

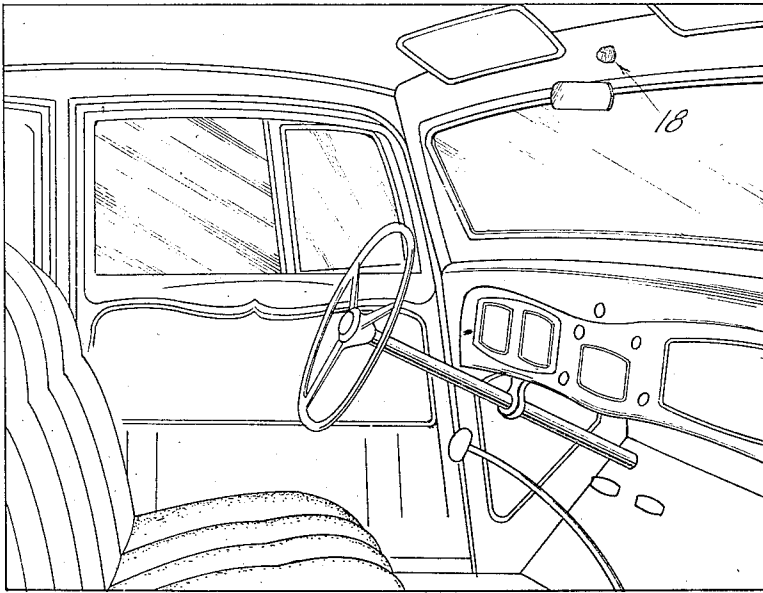
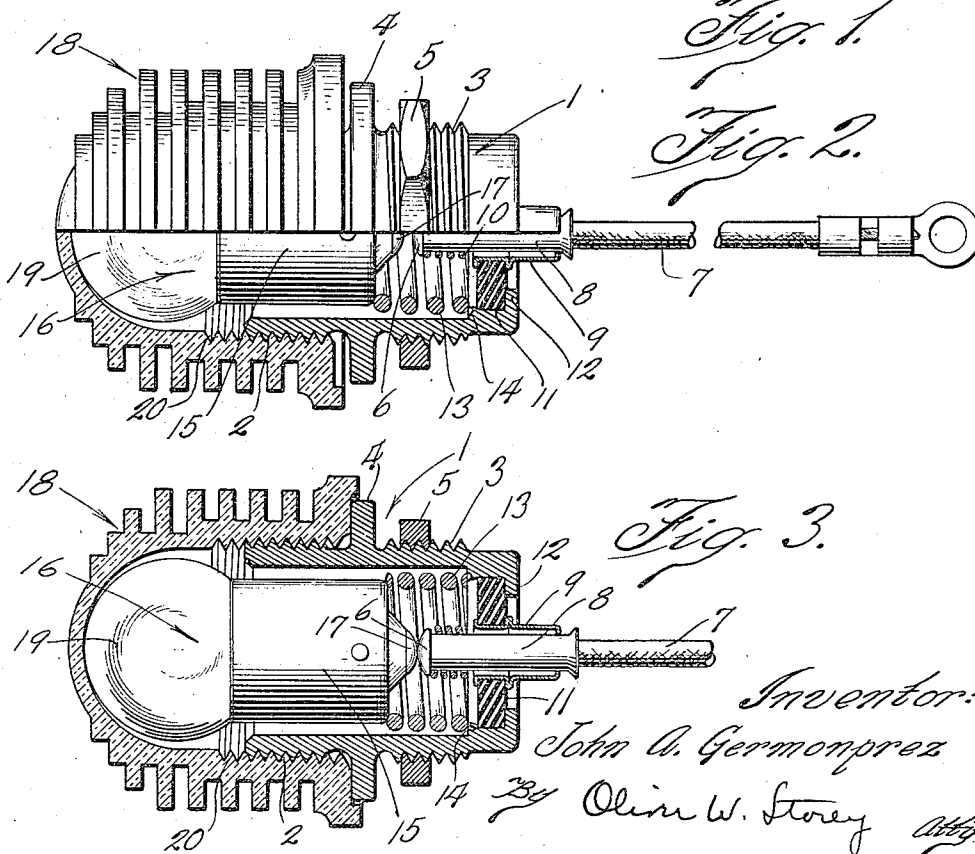
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ILLUMINATING DEVICE

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ILLUMINATING DEVICE

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This invention relates to illuminating devices, and more particularly to a combined light and switch with an improved lamp and globe mounting.

5 The principal object of my invention is to provide a combined lighting fixture and switch for use particularly with small size battery operated lamps, which is susceptible of ornamentation. My invention is directed particularly to an
 10 illuminating device for automobile interiors, but many other advantageous uses will become apparent from its description.

In carrying out my invention, I provide a socket upon which a globe of transparent or
 15 translucent material is screwed to form a shell which completely encloses the lamp together with the lamp and socket terminals. This globe is easily removable when it is necessary to replace a burned out lamp. It can readily be
 20 formed in any of a number of ornamental designs and can be adapted to distribute the light outwardly from the socket or radially from the lamp filament in any proportions as desired.

As is customary in the art when a single contact type of lamp is used, the socket of my device forms one terminal, while a second terminal is brought into the socket and insulated therefrom. A coil spring inside of the socket bears upon the metal base of the lamp, maintaining
 25 electrical connection between these two parts. At the same time, the spring acts to prevent the lamp from entering the socket sufficiently to effect contact between the central lamp terminal and the insulated central socket terminal. In
 30 order to complete the lamp circuit, means for forcing the lamp into the socket against the spring pressure must be provided. I accomplish this by making the globe in such size and shape as to bear upon the top of the lamp bulb and
 35 force the bulb into the socket as the globe is screwed onto the socket.

In the accompanying drawing I have shown one embodiment of my invention. In the drawing,

45 Fig. 1 shows my device installed in an automobile;

Fig. 2 is an elevation partly in section showing the assembly in open circuit position;

50 Fig. 3 is a longitudinal section showing the assembly in closed circuit position.

Referring to the drawing, the reference numeral 1 designates a lamp socket formed of metal or other conducting material and having threads 2 and 3 formed on its external surface. An annular flange 4 projects outwardly from socket 1

between threads 2 and threads 3 to cooperate with nut 5, screwing on threads 2, to give rigid support to socket 1 when the device is installed by tightening nut 5 upon a supporting member not shown. Socket 1 comprises one terminal of the source of electrical energy. The other terminal 6 is brought into socket 1 by means of wire 7 terminating in sleeve cap 8 which is adapted to reciprocate in guide 9, spring 10 being provided to retain terminal 6 in its normal position within socket 1 and the open end of sleeve cap 8 being flared in assembling to limit the inward motion of terminal 6. Guide 9 is mounted in the bottom of socket 1 by means of insulating disc 11. Inwardly extending flange 12 forms a cup to receive disc 11 which on assembling is securely fixed in place in the cup by swaging part of shoulder 13 inwardly to form a retaining flange.

Spring 13 is positioned within socket 1 to rest upon shoulder 14 in the bottom of socket 1 and to bear upon metal base 15 of lamp 16 thereby holding central terminal 17 of lamp 16 normally out of contact with terminal 6. Spring 13 is formed of conducting material and being in contact with base 15 which is one terminal of lamp 16 and with socket 1 which is one terminal of the source of electrical energy, serves to electrically connect these two terminals.

In lieu of the usual practice of providing a switch separate from and in addition to the illuminating device itself, I use globe 18 to provide circuit closing means. Globe 18 is preferably formed of a moulded plastic such as "Tenite" or "Plaskon", or of glass or other transparent or translucent material. It may be designed in a number of ornamental shapes and colors and may be constructed to distribute the light for any particular purpose as desired. The larger proportion of the light may be thrown forward, or the top of globe 18 may be thickened when it is made of a translucent material to increase the proportion of light distributed radially from the lamp filament, or either the top of globe 18 or the lateral surface may be blanked off to prevent the passage of light through that portion entirely, if desired.

The interior of globe 18 is shaped to receive and bear upon bulb 19 of lamp 16, as globe 18 is screwed onto socket 1, threads 20 being provided in the interior of globe 18 at its mouth for this purpose. In operation, globe 18 is screwed onto socket 1 to force lamp 16 into socket 1 against the pressure of spring 13 until contact is made between lamp terminal 17 and socket terminal 55

6 to close the circuit. Flange 4 operates as a stop to limit the movement of globe 18 on socket 1, a short travel being allowed after contact of terminals 6 and 17 to insure a good connection. 5 Terminal 6 is allowed to move inwardly against the pressure of spring 10 to prevent breakage of bulb 19 as pressure is applied. Unscrewing globe 18 slightly will release the pressure upon bulb 19, and spring 13 will cause lamp 16 to 10 move outwardly to again open the lamp circuit.

It will be seen by those skilled in the art that my invention offers a combined light and switch capable of advantageous adaptation to many uses. All electric contacts are enclosed in an air-tight shell, thereby preventing access of moisture and debris which cause corrosion and result in poor connections. Many difficulties experienced in the use of sockets at present employed are obviated, such as the sticking of the lamp base in the socket shell or the fouling of switches due to corrosion or presence of foreign materials.

Lamps designed to be mounted in a socket by means of a bayonet type of connection may be used in my device, although the base pins are not needed. Thus the cost of manufacture of lamps can be decreased by the use of my invention. The pressure of spring 13 operates to hold the lamp securely in the socket without danger of vibration and the construction of the interior of globe 18 serves as a centering means for bulb 19 to insure even light intensity on the entire lateral surface of globe 18.

Although my invention is adaptable to a multitude of uses, it has particular utility as an ornamental light on automobiles, and may be used for interior lighting by mounting the device above the windshield where it is convenient to the operator, or it may be mounted on the ceiling as a dome light or on the instrument panel.

While but one embodiment of the invention is illustrated in the drawing, it is understood that the invention is not limited thereto, but is limited only by the scope of the appended claims.

I claim:

45 1. In combination in an illuminating device of the class described, a metal socket having a cylindrical body open at one end with an externally threaded portion near the mouth thereof, a unitary light permeable globe having an internally threaded mouth adapted to screw onto 50 said externally threaded mouth of the socket, said globe otherwise being imperforate, an external flange on said socket to limit the travel of said globe onto said threaded mouth of said 55 socket, an insulator supported in the other end of said cylindrical body, means supported on said insulator providing a contact which lies substantially on the cylindrical axis and which is resiliently displaceable along the axis of said 60 cylinder for a limited distance, a lamp consisting of a glass bulb and a base, said bulb being positioned substantially within said globe and said

base being positioned substantially within said socket, a helical metal spring in said socket having its axis lying substantially parallel to the cylindrical axis of the socket and being configured to avoid electrical engagement with said 5 center contact of the socket, and central and excentral contacts on the end of said lamp base for engaging said center contact of said socket and said spring, said spring engaging the metal of said socket, said globe having a concave interior end wall for engaging the lamp bulb to 10 hold the lamp against said spring, said spring being adapted to hold said lamp base out of engagement with the central contact in said socket and against the concave interior end wall of said 15 globe, the threaded portions at the mouths of said socket and globe being adapted to hold said globe and socket in assembled relation without holding said lamp base against the central contact of said socket, said flange on said socket being 20 so positioned as to permit said globe and socket to be screwed together to force said lamp base against the central contact of said socket.

2. In combination in an illuminating device of the class described, a metal socket having a 25 cylindrical body open at one end with an externally threaded portion near the mouth thereof, a unitary, light permeable globe having an internally threaded mouth adapted to screw onto said externally threaded mouth of the socket, 30 said globe otherwise being imperforate, an insulator supported in the other end of said cylindrical body, means supported on said insulator providing a contact which lies substantially on the cylindrical axis and which is resiliently displace- 35 able along the axis of said cylinder for a limited distance, a lamp consisting of a glass bulb and a base, said bulb being positioned substantially within said globe and said base being positioned 40 substantially within said socket, a helical metal spring in said socket having its axis lying substantially coincident with the cylindrical axis of the socket and being of such size as to avoid electrical engagement with said center contact 45 of the socket, and central and excentral contacts on the end of said lamp base engaging said center contact of said socket and said spring, said spring engaging the metal of said socket, said globe having a concave interior end wall for engaging the lamp bulb to hold the lamp against 50 said spring, and to retain said lamp in place, said spring tending to hold said lamp base out of engagement with the central contact in said socket and against the concave interior end wall of said globe, the threaded portions at the 55 mouths of said socket and globe being adapted to hold said globe and socket in assembled relation while permitting said globe and socket to be turned relative to each other to move said center contact of said lamp into and out of engagement 60 with the central contact of said socket.

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