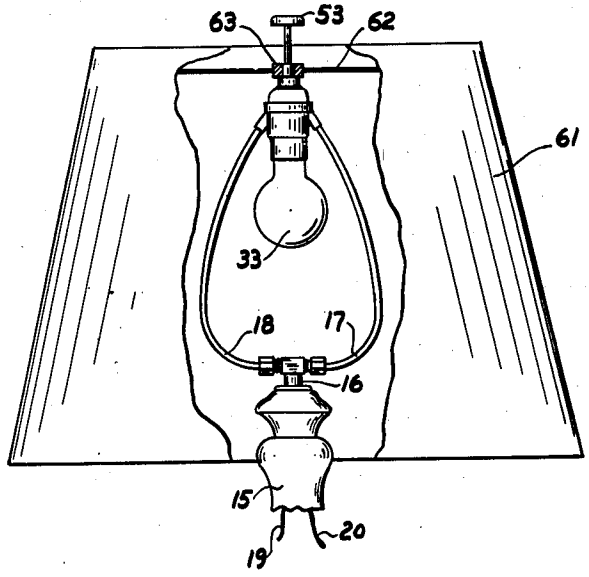
Sept. 30, 1952 L. M. PATRICK 2,612,570

LAMP SWITCH

Filed Aug. 4, 1950 2 SHEETS—SHEET 1

Fig. 1



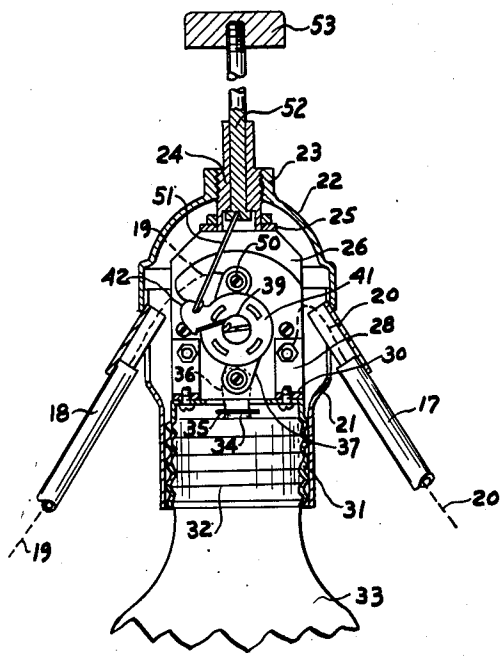


Fig. 2

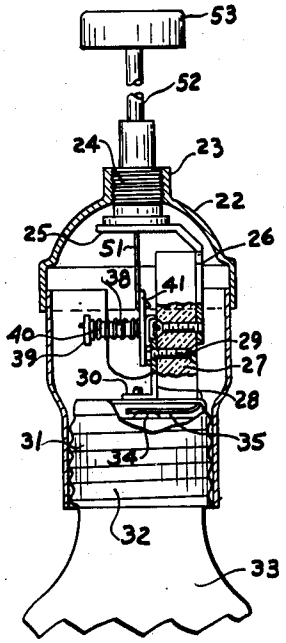


Fig. 3

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LAMP SWITCH

Filed Aug. 4, 1950 2 SHEETS—SHEET 2

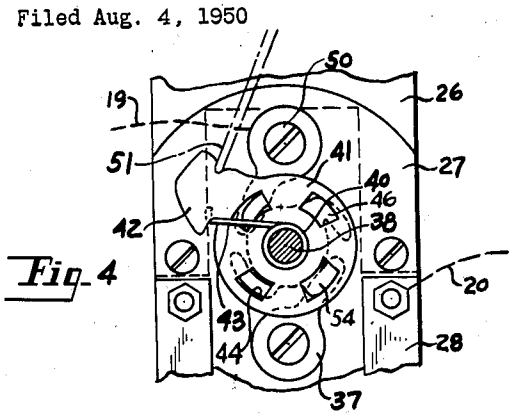


Fig. 4

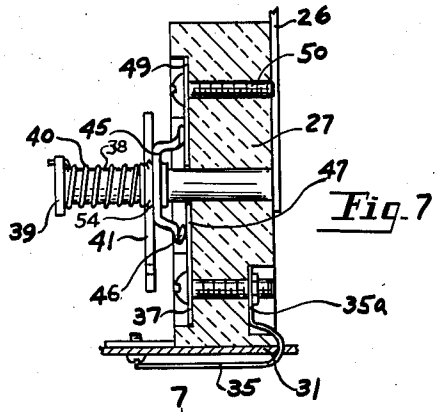


Fig. 7

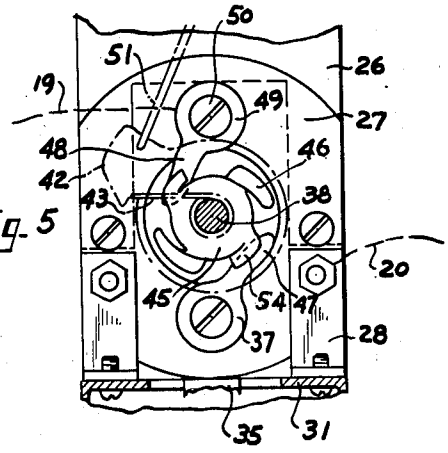


Fig. 5

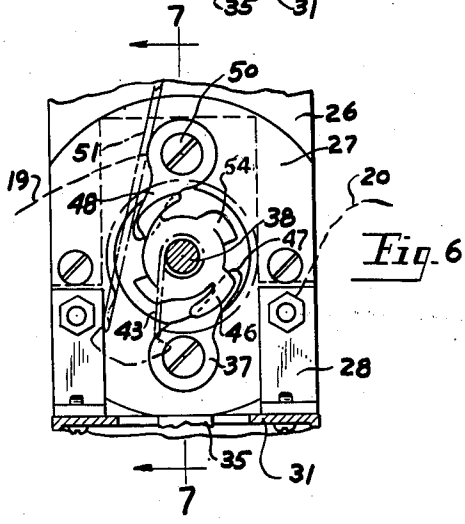


Fig. 6

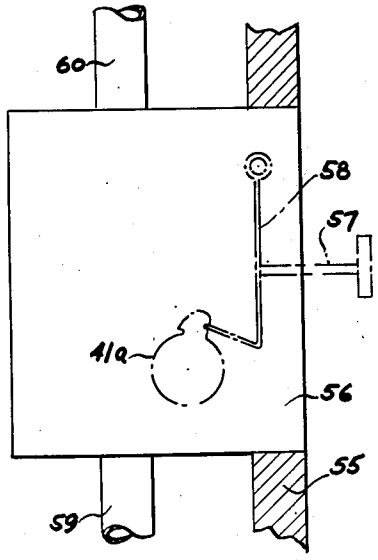


Fig. 8

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UNITED STATES PATENT OFFICE

2,612,570

LAMP SWITCH

Lawrence M. Patrick, Detroit, Mich.

Application August 4, 1950, Serial No. 177,630

2 Claims. (Cl. 200—51.16)

1

My invention relates to a new and useful improvement in a lamp switch adapted for use on lamps of various types such as, floor lamps, table lamps, etc. From the description it will also appear that the switch is adapted for other purposes, although it is intended primarily for use on lamps.

An object of the invention is the provision of a lamp switch which will be economical of structure, durable, compact and highly efficient in use.

Another object of the invention is the provision in a lamp switch of a longitudinally movable plunger adapted for actuating the switch to closing position on one movement and on the next movement actuating the switch to open position.

Another object of the invention, is the provision of a lamp switch of this class which may be mounted in a lamp socket.

Other objects will appear hereinafter.

It is recognized that various modifications and changes may be made in the detail of structure illustrated and it is intended that the present disclosure shall be considered but the preferred embodiment.

Forming a part of this application are drawings in which,

Fig. 1 is a side elevational view of a lamp and the invention applied with parts broken away and parts shown in section.

Fig. 2 is a sectional view taken through the invention with parts broken away.

Fig. 3 is a sectional view similar to Fig. 2 taken at right angles thereto with parts broken away.

Fig. 4 is a fragmentary elevational view of the switch mechanism showing the switch in one position.

Fig. 5 is a fragmentary elevational view of the switch mechanism showing the switch in another position,

Fig. 6 is a fragmentary elevational view showing the switch in another position.

Fig. 7 is a sectional view taken on line 7—7 of Fig. 6.

Fig. 8 is a diagrammatic view illustrating the use of the invention as a wall switch.

In the drawings I have illustrated the invention used by the lamp having a supporting pedestal 15 extending upwardly from which is a pipe 16 connected to and projecting outwardly from which are the tubes 17 and 18 through which the wires 19 and 20 are led. Tubes 17 and 18 are rigidly connected to a housing 21 on which is mounted a cap 22 having a neck 23. A shade 61 is supported by a frame 62 extending outwardly from a hub 63 which rests upon the neck 23.

As shown in Fig. 2 there is threaded into the neck 23, a tubular fitting 24, to which is attached the bracket arm 25 having the downwardly projecting plate 26 which serves as a support for

2

the block 27 of insulating material on which a switch is mounted.

Mounted on the block 27 is a metallic bar 28 having the angularly turned portion 30 which is connected in contact with the threaded metallic shell 31 into which the threaded portion 32 of a light bulb 33 is threaded. This bar 28 is connected on the block 27 by means of a bolt 29 which serves as a terminal and to which the wire 20 is attached so that the shell 31 is thus electrically connected to the wire 20. The light bulb is also connected to this wire through the connections already described, the threaded terminal portions 31 being metallic constituting one of the terminals of the light bulb. The other terminal 34 of the light bulb is in contact with the metallic plate 35 which is mounted on the block 27 by means of the bolt 35a which also connects 35 to the metallic plate 37 which constitutes one of the terminals of the switch.

Mounted on the block 27 projecting outwardly therefrom is a shaft 38, carrying at its outer end a head 39 to which is attached one end of a spring 40 which embraces the shaft 38. Rotatively mounted on this shaft 38 is a disk 41 to which the other end 42 of the shaft, having a tongue 42 projecting outwardly therefrom and through which is attached the other end 43 of the spring 40. Formed in this disk 41 is a plurality of spaced apart openings 44.

Rotatably mounted on the shaft 38 is a metallic disk 45, disk 41 being formed from suitable insulating material. This metallic disk 45 is provided, at diametrically opposite points, with a leg 46. These legs 46 extend outwardly from the disk 43 and are inclined downwardly for engaging the upwardly extending tongues 47 and 48 on the plates 37 and 49. This plate 49 being a metallic plate secured to the block 27 by the screw 50.

The rod 51 is connected to the tongue 42 and also the plunger 52 which slidably projects through the fitting 24 and which is provided at its outer end with the knob 53. Projecting outwardly from the base of the metallic disk 45 are the tongues 54 which are inclined towards their free end to extend outwardly from the face of the disk 45. Construction is such that upon pressing the plunger 52 downwardly the disk 41 of insulating material will be rocked downwardly against the tension of the spring 40. As the rocking movement continues downwardly the tongues 54 will engage in the opening 44 formed in the disk 41 and thus the disk 45 will be rotated. Upon pressing the plunger downwardly this disk 45 will be rotated to a position where the members 46 engage the inclined portion 47 and 48 and thus connect the wire 19 electrically to the terminal 34 of the lamp bulb so as to close the circuit to the light bulb.

As the legs 46 ride upwardly on the inclined tongues 47 and 48 disk 45 will move outwardly that is to the left of Fig. 3 against the compression of the spring 40. This spring 40 will serve to restore the plunger to its normal position upon release of pressure on the plunger and in moving to its normal position the disk 41 will rotate and the inclined members 54 are disengaged from the opening 44 and in this movement the disk will move to the left of Fig. 3 against the compression of the spring 40. When the disk 41 returns to its former position, the openings 44 will again be in registration with the tongues 54 and these tongues 54 will engage in the openings 44 so that upon the next downward movement of the plunger 52 the metallic disk 44 will again be moved to move the members 46 out of engagement with the members 47 and 48, thus opening the switch.

In this way when the lamp is constructed in this manner and provided with a switch of this type, it is obvious that a downward pressing on the knob 53 will effect a closing of the switch and a lighting of the lamp and a spaced second downward pressure of the member 53 will open the switch.

The structure is one which lends itself admirably for installation in a lamp whether it be a table lamp or floor lamp and is one which is compact and can be easily operated while at the same time it is possessed of a minimum number of parts thus avoiding the likelihood of disarrangement of various parts.

In Fig. 8 I have shown a diagrammatic view in which the switch is used as a wall switch and I have illustrated a switch housing 56 mounted in the wall 55. A rod 58 is actuated by the plunger 57 and rod 58 corresponding to the rod 51 of Fig. 2 serves to actuate a disk 41*a* which corresponds to the disk 41, the remaining parts being the same. Leading into the switch housing are the conduits 59 and 60 through which the electric wires are led.

What I claim is:

1. In combination, a switch housing; an insulating supporting block on said housing; a pair of spaced apart terminals mounted on said block; a shaft extending outwardly from said block; a rotatable metallic contact member rotatably mounted on said shaft; legs projecting outwardly from said contact member adapted upon rotation of said contact member for moving into and out of engagement with said terminals for making and breaking a circuit therethrough; a rotatable actuating disk, rockably mounted on said shaft; a plurality of spaced apart openings formed in said actuating disk; a pair of spaced apart lugs extending outwardly from one face of said metallic member and engageable in said openings; a spring on said shaft normally urging said actuating disk into position for receiving said lugs in said openings, said actuating disk, upon rocking in one direction, effecting a rotating of said metallic disk a predetermined distance and upon rocking in the opposite direction for riding over said lugs against the compression of said spring; a tongue projecting outwardly from said actuating disk; a plunger extending outwardly from said housing; a rod connecting said tongue with said plunger and adapted upon inward movement of said plunger for rocking said actuating disk in a direction to move said metallic disk, one end of said spring being connected to said tongue and normally maintaining said actuated disk rocked to a position for retaining said plunger in outwardly moved position, said rod being inclined to the axis of said plunger.

2. In combination, a switch housing; an insulating supporting block mounted in said housing; a pair of spaced apart terminals mounted on said block; a shaft extending outwardly from said block; a rotatable metallic contact member rotatably mounted on said shaft; legs projecting outwardly from said contact member adapted upon rotation of said contact member for movement into and out of engagement with said terminals for making and breaking a circuit therethrough; a rotatable actuating disk, rockably mounted on said shaft; a plurality of spaced apart openings formed in said actuating disk; a pair of spaced apart lugs extending outwardly from one face of said metallic member and engageable in said openings; a spring on said shaft normally urging said actuating disk into position for receiving said lugs in said openings, said actuating disk, upon rocking in one direction, effecting a rotation of said metallic disk a predetermined distance and upon rocking in the opposite direction for riding over said lugs against the compression of said spring; a tongue projecting outwardly from said actuating disk; a tubular fitting mounted on one end of said housing and projecting inwardly and outwardly thereof and having a recess in its inner end; a plunger slidably projecting through said fitting; a head on the inner end of said plunger engageable in said recess; a rod pivotally connected at one end to the head bearing end of said plunger and pivotally connected at its opposite end to said tongue for, upon inward movement of said plunger, rocking said actuating disk in a direction to move said metallic disk, said rod being inclined to the axis of said plunger.

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