Sept. 22, 1959 J. SCHMIER 2,905,779

COMBINATION PLUG-IN ELECTRICAL SOCKET AND SWITCH

Filed Dec. 19, 1957 2 Sheets-Sheet 1

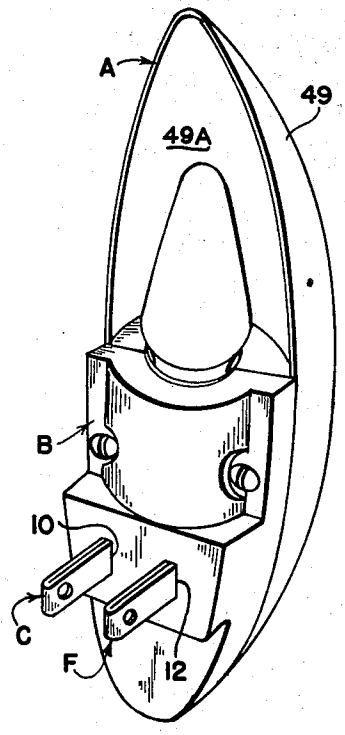


FIG. 1

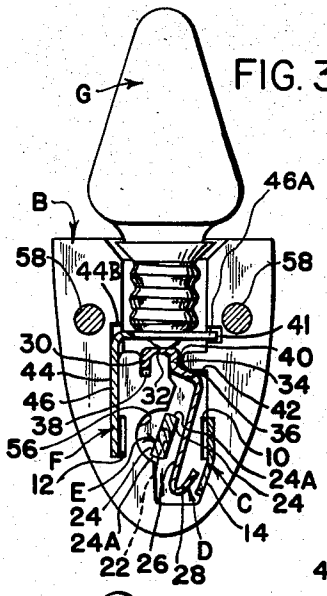
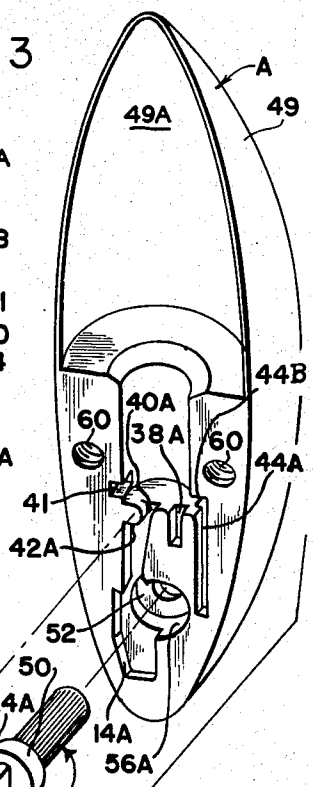


FIG. 3



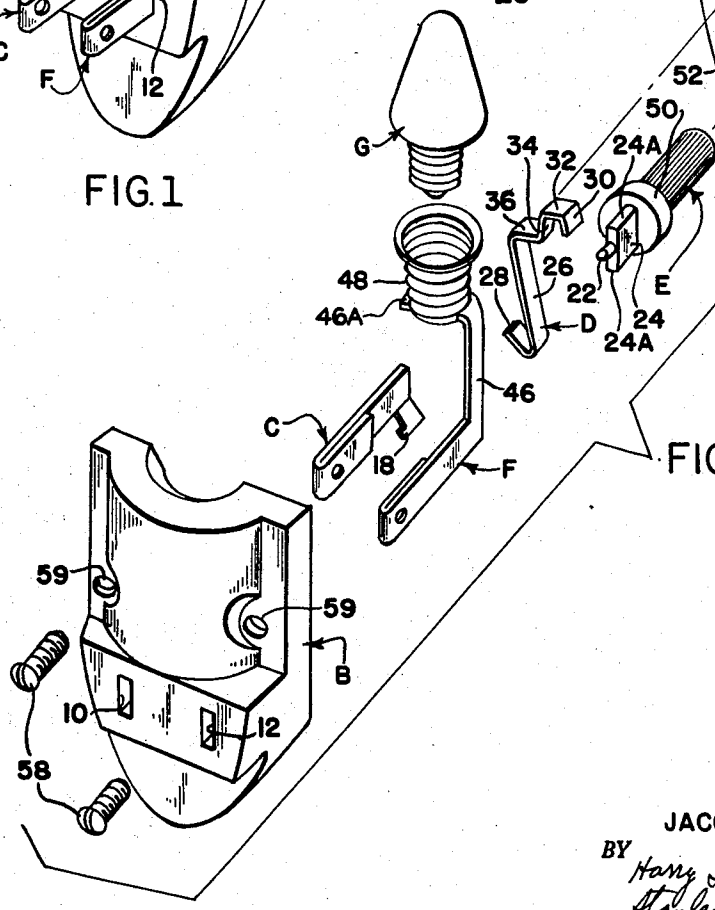


FIG. 2

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COMBINATION PLUG-IN ELECTRICAL SOCKET AND SWITCH

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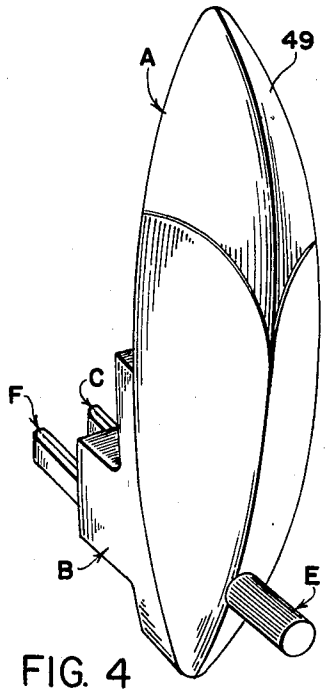


FIG. 4

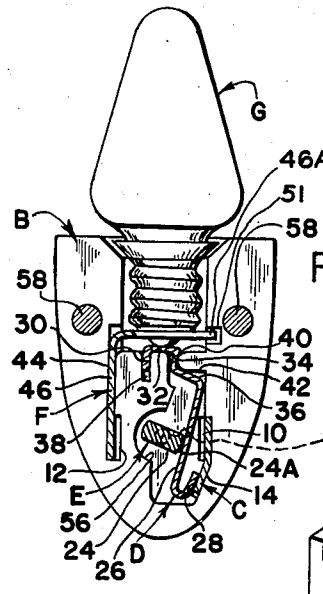


FIG. 5

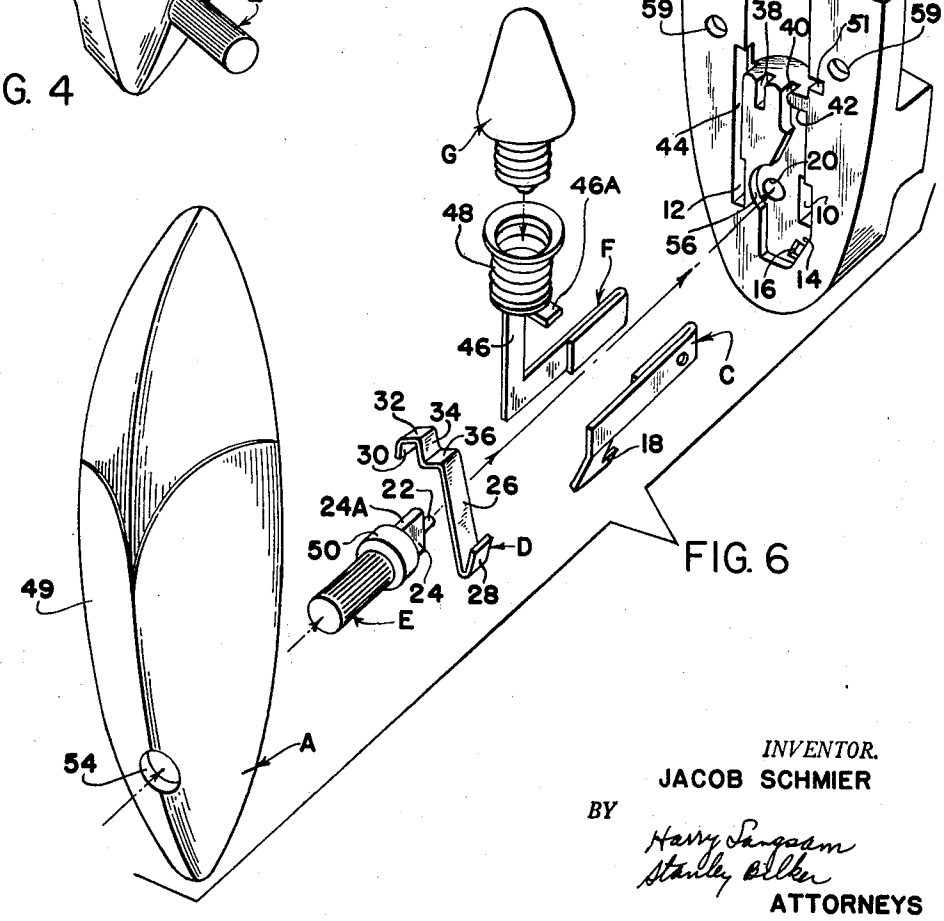


FIG. 6

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COMBINATION PLUG-IN ELECTRICAL SOCKET AND SWITCH

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1 Claim. (Cl. 200—51.17)

My invention relates to a plug-in electrical socket embodying a combined plug-in contacts and switch and a small electric light bulb. In the prior art patents, small electrical sockets embodying a plug, a switch, and a small electric light bulb have been used but they have been relatively complex and of costly construction. These combined lamp and lamp holders are customarily termed and used as "night light" wherein a 7½ watt electric light bulb can be plugged in, in order to serve as a guide to the bathroom, stairway, child's nursery and where a person is convalescing.

It is an object of the present invention to provide a molded shell wherein the parts of the shell serve to hold the electrical components.

Another object of my invention is to provide a molded shell wherein the electrical components may be inserted into complementary cavities within the shells and when the shell cavities are fitted together the entire unit is assembled.

Another object of my invention is to provide a night light which is extremely simple and can be easily assembled without the use of complicated jigs or tools.

With the above and related objects in view my invention comprises two molded, separable shells, having cavities wherein electrical plug terminals may be inserted through the shell from the interior portion of the shell, wherein a switch mechanism is fitted into position, and wherein a lamp holding socket is held in position.

Other objects of my invention are to provide an improved device of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly efficient in operation.

With the above and related objects in view, my invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawings, in which:

Fig. 1 is a perspective view of a night light embodying my invention.

Fig. 2 is an exploded view of the elements comprising my invention wherein the view is taken from the prongs looking towards the portion of the shell having the shade.

Fig. 3 is a fragmentary sectional view taken through the shell portion through which the prongs project.

Fig. 4 is a perspective view of the night light viewing it from the direction of the switch knob and the shade cavity.

Fig. 5 is a view similar to Fig. 3 except that the switch is in closed position.

Fig. 6 is a perspective view similar to the perspective view of Fig. 2, but wherein the view is from the opposite direction from that shown in Fig. 2.

Referring now in greater detail to the drawings in which similar reference characters refer to similar parts, I show in Figs. 1, 2 and 3, a combination plug-in electrical socket and switch, known as a "night light," comprising a molded shell, generally designated as A, which is complementary to the molded shell B. The molded shells A

and B, together provide the housing or casing for the electrical components hereinafter further described and also provide a holding means for the electrical components. The molded shell portion A also provides a shade for a bulb or lamp. A prong terminal, generally designated as C, serves to provide one electrical contact and also serves to be one contact of an electrical switch. A second spring contact, generally designated as D, complementary to the contact C is engaged by a rotatable insulated shaft, generally designated as E, which acts as a control shaft for the electrical switch of the night light. The control shaft E is mounted upon the molded shell A.

The spring contact D is adapted to have one end thereof engaged by one contact of the lamp or screw type of bulb. The second prong F serves to complete the electrical circuit to a convenience receptacle and also has a screw shell which houses and holds an electric bulb G securely fastened thereto. The screw shell serves as the second contact for the lamp circuit.

When assembled, as illustrated in Figs. 3 and 5, it is to be noted that the contacts or prongs C and F are aligned to project through suitable openings **10** and **12** in the shell B. There are well defined cavity openings in the shell B for holding the prong C in position. A locating wall **14** in the cavity B serves to align the contact prong C in one predetermined position. A notch **16** receives an extension **18** on the contact prong to interfit therewith so that the contact prong C cannot rotate and is definitely located in position. A circular opening **20** on the interior of the molded cavity B serves to receive the circular end **22** of the rotatable switch knob E. The end **24** of the switch button **22** is flat and is adapted to be rotated so that its edge **24A** can press against the side **26** of the spring contact D to force the end **28** of the spring contact against the lateral extension **18** on the contact prong. Thus, to open the switch, the knob handle E is rotated so that the spring contact D will spring away from physical engagement with the contact prong C (see Figs. 3 and 5), or to close the circuit the knob handle E forces the spring Contact D in engagement with the contact prong C.

It is to be noted that the spring contact D has at its upper portion a downwardly turned end **30**, an offset **32** and then a substantially parallel portion **34**, which is substantially parallel to the end **30**. Another offset **36** of the spring contact D is integrally formed with the flexing part of the arm **26**.

The portion **30**, **32** and **34** of the spring contact arm D of the switch fits within a suitable recess **38** and **40** in the cavity B. The shoulder **36** of the contact D is adapted to abut a shoulder **42** of the casing B whereby the bending or flexing of the spring arm **26** is limited and whereby the spring contact D will have a tendency to spring out of electrical engagement with the spring contact portion **18** in order to make a quick electrical break to prevent "freezing" of the contact. The offset **32** of the spring contact arm D is adapted to have the central portion of the screw type bulb G engage it in order to provide one side of the electrical circuit through the lamp. An elongated recess **44** in the casing B and a mirror image recess **44A** in the casing A serves to receive the connecting portion **46** of the prong F and at the end of the connecting portion **46** of the prong F a screw type bulb receptacle **48** is securely attached, which receptacle is adapted to receive a 110 volt miniature type of electrical bulb.

The support **46A** for the screw type receptacle **48** extends into a recess **41** in the molded shell B. The edge **44B** is adapted to be abutted by the connecting portion **46** and when a bulb G is screwed into the receptacle, the force of the bulb against the surface **32** of the spring contact arm D will not force the receptacle

out of the molded shell B. If the bulb G should be tightly screwed against the surface 32, the extension 46A abuts against the wall of its recess and the edge 44B is abutted by the connecting portion 46. This construction enables the various elements to withstand hard usage.

The molded shell portion A has a cavity therein 49A which serves as a shade. Hence, the shell A serves the dual purpose of serving as a shell for the electrical members and also as a shade for the lamp.

Mirror image recesses appear in each of the cavities A and B to appropriately align the electrical parts. The shell A (Fig. 2) has mirror image recesses 38A, 40A and 42A, of the recesses 38, 40 and 42 respectively of the shell B (Fig. 6). The wall 14A in shell A is aligned with the wall 14 of shell B. It should be noted that the circular enlarged portion 50 of the button E is adapted to rotate within a cavity 52 of the shade A and that the pintle 22 on the end of the turn control button E is adapted to rest on a bearing 20 in the shell B. In other words, an opening 54 through the shell A receives the turn knob E and then the enlarged portion 50 fits within the cavity 52 to ride upon the bearing 56A (Fig. 2) and the flat portion 24 of the turn knob button is adapted to ride between a wall 56 (Fig. 3) of the cavity 52 and the spring portion 26 of the unit. The ends 24A, 24A serve to engage the wall 56 and the flexible arm 26 whereby electrical contact is made between the prong C and the spring contact D. This provides for good electrical contact.

In the assembly of the night light, the contacts C and F are placed through the molded casing B, the switch knob or rotatable control button E is placed through the cavity A, the spring contact D is placed in position upon the cavity B and a pair of holding screws 58 pass through holes 59 from the outside of the molded shell B to be threaded in suitable complementary threads 60 on the shell A. The entire unit is locked in position so that it provides a pair of prongs to fit into a convenience receptacle, the bulb G is screwed into the socket 48 and the switch can make or break the electrical circuit by way of the contact prong C and the spring contact D. The shade 49 shields the bulb from direct glare.

Although my invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

I claim:

A night light comprising a plug base made of a pair of molded shells, a pair of electrical prongs partially projecting through openings in one of said molded shells, a switch mounted within said molded shells, said switch including a spring contact, one end of said spring contact being adapted to engage one of said prongs and the other end of said spring contact being adapted to engage a portion of an electric light bulb, a rotatable handle of insulating material within a cavity of said molded shells and extending exteriorly of said night light, a flat portion of insulating material as part of said handle and being adapted to have an edge of said flat portion press said one end of said spring contact against one of said prongs, a plurality of cavities within said shells whereby said prongs are held only by said pair of molded shells to securely hold said prongs firmly in position, a screw base securely attached to the other of said pair of prongs, and means on said shell to prevent said screw base from being forcefully pulled out of said molded shells if a bulb should be tightly screwed into said screw base.

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