Feb. 28, 1950 L. GUREVSKY 2,498,805

MULTIWAY ELECTRIC SWITCH

Filed July 20, 1948

Fig. 1

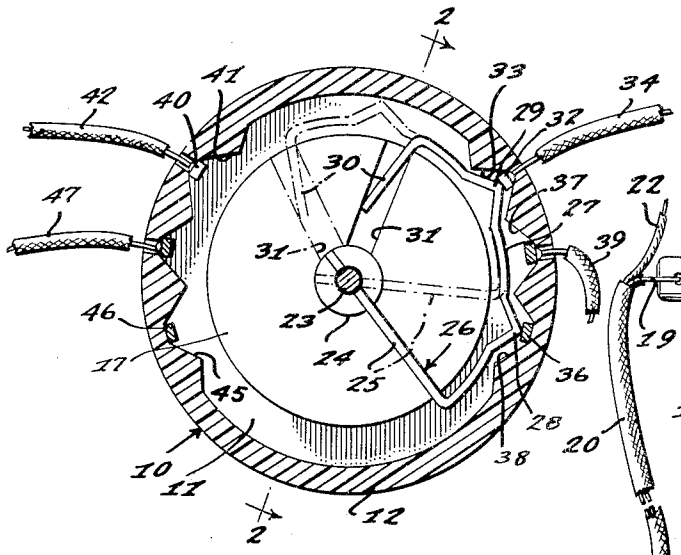
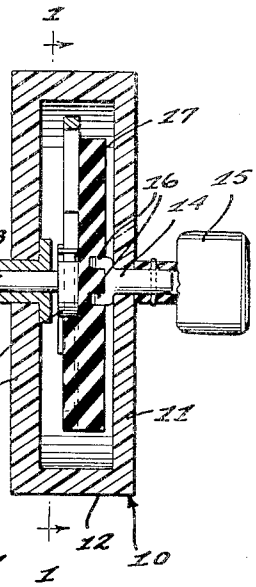


Fig. 2



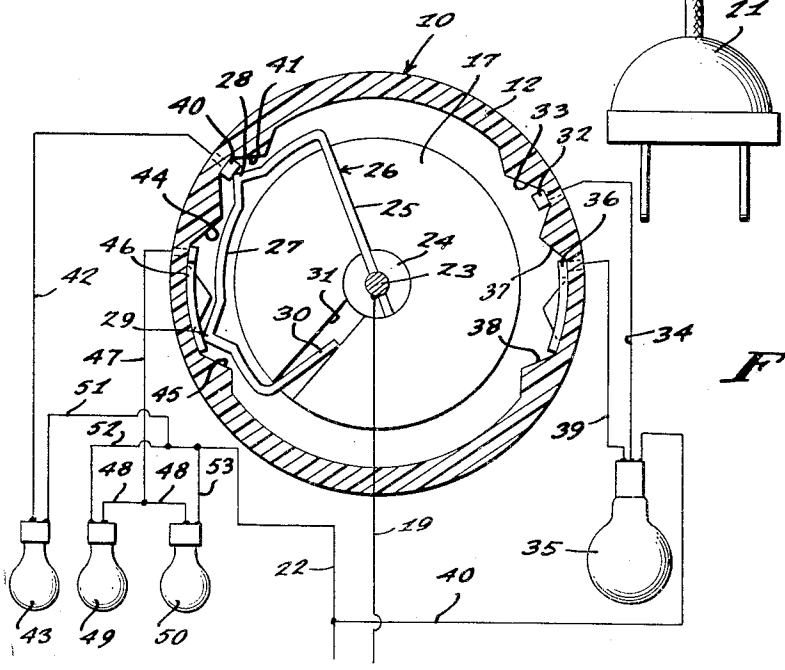


Fig. 3

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MULTIWAY ELECTRIC SWITCH

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1 Claim. (Cl. 315—313)

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My invention relates to electric switches, and more particularly to switches for electric lights or lamps wherein a plurality of circuits are involved. Specifically, the switch according to the invention is particularly adaptable for use with a lamp including one or more indirect lighting circuits, and likewise including one or more circuits to direct lighting lamps or bulbs. As is well known, many floor and table lamps include a multi-filament bulb associated with an indirect lighting reflector and controlled by a single switch. Frequently, the same lamp includes a plurality of direct lighting bulbs controlled by a plurality of circuits from a second switch. A common example of such lights provides a single bulb including a pair of filaments each of a different wattage, and wherein the switch for the same includes means for successively lighting each filament and thereafter lighting both filaments whereby to provide a three-way switch for an indirect lighting bulb having three wattages. Likewise, it is frequently the case that the same lamp includes three indirect lighting bulbs together with a separate switch for the same, wherein one, two and three of such bulbs may be successively lighted.

With the foregoing in view, it is an object of my invention to provide an improved single switch for both the indirect and the direct lighting circuits of a lamp of the class described.

A further object is to provide a single switch for both of such circuits of a lamp of the class decribed, wherein a single switch arm is movable through a definite path, whereby to selectively light one or all of the circuits for the direct lighting, or one or all of the circuits for the indirect lighting, system of the lamp.

Other objects and advantages reside in the particular structure of the invention, combination and arrangement of the several parts thereof, and will be readily understood by those skilled in the art upon reference to the attached drawing, in connection with the following specification, wherein the invention is shown, described and claimed.

In the drawing:

Figure 1 is a horizontal sectional view through a switch according to the invention and taken substantially on the plane of the line 1—1 of Figure 2;

Figure 2 is a transverse vertical sectional view taken substantially on the plane of the line 2—2 of Figure 1;

Figure 3 is a view like Figure 1, but showing the parts in a different position and likewise

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showing diagrammatically the several light circuits.

Referring specifically to the drawing, wherein like reference characters have been used throughout the several views to designate like parts, 10 designates generally any suitable switch housing which may comprise a cylindrical hollow body including a circular rear wall 11, a cylindrical side wall 12 and a circular front wall 13. The switch housing 10 may be formed of any suitable insulating material. The rear wall 11 is axially bored and rotatably mounts a shaft 14, the outer end of which has fixed thereto any suitable actuating knob 15 which is preferably formed of insulating material. The front wall 13 of the housing 10 has journaled therein axially thereof a tubular sleeve 18 of current-conducting material. The outer end of the sleeve 18 extends outwardly of the housing 10 and is operatively connected to a wire 19 of any suitable electric cord 20 which may be provided with a plug 21 for ready connection to an electrical convenience outlet. The other wire 22 of the cord 20 is operatively connected, as readily seen in Figure 3, to the return side of each circuit. A pin 23 is journaled in the recess of the sleeve 18 for rotation relative thereto and extends inwardly of the housing 10. The inner end of the pin 23 is provided with a circular head 24 which is received in a substantially circular recess formed axially of the disc 17. The inner ends of the pin 23 and the head 24 are diametrically slotted and have secured thereto in any suitable manner the radial inner end of a leg 25 of a movable contact arm 26. The contact arm 26 includes an arcuate portion 27 substantially concentrically disposed about a portion of the periphery of the disc 17. Likewise, the contact arm portion 27 is provided with radially outwardly-directed leading and trailing contact points 28 and 29, respectively. Rearwardly of the trailing contact point 29, the contact arm 26 is provided with a radially inwardly-directed leg 30 which is frictionally engaged in a slot 31 disposed radially of the disc 27 and formed in one surface thereof.

As is readily apparent from the foregoing, as the actuating knob 15 is turned in a direction to rotate the disc 17 clockwise, Figures 1 and 3, the engagement of the side walls of the slot 31 of the disc with the trailing leg 30 of the contact arm 26 will cause the contact arm to rotate in a clockwise direction with the disc. At the same time, current is supplied to the contact arm 26 by virtue of the frictional engagement of the pin 23 with the current-conducting sleeve 18. A rela-

tively short stationary contact 32 is seated in a notch 33 formed in a side wall 12 of the housing 10 and is connected to one filament of an indirect lighting bulb 35 by means of a wire 34. A second but elongated stationary contact 36 is jointly seated in a pair of notches 37 and 38 likewise formed in the cylindrical side wall 12 of the housing in adjacent relation to the first-named notch 33 and contact 32. A single wire 39 connects the contact 36 with the other filament of the indirect lighting bulb 35. A wire 40 connects both of the filaments of the bulb 35 to the return lead 22. As is apparent from Figure 1, with the contact arm 26 in the chain dotted line position, the leading contact point 28 thereof is operatively engaged with the first-named stationary contact 32, whereby to close a circuit to one filament of the indirect lighting bulb 35. Thereafter, when the disc and contact arm are rotated in a clockwise direction to the full line position of Figure 1, the leading contact point engages that portion of the stationary contact 36 which lies in the last-named notch 38, while the trailing contact point 29 engages the first-mentioned contact 32, whereby to close a circuit to both filaments of the lamp 35. It is obvious that with the contact arm 26 moved to a point intermediate the full and chain dotted line positions, the leading contact point 28 will engage the portion of the stationary contact 36 which lies in the notch 37 and that the trailing contact point 29 will be out of contact with the first-mentioned stationary contact 32, whereby to close a circuit to the second filament of the bulb 35. Likewise, if the movable contact arm 26 is moved in a counter-clockwise direction from the chain dotted line position, it is obvious that the leading contact point 28 will be disengaged from the stationary contact 32, whereby no circuit will be closed to the bulb 35. As is obvious from the foregoing, the notches 37 and 38 comprise detents whereby the switch arm 26 comprises a latch with the contact points 28 and 29 comprising latch dogs engageable in the detents to maintain the same releasably locked in a selected position.

A substantially opposite portion of the cylindrical wall 12 of the housing is provided with a relatively short stationary contact 40 which is seated in a notch 41 and connected by a wire 42 to a lamp 43 of a direct lighting circuit. Likewise, adjacent the notch 41 there are provided notches 44 and 45 which jointly seat an elongated contact 46 which is connected by a lead 47 and branch leads 48 to a pair of direct lighting bulbs 49 and 50. Return leads 51 and 52 and 53 connect the bulbs 43, 49 and 50 to the return wire 22 of the cord 20. As is readily apparent

in Figure 3, when the disc 17 is rotated in a counter-clockwise direction, the contact point 29 becomes the leading contact point, and the contact point 28 becomes the trailing contact point. Thus, the switch arm 26 is effective to selectively and successively light the bulb 43, both of the bulbs 49 and 50 simultaneously, or all three of such bulbs simultaneously. Thus, it is apparent that a single switch is effective to selectively control either the direct or indirect lighting circuit of the lamp.

Thus, while I have shown and described what is now thought to be a preferred embodiment of the invention, it is to be understood that the same is susceptible of other forms and expressions. Consequently, I do not limit myself to the precise structure shown and described hereinabove except as hereinafter claimed.

I claim:

An electric switch, comprising a hollow housing of insulating material including a cylindrical side wall formed with spaced recesses therein providing detents, a fixed contact in each recess, a movable contact pivoted in said housing axially thereof, said movable contact including a leg extending radially toward said side wall and an arcuate resilient contact portion integral with said leg and disposed concentrically inwardly of said side wall, said arcuate contact portion having a pair of spaced and radially outwardly directed contact points seatable at times in said recesses for engagement with said stationary contacts, one of said recesses and the stationary contact therein being elongated along the path of travel of said contact points, and said contact points of said movable contact and said stationary contacts being so spaced and arranged that said movable contact is movable from an open position to two successive closed positions wherein one of said contact points is successively and separately seated in each recess for engagement with the stationary contact contained therein and to a third closed position wherein said contact points are each seated in a separate recess whereby said movable contact engages both stationary contacts simultaneously.

LEON GUREVSKY.

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