F. A. SWAN.

STRAIN RELIEF FOR LAMP SOCKETS.

APPLICATION FILED MAY 4, 1908.

962,063. Patented June 21, 1910.

Fig. 1.

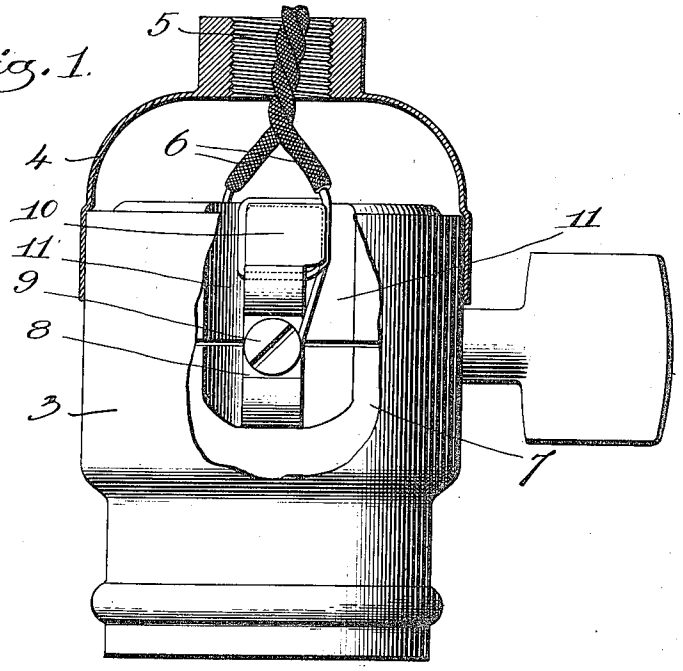


Fig. 2.

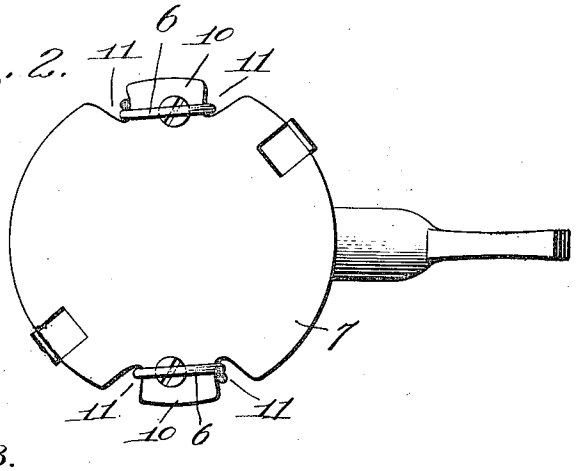
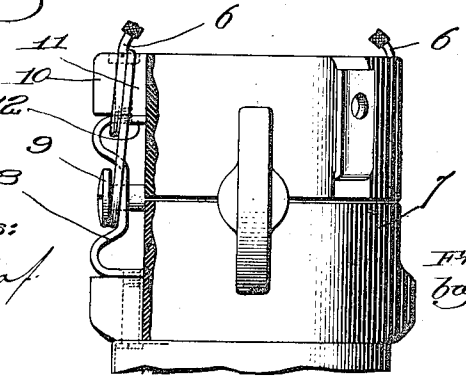


Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK A. SWAN, OF CLIFTONDALE, MASSACHUSETTS.

STRAIN-RELIEF FOR LAMP-SOCKETS.

962,063. Specification of Letters Patent. Patented June 21, 1910.

Application filed May 4, 1908. Serial No. 430,632.

To all whom it may concern:

Be it known that I, FREDERICK A. SWAN, a citizen of the United States, residing at Cliftondale, county of Essex, and State of Massachusetts, have invented an Improvement in Strain-Relief for Lamp-Sockets, of which the following description, in connection with the accompanying drawing, is a specification, like numerals on the drawing representing like parts.

This invention relates to electrical fittings and especially to lamp sockets, and it has for its object to provide a novel construction adapted to relieve the connection between the conducting wires and the terminals from any strain to which the wires may be subjected.

It has heretofore been the common practice to tie the conducting wires into a knot immediately inside of the cap of the lamp socket so that any strain to which the conducting wires are subjected is resisted by the knot coming against the cap of the socket and is not transmitted to the binding screws or other means for connecting the wires to the terminals. This practice of forming a knot in the wires is not favored by fire underwriters, and the object of the present invention is to provide a novel construction of socket whereby the porcelain or other body of insulating material to which the terminals are connected is provided with means adapted to have sufficient frictional engagement with the conducting wires to withstand any strain to which the wires may be subjected, thus relieving the connections between the wires and the terminals from all strain.

I have shown in the drawing one embodiment of my invention which is sufficient to illustrate the principle thereof. I wish it understood, however, that this is merely a selected form of the invention and that the drawings do not show all forms in which the invention may be embodied.

Figure 1 is a side view of a lamp socket embodying my invention, the cap of the socket being shown in section, and a part of the shell being broken out to better show the construction; Fig. 2 is a top plan view of the porcelain body of the socket showing the manner of relieving the terminals from strain, the cap and shell of the socket being omitted; Fig. 3 is a side view of Fig. 2 with a portion of the porcelain body broken out.

3 is the shell of an ordinary lamp socket, 4 the cap having the opening 5 through which the conducting wires 6 extend; 7 is the body of porcelain or other suitable insulating material which carries the terminals 8 to which the conducting wires are secured. The electrical connection between the conducting wires 6 and the terminals 8 is usually secured by means of binding screws 9 around which the bared ends of the wires 6 may be passed. In order to relieve this connection between the wires and the terminals from any strain to which the wires may be subjected due to the weight of the socket or any other cause, I have in the present embodiment of my invention formed the body 7 with portions about which the conducting wires may be wrapped for the purpose of affording frictional engagement between said wires and the body 7 to resist any strain to which the wires may be subjected. It is within my invention to make the portion of the body about which the wires are wrapped or with which they have frictional engagement of any suitable shape or configuration adapted to secure the desired purpose. One convenient way of securing this end is to form the body 7 with strain-relief projections or horns 10 about which the wire may be wrapped, as shown in the drawings. These horns or projections may conveniently be formed by making the body 3 with the two grooves 11 which form between them the strain-relief projection or horn 10. Where the lamp socket embodying my invention is that known to the trade as the "Perkins" socket and which is made in substantial accordance with the Perkins Patent No. 626,927, it is convenient to form these two grooves 11 either side of the terminal 8 in such a manner that they connect with the recess in which the terminal sets because by this means the portion of the porcelain immediately above the terminal constitutes the strain-relief horn or projection about which the conducting wire may be wrapped. In wiring up a socket made in this way, each conducting wire is first passed down one of the grooves 11, then underneath the upper arm 12 of the terminal and beneath the horn 10, then up through the other groove, around over the top of the horn and down the first-named groove 11 to the binding screw 9 where it is attached to the terminal in usual manner. The wrapping of the wires about the projections 10 affords sufficient frictional engagement

between the wires and the projection so that any strain to which the wires are subjected is taken entirely by the projections and is not transmitted to the binding screws 9 or other means for electrically connecting the wires to the terminals.

It is not essential to my invention that the strain-relief portion of the porcelain be formed in the manner herein illustrated, for as I believe I am the first to provide a lamp socket wherein the body of insulating material carrying the terminals is formed with means to have sufficient frictional engagement with the conducting wires to relieve the terminals from strain, I intend to claim this feature broadly.

My invention is equally applicable to lamp sockets of the type known to the trade as the "Webber" sockets or the "Bryant" sockets or in fact to any lamp socket, it being simply necessary in order to embody my invention in any lamp that the body supporting the terminals whether made in one part or two should be provided with means to take the strain to which the wires are subjected and thus relieve the terminals from strain.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a lamp socket, the combination with a shell and cap, of a body of insulating material within the shell, and terminals secured thereto, said body having a projection which has a free end and about which the conducting wires may be wrapped thereby to relieve the terminals from strain.

2. In a lamp socket, the combination with a shell, of a body of insulating material within the shell, and terminals supported thereby, said body having integral therewith a strain-relief projection about which the conducting wire may be wrapped.

3. In a lamp socket, the combination with a body of insulating material, of terminals secured thereto, said body having a portion about which the conducting wires may be wrapped thereby to relieve the terminals from strain and a shell inclosing said body and covering said portion thereof.

4. An electric fitting, having an insulating body with open grooves in the side wall thereof, forming abutments to receive and hold a wire in a U-shaped bend, a terminal to which the wire is connected and an inclosing shell fitting over the insulation to close the otherwise open grooves, as and for the purpose set forth.

5. An electric fitting, having an insulating body with open grooves in the side walls thereof, forming abutments to receive and hold the wires, each in a U-shaped bend, terminals to which the wires are connected and an inclosing shell fitting over the insulation to close the otherwise open grooves, as and for the purpose set forth.

6. An electric lamp socket, having an insulating body with open grooves in the side walls thereof, forming abutments to receive and hold the wires, each in a U-shaped bend, lamp terminals and wire terminals, to which the wires are connected and an inclosing shell fitting over the insulation to close the otherwise open grooves, as and for the purpose set forth.

7. In an electrical fitting, the combination with an insulated body, of a terminal for the wire secured thereto, said body having an open groove to receive the wire, which groove is provided with portions extending in different directions, whereby the wire occupying the groove will have a circuitous course, and an inclosing shell fitting over the insulating body and closing the otherwise open grooves.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

FREDERICK A. SWAN.

Witnesses:
LOUIS C. SMITH,
THOMAS J. DRUMMOND.