Dec. 25, 1956 J. P. RUMMAGE 2,775,663

ELECTRIC LIGHT SOCKET WITH A REPLACEABLE SWITCH

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Fig. 1.

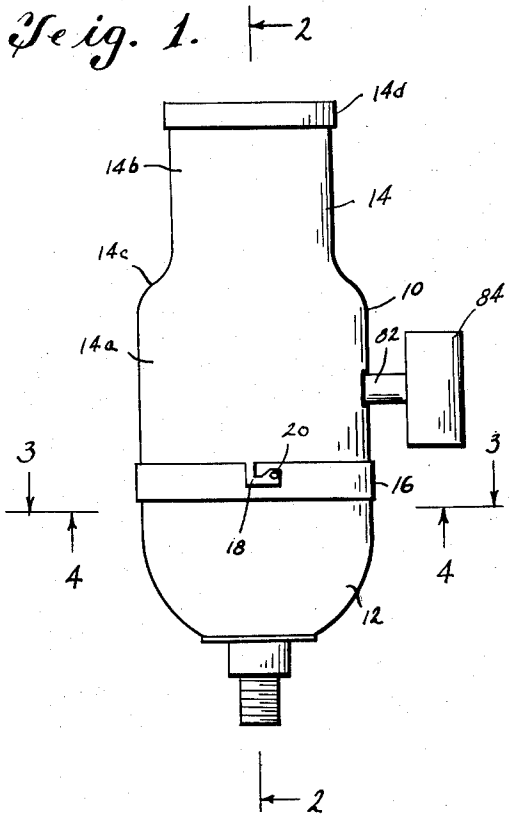
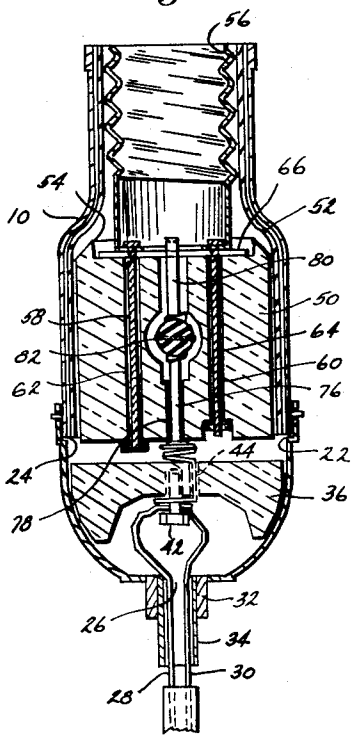


Fig. 2.



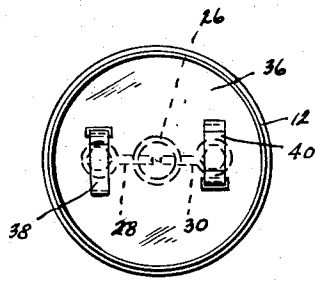


Fig. 3.

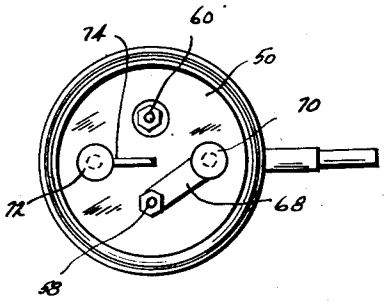


Fig. 4.

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ELECTRIC LIGHT SOCKET WITH A REPLACEABLE SWITCH

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1 Claim. (Cl. 200—51.17)

This invention relates to an electric light socket with a replaceable switch.

The invention pertains to the familiar type of electric light socket in which a manually actuated switch is incorporated. There are two shells which lock together to form the casing. Within the casing is a cartridge to which the wires are secured. This cartridge includes a socket for a bulb and it also includes the switch which opens and closes the circuit. When the switch goes out of order, it is necessary to replace the entire cartridge, including the socket and in such case it is necessary to disengage the wires from the defective cartridge and then replace them on a new cartridge which would be substituted in the place and stead of the defective cartridge.

The present invention provides two cartridges in the casing instead of only one. One cartridge is mounted in one shell of the casing and the wires are secured thereto. The second cartridge is mounted in the second shell of the casing and said second cartridge houses the switch and carries the bulb socket. Contact members are provided on both cartridges and these contact members complement and cooperate with each other to feed electric current from the first mentioned cartridge to the second mentioned cartridge. When the switch goes out of commission in the second cartridge, all that need be done is to replace said second cartridge with another one and the job is completed. There is no need to remove the wires from the first cartridge since the first cartridge need not be replaced.

It is accordingly the principal object of this invention to provide an electric light switch-type socket of the character described, comprising a casing which may be taken apart and enclosing a base cartridge to which wires may be attached and a second cartridge in which the switch is incorporated and on which the socket is mounted, contacts between the two cartridges being provided to conduct electric current from the base cartridge to the second cartridge.

Another important object of this invention is the provision of a casing for the electric light switch-type socket herein disclosed and claimed, which consists of a pair of shells which complement each other, one of said shells housing the base cartridge and the other shell housing the second cartridge and pin and bayonet slot means being provided between the two shells to detachably lock them together.

A preferred form of this invention is shown in the accompanying drawing in which:

Fig. 1 is a side view of an electric light socket with a replaceable switch made in accordance with this invention.

Fig. 2 is a longitudinal section therethrough on the line 2—2 of Fig. 1.

Fig. 3 is a transverse section on the line 3—3 of Fig. 1, showing the base cartridge and the contact members on said base cartridge which engage the contact members of the second cartridge.

Fig. 4 is another transverse section on the line 4—4 of Fig. 1, looking upwardly at the second cartridge and showing the contact members on said second cartridge which engage the contact members of the base cartridge.

Referring now to Figs. 1 and 2 of the drawing, it will be seen that the casing **10** comprises a base shell **12** and a second shell **14**. The base shell **12** is expanded along its peripheral edge to form a band **16** whose internal diameter corresponds to the external diameter of the adjacent end of the second shell so as to receive and accommodate said adjacent end of the second shell. Bayonet slots **18** are formed in band **16** and pins **20** are provided on said second shell **14** to engage and interlock with said bayonet slots. It is in this manner and by this means that the two shells may be locked together and, by the same token, disengaged from each other. An annular shoulder **22** is formed along the line of juncture between band **16** and the main body of the base shell **12** and it is against said annular shoulder that the adjacent end **24** of second shell **14** abuts.

Shell **12** is somewhat cup-shaped and it is provided with a centrally formed hole **26** through which wires **28** and **30** may extend. A collar **32** is fixed to said base socket in said hole **26** and a threaded sleeve **34** is secured to said collar. This is conventional.

Mounted in shell **12** is the base cartridge **36** which should be made of electrically non-conductive material, such as ceramic or plastic material. A pair of contact members **38** and **40** are secured to cartridge **36** by means of screws **42**. It will be noted that these contact members **38** and **40** are, in effect, a pair of leaf springs which are folded over on top of the base cartridge **36** and which extend through holes **44** in said base cartridge and are then bent over against the bottom of said base cartridge and held in place there by said screws **42**.

The same screws **42** also secure wires **28** and **30** to said contacts **38** and **40**. This arrangement of parts is purely illustrative and other means may be provided for securing the contact members to the base cartridge and for securing the wires to said contact members.

The second cartridge **50** should also be made of electrically non-conductive material. It may be enclosed in an insulating sheath **52** which is tubular and open at both ends. Insulating sheath **52** may correspond in general shape to the shape of shell **14** and it will be noted that said shell **14** is somewhat larger at its lower end **14***a* and somewhat reduced at its upper end **14***b*, an annular shoulder **14***c* joining the upper and lower sections. A peripheral bead **14***d* may be provided at the upper end of the reduced portion of said second shell **14**. Tubular sheath **52** may also be somewhat larger at its lower end and somewhat smaller at its upper end to correspond to the shape and proportions of shell **14**.

The second cartridge **50** fits into the larger lower end of insulating sheath **52** and it will be noted that an annular bead **54** is formed along the upper, outer peripheral edge of said second cartridge **50** to engage the shoulder which joins the upper and lower portions of insulating sheath **52** and which, through said shoulder of said sheath, engages shoulder **14***c* of shell **14**. This arrangement of parts tends to position the second cartridge in the second shell and prevents it from being thrust upwardly in said second shell beyond a predetermined extent. This arrangement is, of course, purely illustrative and any other arrangement which would produce the same or a similar result would be suitable for the purposes of this invention.

Secured to the top wall of second cartridge **50** is a socket member **56** which has screw threads formed therein in conventional manner to engage the screw threads of the shell of a conventional electric light bulb. The upper end of the insulating sheath projects into the space between the socket member **56** and the upper end of shell **14** to insulate said socket from said shell. Bolts **58** and

60 project through longitudinally extending holes 62 and 64 formed in cartridge 50 and it will be noted that these bolts secure said socket 56 to cartridge 50. A plate or disc 66 may be interposed between said socket and said cartridge and this plate or disc may be made of insulating material. Bolt 60 is used solely to attach the socket to the cartridge. Bolt 58, however, not only secures the socket to the cartridge but also serves as a conductor to conduct electric current to said socket. A strip of metal 68 is secured at one end to bolt 58 and at its opposite end to a contact member 70. A second contact member 72 is secured to a lead 74 which is fastened to or integral with switch member 76. Switch contact member 76 is disposed in longitudinally extending hole 78 which is formed in cartridge 50, centrally thereof. At the opposite end of said hole 78 is switch member 80 which serves as the central contact member which contacts the central terminal or contact of an electric light bulb mounted in socket 56. Between the two switch members 76 and 80 is the switch 82 itself which includes a knob 84 to actuate it. The knob may be turned to make or break the circuit between the two switch members 76 and 80. This switch mechanism is conventional.

When the base cartridge 36 is mounted in the base shell 12 and when the second cartridge 50 is mounted in the second shell 14 and when the two shells are locked together by the means shown in Fig. 1, contact members 72 and 70 engage spring contact members 38 and 40. When a bulb is inserted into socket 56 and the switch is closed, the circuit will be closed through the two wires or conductors 28 and 30, the two contact members 38 and 40, the second pair of contact members 72 and 70, bolt 58 and socket 56, and switch members 76 and 80 and switch 82 and, of course, the bulb shell, the bulb filament and the bulb contact point. Should the switch go out of order, shell 14 would be disengaged from shell 12 and cartridge 50 would be replaced by another cartridge of like construction. The two shells would then be reattached to each other and the job would be done.

The foregoing is illustrative of a preferred form of this invention and it will be clearly understood that this preferred form may be modified and other forms may be provided within the broad spirit of the invention and the broad scope of the claim.

I claim:

An electric light socket with a replaceable switch, comprising a first casing shell, a second casing shell, fastening means for detachably fastening the two casing shells together to form a complete casing, a first cartridge removably disposed in the first casing shell, a second cartridge removably disposed in the second casing shell, said cartridges being held within said casing shells when the casing shells are fastened together to form the complete casing, a pair of conductors projecting into the first casing shell, a pair of leaf spring contact members mounted on the first cartridge, means connecting said conductors to said leaf spring contact members and securing both the conductors and the leaf spring contact members to the first cartridge, a pair of fixed contact members secured to the second cartridge in registration with the leaf spring contact members on the first cartridge for engagement therewith, a bulb socket secured to said second cartridge, an additional contact member secured to said second cartridge within said socket for engagement with a bulb mounted therein, and conductors, including a switch, mounted within said second cartridge and connecting the socket and additional contact member on said second cartridge to the first mentioned pair of contact members on said second cartridge, said leaf spring contact members being adapted to exert a force upon the fixed contact members of the second cartridge in order to urge said second cartridge away from the first cartridge, and thereby to resiliently support the two cartridges in their respective casing shells to prevent displacement thereof.

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