To all whom it may concern:

Be it known that I, GEORGE J. STICHTHOFF, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Incandescent-Electric-Lamp Plugs, of which the following is a specification.

My invention relates to improvements in incandescent electric lamps. One of its objects is to provide an incandescent light bulb having a plug adapted to be interchangeably employed with sockets of different types. Another object is to provide a simple, inexpensive and reliable combination of plug contacts to enable the plug to be interchangeably employed with sockets of different types. Another object is to provide a plug for the foregoing purpose having no detachable parts or projecting parts liable to become lost or injured and rendered inoperative. My invention also comprises certain details of form combination and arrangement, all of which will be fully set forth in the description of the accompanying drawings in which:

Figure 1 is a perspective view of an incandescent bulb and plug embodying my invention.

Figure 2 is a perspective view of one type of socket.

Fig. 3 is a plan view of another type of socket.

Fig. 4 is a sectional view illustrating the lamp plug in position in one of the sockets illustrated in Fig. 2.

Fig. 5 is a sectional view illustrating the lamp plug in position in the socket illustrated in Fig. 6.

For use on automobiles and for other purposes two different types of incandescent lamp sockets are in use, one type Figs. 2 and 4, in which the shell A of the socket constitutes one terminal and the central stud B insulated therefrom constitutes the other terminal. In the other type of socket Figs. 3 and 5 the shell of the socket A' is not in the lamp circuit at any time, and current is carried to and from the lamp by means of two studs D and E each insulated from the other and from the socket A', thereby providing a socket adapted to be attached to metal structural parts C' without liability or short-circuiting the lamp, while it is immaterial whether or not current is conducted from shell H, Fig. 4 to the structural part C to which it is attached.

In the accompanying drawings illustrating the preferred embodiment of my invention F represents the glass bulb of an incandescent electric lamp. G represents the lamp filament, and H the metal plug to enter and secure the lamp in the lamp socket. The plug is provided with projecting studs I which enter channels J in the sockets, which channels have pockets at their inner ends to receive and retain the studs I to lock the plug in place in the socket. Each type of socket is provided with the same type of channel J.

The metal plug H is filled and sealed by means of a core body K of insulating material in which is embedded a centrally located metal contact L which is connected by a wire V embedded in the core material K to one terminal M of the filament. A metal contact N at one side of contact L is embedded in the core material K and has a wire W also leading to the terminal M. A metal contact P, located in line with contacts L and N at the opposite side of contact L is embedded in the core material K and has a wire Q leading through the core material to the opposite filament terminal R. A branch S of wire Q leads through the core material and is electrically connected to the metal plug H. The core K may be of any suitable insulating material, preferably one which may be introduced in a fluid or plastic condition and subsequently hardened so as to retain the several contacts and wires rigidly in position. The wires leading to the filament terminals through the core material may also be insulated separately if desired. The contacts L, N, and P are insulated by the core from each other and from the plug H.

As illustrated in Fig. 4 when the plug H is inserted into the type of socket illustrated in Fig. 2, the shell A and plug H are brought into electrical contact to conduct the current by wire S to the filament terminal R while the central spring pressed stud B makes electrical contact with contact member L to connect the current to or from filament terminal M, thereby completing a circuit through the lamp filament.

When the lamp plug H is inserted into a socket of the type illustrated in Figs. 3 and 5 the two studs D and E of the socket are...
respectively establish electrical contact with the plug contacts N and P, and the current flows through stud D to contact N thence by the wire to terminal M, through the filament to terminal R and thence by wire Q and contact P to stud E.

It will be noted that there are no parts detachably carried by the lamp plug, or any parts projecting so as to be rendered inoperative or otherwise injured. The studs I and channels J insure the contacts of the plug and socket registering irrespective of which socket is employed.

The structure herein illustrated and described is capable of considerable modification without departing from the principle of my invention.

Having described my invention, what I claim is:

1. In an incandescent lamp a bulb, a filament, and a plug comprising a tubular casing of conducting material, forming one of the plug terminals and electrically connected to one terminal of the filament, a core of insulating material, a contact member centrally mounted in the core body and exposed at the rear end thereof and in electrical contact with the opposite filament terminal, and a plurality of contact members located at opposite sides of said central contact member and mounted in the core body and exposed at the rear end of the core, one of said eccentrically mounted contact members being in electrical contact with one filament terminal and the opposite eccentrically mounted contact member in electrical contact with the opposite filament terminal.

2. An electrical plug to be interchangeably employed with sockets of different types comprising a cylindrical shell of conducting material to constitute one electrical contact, a core body within said shell a contact member embedded centrally in the core body and exposed at one end thereof, and two contact members embedded in the core body at opposite sides of said central contact member and exposed at one end thereof, said several contact members being insulated from each other by said core body, and adapted to be selectively employed in pairs to complete an electrical circuit.

3. In an incandescent electric lamp to be interchangeably employed with lamp sockets of different types a bulb, a filament located therein with terminals at the exterior of the bulb, a plug carried by said bulb and comprising a cylindrical shell of conducting material to constitute one of the plug contact members, a core body of insulating material occupying the interior of said shell, a contact member embedded centrally in said core body and exposed at the rear end thereof, two contact members embedded in said core body between the said central contact member and said shell and exposed at the rear end of the core body, and conductors embedded in said core body connecting said respective contact members in pairs to opposite terminals of said filament.

4. In an incandescent electric lamp a bulb, a filament located therein and provided with terminals at the exterior of the bulb, a plug of insulating material attached to said bulb where said filament terminals emerge, a series of four contact members carried by and insulated from each other by the insulating material of said plug, and conductors leading through the body of said plug to connect said contact members up in pairs with the terminals of said filament.

In testimony whereof I have affixed my signature in the presence of two witnesses.

GEORGE J. STICHTENOTH.

Witnesses:

C. W. MILES,
W. THORNTON BODERT.