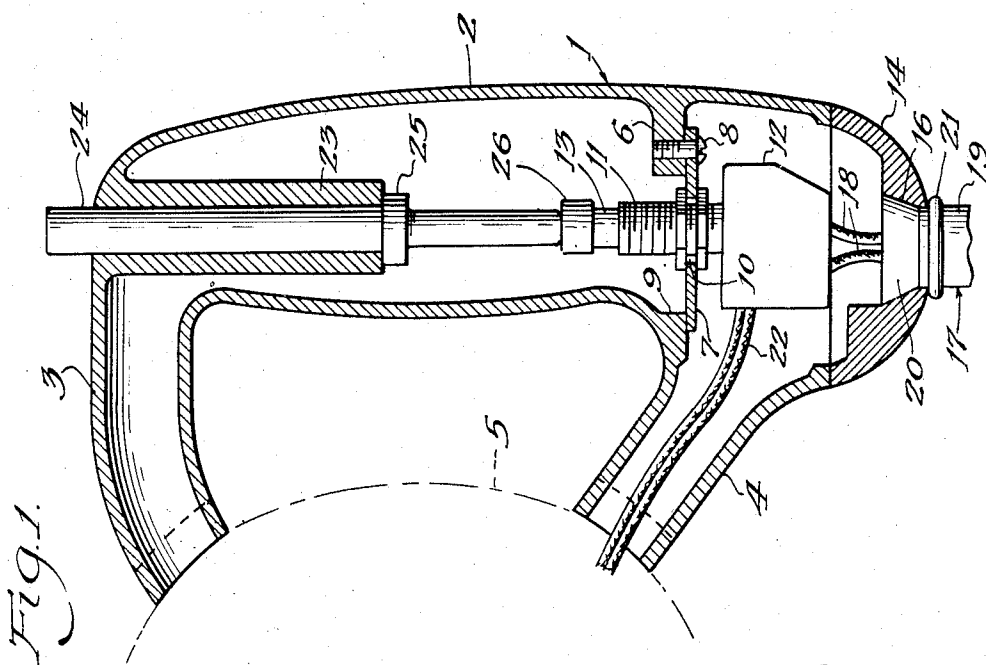


Fig. 1.

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HANDLE SWITCH HOUSING

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2 Claims. (Cl. 200—157)

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This invention relates to improvements in a handle for an electrical device and refers specifically to a combination handle and control device for such electrical devices as blowers, dusters, vacuum cleaners, sprayers, and the like wherein the device itself may be carried and manipulated, and the operation of the electric motor comprising a portion of the device may be controlled by the use of one hand of an operator.

An object of my invention resides in the provision of a simple and economical handle construction which permits total control of an electrically operated device such as hereinbefore described by the use of but one of the operator's hands, leaving the other hand free to perform necessary correlative or coordinative work.

Other objects and advantages of my invention will be apparent from the accompanying drawing and following detailed description.

In the drawing,

Fig. 1 is a sectional elevational view of my improved control handle.

Fig. 2 is a top plan view of a handle, parts being broken away and parts being shown in section.

Referring in detail to the drawing, 1 indicates generally the control handle comprising my invention. The handle 1 comprises a grip portion 2 supported by standards 3 and 4 which project from opposite ends of the grip portion 2. The standards 3 and 4 are adapted to be mounted upon an electrically operated device shown diagrammatically in dotted lines at 5. The device 5 may, for purposes of illustration, be a motor housing which may comprise a portion of a portable electric blower, vacuum cleaner, duster or the like.

In this type of device it is desirable that means be provided for conveniently holding the device while performing the operation intended to be performed by the device. It is also frequently desirable that these means contemplate that the operator hold the device with one hand. Of course, with devices of this character it is frequently desirable that the motor be periodically turned off and on. In my present invention the handle 1 contemplates a convenient means for holding the device 5 and means is associated with the handle, as will be hereinafter more fully described, whereby the motor may be turned on or off at will by the same hand of the operator which holds the device. In this manner the other hand of the operator is free to perform a correlative or coordinative function.

The grip portion 2 of the handle 1 is of hollow construction and interiorly of the grip portion a

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lug 6 projects from the inner surface thereof. A plate 7 is removably secured to the lug 6 by means of screw 8, said plate abutting against a boss 9 formed on the inner wall of the grip portion.

The plate 7 is provided with an aperture 10 through which a threaded sleeve 11 passes. The sleeve 11 comprises a portion of a conventional electric switch 12, said switch being operated by means of a plunger 13 which is reciprocally positioned within the sleeve 11. The switch 12 is of the well known type wherein successive reciprocations of the plunger 13 complete or break the circuit in which the switch is connected.

The rear portion of the grip member 12 is open and a closure 14 is adapted to be mounted over the opening provided in the grip member and is adapted to be secured in closure position by means of screws 15 which are threaded into the wall of the grip member 2. The central portion of the closure 14 is provided with an aperture having an oval tapered wall 16. A cable 17 comprising conductors 18 and a sheath 19 is adapted to be positioned through the aperture in the closure 14, one of the conductors 18 being connected to the switch 12, the opposite ends of said conductors being connected to a source of electricity (not shown).

The end of the sheath 19 is flared outwardly to form an oval tapered surface 20 which conforms with the surface defining the aperture. In assembling the device the cable 17 is passed through the aperture in the closure 14 in a direction from the concave side of the closure 14 to the convex side thereof. The sheath is provided with a bead 21 adjacent the end of the tapered surface 20. The sheath is of relatively flexible insulating material such as rubber or the like, and in passing the same through the aperture, the bead can be so flexed as to pass through said aperture and as indicated in Fig. 1 of the drawings, said bead forms an abutment which normally holds the two tapered surfaces of the sheath and the aperture in contact. The arrangement is such that a force of tension applied to the cable 17 will be resisted by contact of the tapered surfaces 16 and 20 and, consequently, the danger of disengaging the conductors 18 from the switch 12 is eliminated, and by virtue of the oval contour of the surface 20 and surface 16 the sheath 19 is prevented from turning thereby preventing the twisting of wires 18.

Conductors 22 connect the switch 12 to the motor of the electrically operated device 5, said conductors passing downwardly through the hollow standard 4. The standard 3 is also shown as be-

ing of hollow construction but this feature is not essential to the operation of my invention, said standard may, if desired, be of solid construction.

A tube 23 comprises a portion of the grip member 2, said tube opening at one end at the forward end of said grip member, and projecting rearwardly into the hollow portion of the grip member for a predetermined distance. A plunger 24 is reciprocally positioned in the tube 23, said plunger being provided with a collar 25 which is adapted to abut the inner end of the tube 23 and thus limit the outward movement of the plunger. The rear end of the plunger is adapted to contact head 26 of the plunger 13 whereby the switch 12 may be operated by pushing the plunger 24 inwardly, the end of said plunger terminating exteriorly of the grip portion functioning as a push button.

It can readily be seen that the handle 1 is of relatively light weight construction and the arrangement of the parts is such that it can be readily assembled. By the provision of the relatively elongated tube 23 which extends into the hollow portion of the grip member 2, the possibility of any sparks occurring in switch 12 from moving outwardly along the plunger 13 and 24, is eliminated.

This feature is of particular importance if the device 5 is employed as a duster or the like, wherein a spark discharged into combustible atmosphere may cause a serious explosion.

In addition, it can also be readily seen that the protruding portion of the plunger 24 is conveniently positioned with respect to the thumb of the hand of the operator which grasps the grip portion 2. By this provision the device 5 can be readily handled so as to properly manipulate the electrically operated device and when desired the motor contained within the device 5 may be turned on or off merely by employing the thumb of the hand which holds the grip portion 2. Obviously this permits the other hand of the operator to be employed for correlative or coordinative purposes while the device may be turned on or shut off at will.

I claim as my invention:

1. A handle for a portable electrically operated device which comprises in combination a hollow grip portion, standards connecting the ends of said grip portion to the electrically operated device, one of said standards being of hollow construction, a plate extending across the interior of the grip portion adjacent the juncture of said por-

tion and the hollow standard, a switch carried within said hollow grip portion adjacent said hollow standard, an operative head carried by said switch whereby said switch may be manipulated, said head extending through said plate, said plate and the head extending therethrough forming an imperforate partition across the hollow interior of the grip portion, electrical connections between said switch and said electrically operated device, said connections being positioned in said hollow standard, means connecting said switch to an external source of electricity, and means in said hollow grip member on the opposite side of said plate for actuating said operative head, said means having a portion thereof protruding exteriorly from said handle.

2. A handle for a portable electrically operated device which comprises in combination a hollow grip portion, standards connecting the ends of said grip portion to the electrically operated device, one of said standards being of hollow construction, an imperforate plate extending across the interior of the grip portion adjacent the juncture of said portion and the hollow standard, an electric switch positioned in said hollow grip portion adjacent said hollow standard, an operative contact head carried by said switch extending through said plate, electrical connections between said switch and said electrically operated device, said connections being positioned in said hollow standard, means connecting said switch to an external source of electricity, and means at the end of said grip portion opposite to said hollow standard for manipulating said switch, said means comprising a plunger one end of which terminates externally of said handle, and the other end of which operatively contacts the contact head of switch protruding through said plate.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,535,306	Harvey	Apr. 28, 1925
1,610,386	Meunier	Dec. 14, 1926
1,765,401	Browning	June 24, 1930
2,114,102	Collins	Apr. 12, 1938
2,263,136	Knouse et al.	Nov. 18, 1941
2,338,554	Taylor	Jan. 4, 1944
2,455,786	Lanter	Dec. 7, 1948