G. E. MERCHANT.

ELECTRIC LAMP.

APPLICATION FILED SEPT. 7, 1916.

1,321,934.

Patented Nov. 18, 1919.

Fig. 1

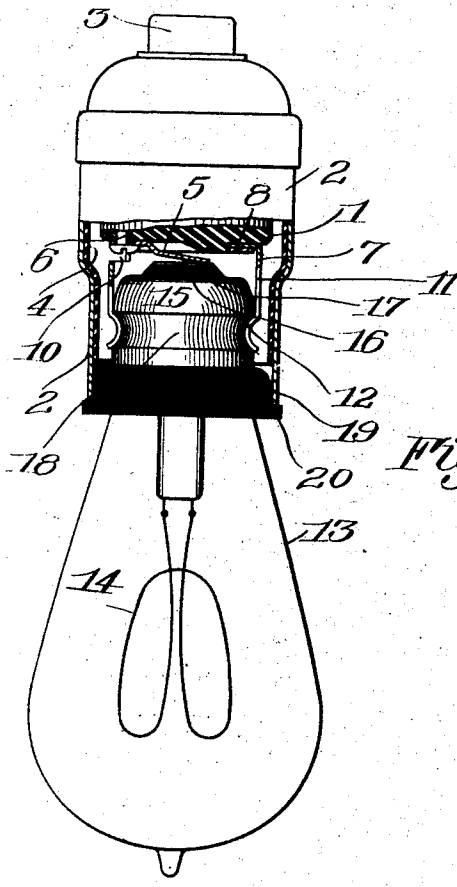


Fig. 2

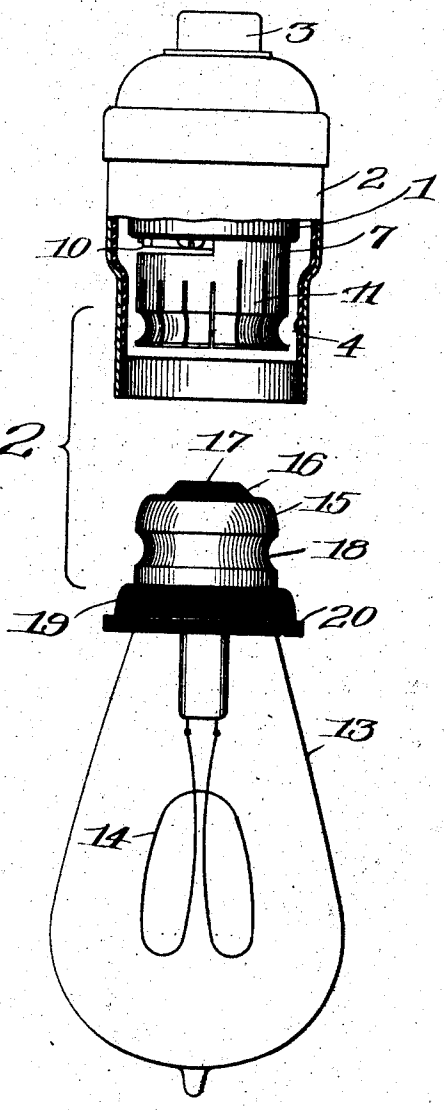
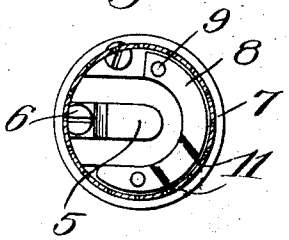


Fig. 3



WITNESSES:

Walter B. Payne

Russell B. Griffith

INVENTOR

Gerald E. Merchant

BY

Church & Rich

His ATTORNEYS

UNITED STATES PATENT OFFICE.

GERALD E. MERCHANT, OF ROCHESTER, NEW YORK.

ELECTRIC LAMP.

1,321,934. Specification of Letters Patent. Patented Nov. 18, 1919.

Application filed September 7, 1916. Serial No. 118,799.

To all whom it may concern:

Be it known that I, GERALD E. MERCHANT, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Electric Lamps; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to electrical appliances and more particularly to incandescent electric lamps and it has for its object to provide a simple, cheap and convenient lamp and lamp socket that will permit the lamp to be inserted or withdrawn with little effort from the socket and will hold the lamp secure and in proper and safe electrical contact when in use. To these and other ends the invention resides in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claim at the end of the specification.

In the drawings:

Figure 1 is a view of a lamp and socket constructed in accordance with and illustrating one embodiment of my invention, the lamp being in elevation and the socket in partial section, through both the exterior casing and the interior parts;

Fig. 2 is a partial section through the casing of the socket only showing the manner in which the lamp is detached therefrom, and

Fig. 3 is an end view of the socket.

Similar reference numerals throughout the several views indicate the same parts.

Referring more particularly to the drawing, 1 indicates an ordinary insulating block or plug base and 2 a cylindrical outer casing secured thereto in the usual or any preferred manner and provided with a coupling collar 3 for attachment to the fixture. The casing may be in one or two parts as desired and has a lining of insulating material 4 in accordance with the common practice. In the practice of my invention, I secure to the base 1 in a central position a spring contact finger 5 that may be held at one side by a screw 6 electrically connected to one of the circuit wires. Surrounding the contact finger is another contact member 7 having base flanges 8 held to the member 1 by screws 9 electrically connected to the other circuit wire, said member 7 being, of course, spaced from the contact member 5.

This member 7, I provide in the form of a cylindrical socket shell cut away at 10 to clear the contact finger 5 and its fastener and spaced from the walls of the outer casing 2. The walls of the shelf are divided by means of longitudinal slots shown in Fig. 2 into a plurality of outwardly yieldable spring fingers 11 that are indented near their outer or free ends to individually provide inwardly projecting retaining shoulders 12 and collectively forming a yielding circumferential rib on the inside of the shell. The indentations are so placed or the fingers otherwise so formed as to provide a flare at the open end of the socket.

The lamp consists of the usual bulb 13 containing the film at 14 and an attached plug 15, the metal surface of which is connected to one terminal of the film and insulated at 16 from a central contact member 17 connected to the other terminal of the film. The plug and metal contact member 15 is encircled by a groove 18 of a substantially complementary formation to that of the rib on the inside of the shell 7 as formed by the retaining shoulders 12 on the yielding fingers 11. Below this groove 18 is a rounded collar 19 of insulated material having a flange or shoulder 20.

When the lamp is operatively assembled with the socket, the plug 15 is thrust into the shell 7 as shown in Fig. 1, the fingers 11 yielding laterally until the retaining shoulders 12 engage within the groove 18 and hold the plug in place by confining the locking shoulder formed by the inner wall of the groove. In order that the plug be thrust in sufficiently for this interlocking to take place, the central contact member 17 on the plug that contacts with the central spring and contact finger 5 in the socket places the latter under tension, not only insuring good contact at that point but also improving the contact at 12, where the other circuit connection is made through contacts 7 and 15. The collar 19 fits within the end of the casing 2 to steady the plug against lateral movement in the socket shell and the flange or shoulder 20 abuts the end of the casing and limits the inward movement.

The lamp plug being thus insertible by a direct inward thrust, it is obvious that it

may be removed readily by simply pulling outwardly upon the bulb 13, as shown in Fig. 2, the fingers 11 yielding laterally toward the spaced wall of the casing until their retaining shoulders 12 ride out of the groove 18.

It will be recognized that the bulb and socket connection of my invention is quite as simple and cheap to manufacture as the forms now in use in which the lamp plug is screwed into the socket, while the latter is saved from the twisting strain incident to a threaded connection and it is very much more convenient for the user to simply thrust the plug straight into the socket or pull it out with one movement.

I claim as my invention:

In an electric lamp connection, the combination with a socket comprising an outer casing, a lining therefor of insulating material terminating short of the mouth of the casing and two contact members, one of which is constituted by an inner cylindrical shell spaced from and completely inclosed within the casing and its lining and the walls of which are divided into a plurality of outwardly yielding spring fingers formed with inwardly indented retaining shoulders, of a lamp plug having two contact members adapted to coöperate with those in the socket, respectively, said plug being insertible in the socket shell by a direct thrust and being provided with a circular circumferential groove within which all of the retaining shoulders on the fingers are adapted to simultaneously engage, and a rigid, flanged collar of unyielding insulating material fixed to the base of the plug and fitting within and abutting endwise against the mouth of the socket casing to steady the plug in the latter, said collar being also adapted to abut the rim of the insulating lining of the socket casing to provide an uninterrupted insulating interior wall surface for the latter.

GERALD E. MERCHANT.

Witnesses:
RUSSELL B. GRIFFITH,
HARRIET VAY.