Sept. 3, 1940. G. R. GOODWIN 2,213,649

ELECTRIC LAMP SWITCH COVER

Filed May 2, 1938

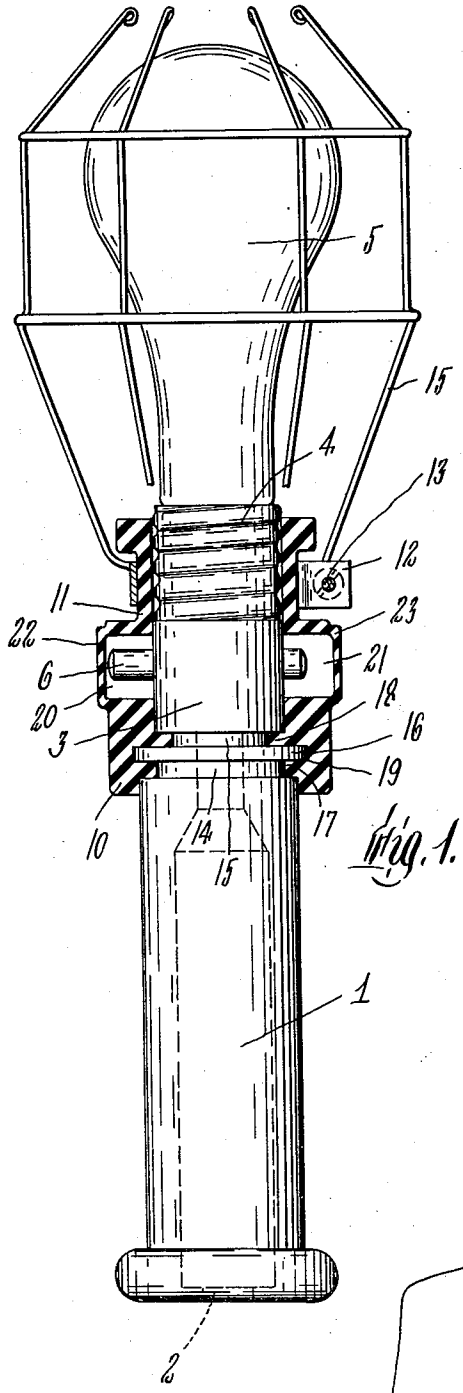

Fig. 1.

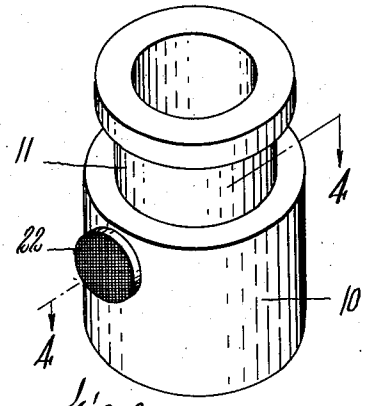

Fig. 2.

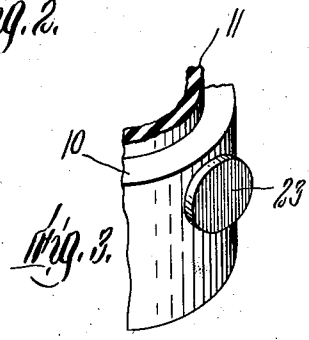

Fig. 3.

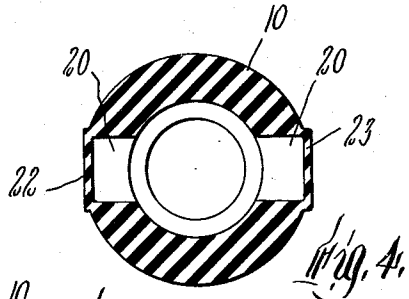

Fig. 4.

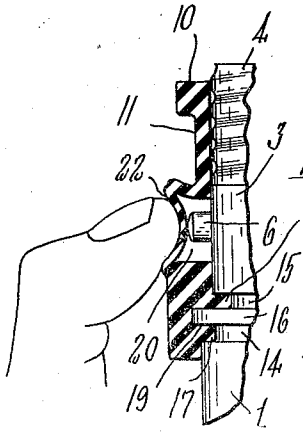

Fig. 5.

Inventor
George R. Goodwin
by Wright Brown Quinby & May
Attys.

Patented Sept. 3, 1940 2,213,649

UNITED STATES PATENT OFFICE

2,213,649

ELECTRIC LAMP SWITCH COVER

George R. Goodwin, Pawtucket, R. I., assignor to Royal Electric Company, Incorporated, Pawtucket, R. I., a corporation of Massachusetts

Application May 2, 1938, Serial No. 205,474

1 Claim. (Cl. 173—355)

Portable electric lamps such as are commonly employed in shops and garages are often used in places where moisture, oil and dirt abound, and where an electric switch for controlling the lamp is carried by the lamp handle, there is liability of foreign matter working into contact with the live parts past the switch-actuating parts as heretofore constructed. This is liable to cause short circuits or faulty operation of the switch and danger to the workman.

An object of the present invention, therefore, is to form a dirt and fluidtight covering or seal for the switch parts, but of a nature which will permit actuation of the switch as desired without interruption of the seal.

To this end a part which engages the handle or switch casing with a dirt and liquid tight sealing joint is provided with a flexible and distortable portion at the switch-actuating member which can be engaged by the operator and so distorted as to actuate the member, the distortable portion being interposed between the operator's fingers and the actuating member.

For a more complete understanding of this invention, reference may be had to the accompanying drawing in which

Figure 1 is a view partly in elevation and partly in section of a lamp embodying this invention.

Figure 2 is a perspective view of the sealing member.

Figure 3 is a fragmentary perspective view of the same showing another part thereof.

Figure 4 is a cross sectional view on line 4—4 of Figure 2.

Figure 5 is a fragmentary view similar to a portion of Figure 1, but showing the switch having just been actuated.

Referring first to Figure 1, at 1 is indicated a tubular handle member shown as of cylindrical external contour. This handle member has an interior passage 2 for the reception of wires leading into an actuating switch casing portion 3 secured to or integral with the handle portion of the member 1 and having extended from the opposite end thereof a lamp socket portion 4 within which may be screwed an electric lamp 5. The electric switch casing 3 is provided with any suitable switch mechanism inside of it and which may be actuated by some projecting element such as the push button bar 6 of conventional type which may be moved axially to open or close the switch. As is usual with switches of this general type, the opposite ends of the bar 5 constitute push buttons, one of which, as the right hand end shown in Figure 1 is red, and indicates when pushed in that the switch is closed, and the other or left hand end of which is black, and indicates when pushed in that the switch is open. With such a construction the openings in the switch casing through which the push buttons extend may permit the entry of foreign matter into the switch casing and into contact with the live parts therein.

Where lamps of this character are employed in shops and garages, and the like, they are often used in places where there is much dirt, water, oil and grease which are liable to find their way into the switch, impairing its operation or causing short circuits with possible injury to the user. In order to prevent this, a switch guard shown detached in Figures 2 and 3 may be employed, in accordance with this invention. As illustrated this guard is formed of relatively soft material such as soft rubber and comprises a sleeve 10 which may have its end portions brought into sealing engagement with the handle member 1 at opposite sides of the switch casing 3 and bridging over and protecting this switch casing from access of foreign matter thereto.

As shown, one end portion of the sleeve 10 is of reduced external diameter as at 11, and may engage about the lamp socket 4. It may be clamped into sealing engagement therewith as by means of a clamp 12 formed of a piece of sheet metal engaged around the reduced diameter portion 11, its ends being brought together and so secured as by means of a screw at 13, and this clamp may also be employed to fix in position, or to be integral with, a lamp guard member 15. This guard member may be of any suitable type, as shown being formed as a cage member to more or less enclose the lamp 5 and to protect it against accidental breakage from contact with other parts.

The opposite end portion of the sleeve 10 may be formed for sealing engagement with the handle on the opposite side of the switch 3 from the socket 4, and in order to provide for proper sealing without requiring the use of a clamp, the handle 1 and the sleeve 10 may be formed complementally with alternate small and large diameter portions to form what may be termed a labyrinth packing between the parts, producing a tortuous passage for any foreign material which might enter in between the handle and the extreme end of the sleeve 10 and prevent it from reaching the switch casing 3. For example, as shown, the handle is provided with the reduced diameter portions 14 and 15 and interposed large diameter portion 16

with which mate corresponding internal ribs 17 and 18 and a groove 19 in the sleeve 10.

The intermediate portion of the sleeve 10 bridges over the switch casing 3 and opposite to the ends of the bar 5 it is provided with recesses 20 and 21 into which the ends of this bar may extend. These recesses are closed off at their outer ends by the outwardly projected thin walled cover portions 22 and 23. The cover portion 22 may be colored black to correspond with the color of the adjacent end of the rod 5 and the end portion 23 may be colored red to correspond with its adjacent end of the bar 5. These covers 22 and 23 and the adjacent wall portions of the sleeve 10, being formed of readily deformable material such as soft rubber, may be deformed by pressure of the finger or thumb of the operator against the portions 22 or 23 sufficiently to actuate the bar 5 as shown in Figure 5, so that the switch may be operated by pressure exerted on the appropriate part of the sleeve 10 while maintaining the sealing engagement of the sleeve 10 with the switch parts so that they are entirely protected from access by foreign material which might otherwise enter the switch casing around the switch actuating element. It will be noted that the sleeve is imperforate so that there is no opportunity for any foreign matter to obtain access to the switch-actuating element from which it might pass into the interior of the switch casing, although normal operation of the switch is not interfered with in any way.

From the foregoing description of an embodiment of this invention, it should be evident to those skilled in the art that various other changes and modifications might be made without departing from the spirit or scope of this invention as defined by the appended claim.

I claim:

In combination with a tubular handle having a socket for an electric lamp at one end and an electric switch intermediate to the ends of said handle and having an actuating element movable laterally thereof, a soft rubber sealing sleeve having one end portion surrounding said socket, an intermediate portion recessed on its inner face on opposite sides for receiving the ends of said actuating element, and an opposite end portion engageable with said handle on the opposite side of said switch from said socket, said handle and said socket having complementary portions of larger and smaller diameters to form a packing, and means for clamping said one end portion of said sleeve to said socket, said sleeve having flexible, thin walled closures for the outer ends of said recesses deformable under pressure to impinge on said element to actuate the same.

GEORGE R. GOODWIN.