Dec. 12, 1961 G. A. BROSIUS 3,013,130

SWITCH TYPE LAMP SOCKET

Filed May 13, 1960

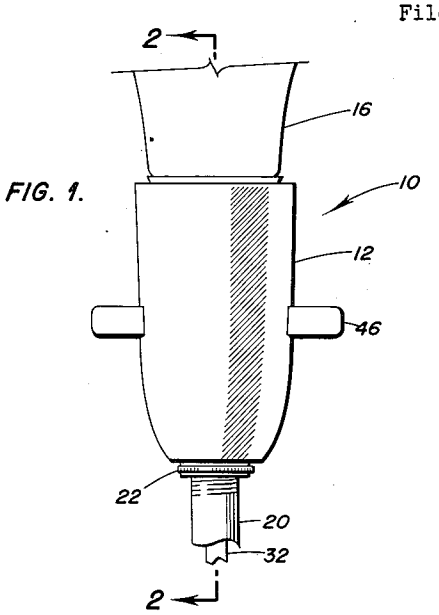


FIG. 1.

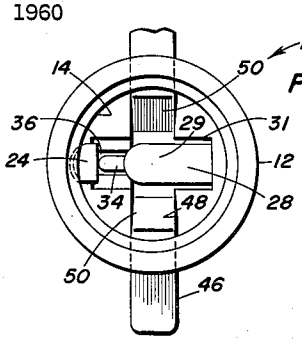


FIG. 4.

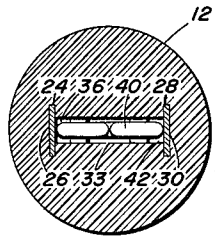


FIG. 5.

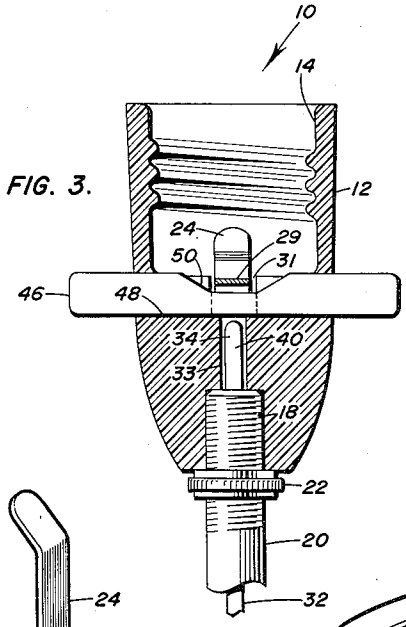


FIG. 3.

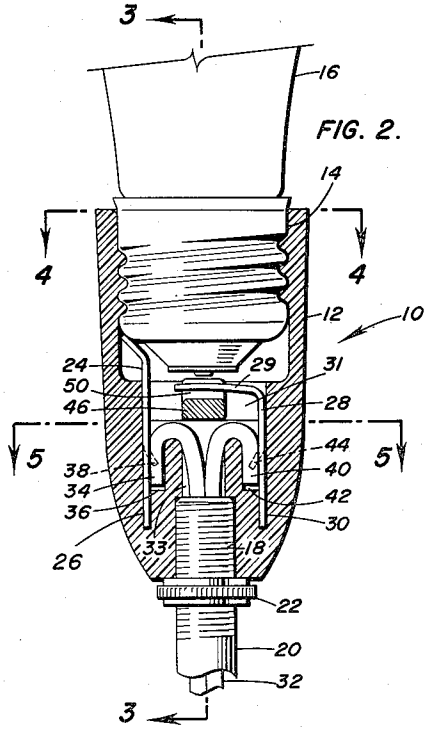


FIG. 2.

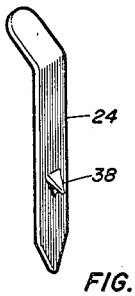


FIG. 6.

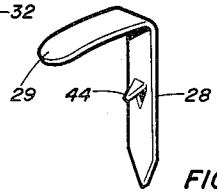


FIG. 7.

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SWITCH TYPE LAMP SOCKET

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This invention relates generally to electrical connectors, and more particularly it pertains to a combination lamp socket and switch.

While there have been several prior disclosures of lamp sockets with self-piercing wire connecting means to save labor at wiring the assembly, cost in the manufacture of the socket has always remained high.

It is a primary object of this invention to provide a combination light socket and switch having a minimum of components and which is simple to assemble and wire.

Another object of this invention is to provide a switch for a lamp socket which uses the lamp base electrode as one of the switch contacts.

And another object of this invention is to provide a unitary switch contact and wire terminal therefor.

Still another object of this invention is to provide a unitary lamp base contact and a wire terminal therefor.

And yet another object of this invention is to provide a safe lamp socket wherein no socket shell of an empty socket is exposed to the touch of a user thereof.

Another object of this invention is to provide a switched lamp socket of such functional simplicity that the molded body can be more compactly formed for artistic effect.

These and other objects and attendant advantages of this invention will become more readily apparent and understood from the accompanying specification and single sheet of drawings in which:

FIG. 1 is an elevation of a switched lamp socket incorporating features of this invention;

FIG. 2 is a section taken along line 2—2 of FIG. 1;

FIG. 3 is a section taken along line 3—3 of FIG. 2;

FIG. 4 is a top view taken along the line 4—4 of FIG. 2;

FIG. 5 is a section taken along line 5—5 of FIG. 2;

FIG. 6 is an enlarged perspective drawing of a ground contact; and

FIG. 7 is an enlarged perspective of a switch contact.

Referring now to the details of the drawings, as shown in FIG. 1, the switched socket of the present invention is designated generally therein by reference numeral 10. As best illustrated in FIGS. 2 and 3, the switched socket 10 consists of only four components, namely a receptacle 12, a slide bar 46, a ground contact 24, and a switch contact 28.

The receptacle 12 is molded from an insulating composition so as to provide a threaded bore 14 for the base of a standard lamp bulb 16. On the lower center line of the receptacle 12, a threaded bore 18 is molded or machined for a lamp pipe 20.

Extending downwardly from the bottom of the threaded bore 14, there are provided a slot or cavity 31 and a channel 48 crossed in a common plane across the receptacle 12, as illustrated best in FIG. 3. The slot 31 loosely accommodates a tongue 29 of the switch contact and the channel 48 receives the slide bar 46 in sliding fit therein.

Both the slot 31 and channel 48 are of generally rectangular section and cross each other at right angles. The channel 48 is longer than the slot 31 and pierces both sides of the receptacle 12.

A central slot 33, as shown in FIGS. 3 and 5, extends between the rectangular slot 31 for the tongue 29 and the threaded bore 18 for the lamp pipe 20.

A pair of slots 26 and 30 are molded vertically downwardly, one at each end of the cavity 31, respectively. These slots 26 and 30 receive the contacts 24 and 28 with a press fit. Narrower vertical slots 36 and 42 for the ends of insulated wire leads 34 and 40 are provided adjacent to and communicating with these slots 26 and 30.

The ground contact 24 and the switch contact 28 are formed of resilient metal strip, such as spring brass and are preferably cut pointed at their lower ends, as shown in FIGS. 6 and 7. The flat sides of contacts 24 and 28 are lanced for a sharp downwardly and outwardly jutting point 38 and 44, respectively.

Both contacts 24 and 28 are bent, the ground contact 24 only slightly at its upper end in a direction away from the outjutting point 38, while the switch contact 28 is bent nearly at right angles on the same side as its point 44 to form the previously mentioned tongue 29.

The assembly of a switched socket 10 is very simple. After the receptacle 12 is threaded onto the lamp pipe 18 and its lock nut 22 tightened, the pair of insulated wire leads 34 and 40 are passed therethrough to the interior of the receptacle 12 as shown in FIGS. 2 and 5.

Without stripping the insulation, the ends of the leads 34 and 40 are bent back oppositely at 180 degrees and inserted within the vertical slots 36 and 42, respectively. The lower end of ground contact 24 is then passed into its tightly fitting slot 26 so that the side point 38 penetrates the insulation of the adjacent lead 34. Similarly, the switch contact 28 is pressed into its slot 30 so that point 44 pierces the insulation of lead 40.

As shown in FIGS. 3 and 4, the slide bar 46 is passed through the side of receptacle 12 into its channel 48 and urged under the tongue 29 to complete the assembly and wiring of the switched socket 10.

As shown in FIG. 2, when the lamp bulb 16 is screwed into the threaded bore 14, its base shell contacts the bent-over upper end of ground contact 24. The slide bar 46 has a ramped recess 50 within which the tongue 29 of switch contact 28 lies in the switched-off position. When the slide bar 46 is pressed lengthwise, it slides in its channel 48 and the tongue 29 is urged up the ramp side of recess 50 and against the tip contact of lamp bulb 16 to complete the electric circuit thereto from the leads 34 and 40.

It is noteworthy that the empty switched socket 10 as shown in FIG. 3 has all potentially dangerous line conductor elements well recessed away from its open top. Further, the extreme simplicity of construction lends itself well to a smoothly tapering, more compact assembly, than heretofore possible.

Obviously, many modifications and variations of the present invention are possible in light of the above teachings. It is, therefore, to be understood that within the scope of the appended claim the invention may be practiced otherwise than as specifically described.

What is claimed is:

In combination with a threaded lamp bulb having a base contact and a tip contact, a switch type lamp socket including an insulated receptacle of substantially cylindrical elongated shape having a first threaded bore formed in one end thereof for receiving said threaded lamp bulb, a second threaded bore at its opposite end, a threaded lamp pipe positioned in said second bore, said receptacle having a third bore positioned between and communicating with said first and second bores, a pair of vertically extending and diametrically arranged slots spaced on opposite sides of said third bore, a resilient ground contact positioned in one of said slots, a resilient switch contact positioned in the other slot thereof, a pair of leads passing through said lamp pipe and in contact with said ground and switch contacts, respectively, said switch

contact having a tongue extending substantially transversely therefrom, said receptacle having a third slot provided therein and crossing over said third bore at substantially right angles thereto and substantially transversely to said tongue, a slide bar positioned in said third slot and having its upper surface recessed and in cammed relationship with said tongue of said switch contact, said ground contact having its upper end extending above said tongue of said switch contact for engaging said base contact of said bulb inserted in said first bore of said receptacle, with the tongue of said switch contact being

movable upwardly upon sliding movement of said slide bar transversely to the longitudinal axis of said receptacle to engage said tip contact of said bulb, whereby the number of components of said socket are minimized.

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