No. 877,383. PATENTED JAN. 21, 1908.

F. A. SWAN.

MEANS FOR SECURING CORDS TO LAMP SOCKETS.

APPLICATION FILED MAR. 16, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

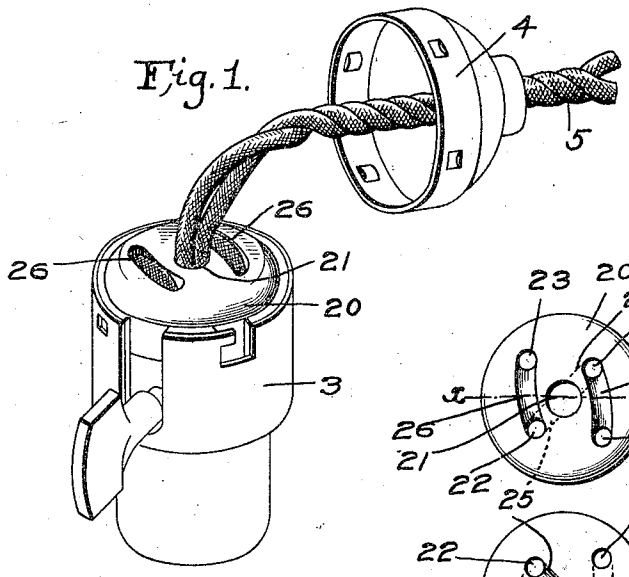


Fig. 3.

Fig. 4.

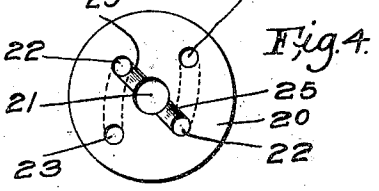


Fig. 2

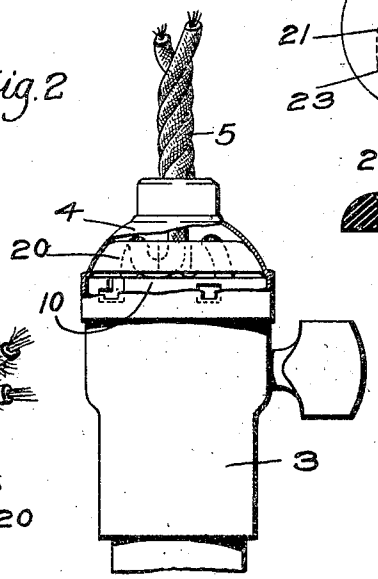


Fig. 5.

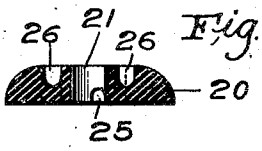
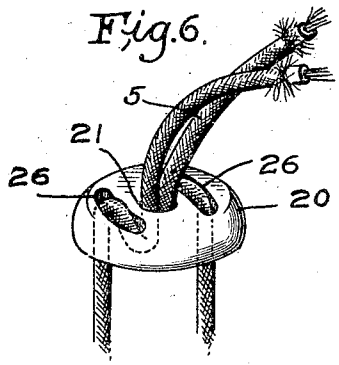


Fig. 6.



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MEANS FOR SECURING CORDS TO LAMP SOCKETS.

APPLICATION FILED MAR. 15, 1907.

2 SHEETS—SHEET 2.

Fig. 7.

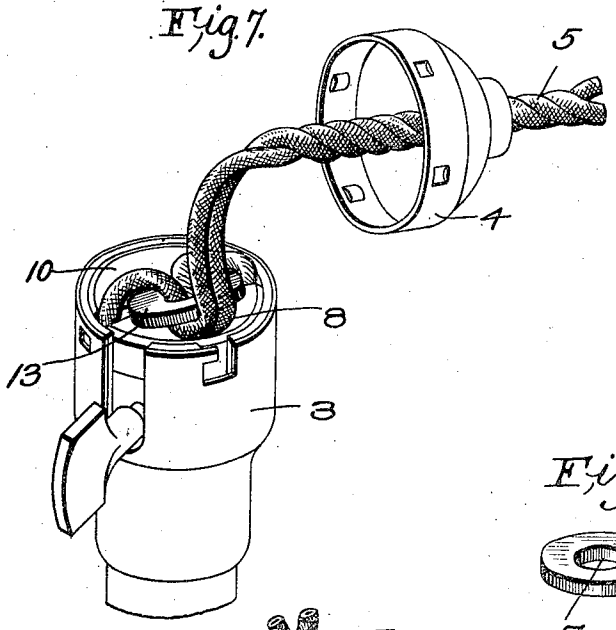


Fig. 9.

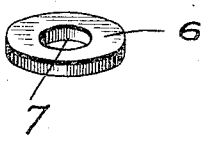
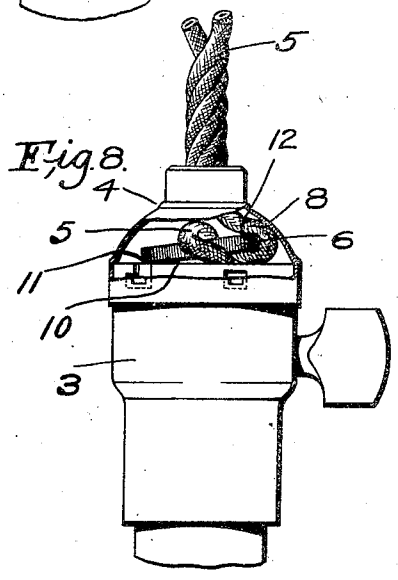


Fig. 8.



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UNITED STATES PATENT OFFICE.

FREDERICK A. SWAN, OF CLIFTONDALE, MASSACHUSETTS.

MEANS FOR SECURING CORDS TO LAMP-SOCKETS.

No. 877,383. Specification of Letters Patent. Patented Jan. 21, 1908.

Application filed March 15, 1907. Serial No. 362,582.

To all whom it may concern:

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

In securing the cords of a pendent incandescent lamp to the lamp socket it has been customary to knot the cords within the cap of the socket so that the weight of the lamp, shade and other accessories will come on the knot rather than on the connection between the cords and the terminals, for if the weight came on the latter the connection would be likely to become broken thus breaking the circuit. One disadvantage of thus knotting the cord is that in doing so the insulation is likely to become broken thus causing a short circuit.

The object of my invention is to provide novel means located within the socket of the lamp to take the entire strain on the cords due to the weight of the lamp, thus relieving the connections between the cords and terminals from this strain.

I will first describe some embodiments of my invention and then point out the novel features thereof in the appended claims.

In the drawings, Figure 1 is a perspective view of a lamp socket with the cap removed showing one embodiment of my invention; Fig. 2 is a side elevation of the socket with the cap in place, said view showing the cap partly broken out to better illustrate the invention; Fig. 3 is a top plan view of the means shown in Fig. 1 for relieving the terminals from strain; Fig. 4 is a bottom plan view thereof; Fig. 5 is a section on the line x—x, Fig. 3; Fig. 6 is a perspective view showing the way in which the device for relieving the terminals from strain is placed on the cords; Fig. 7 is a perspective view of a lamp socket with the cap removed showing another embodiment of my invention; Fig. 8 is a side elevation of the socket with the lamp in place, said view showing the cap partly broken out to better illustrate the construction; Fig. 9 is a perspective view of the strain-receiving means shown in Figs. 6 and 7.

The socket herein shown comprises the shell 3 and the cap 4, which latter is made detachable from the shell as usual. This cap has the usual opening in its upper end through which the cords or wires 5 pass. These parts may be of any suitable or usual construction and form no part of my present invention.

According to my invention I place within the socket beneath the cap a device which is adapted to take the entire strain on the cord due to the weight of the lamp and its connected parts, thus relieving the connection between the wires 5 and their terminals of all strain. In the preferred embodiment of my invention said device is separate from the various parts of the socket and is located between the porcelain member of the socket and the cap thereof. Since the device to be hereinafter described operates to receive any strain to which the cords may be subjected and to relieve the terminals from strain due to weight on or strain applied to the cords, I will for convenience hereinafter refer to said device as "strain-receiving means."

Referring first to the embodiment of the invention shown in Fig. 1 the strain-receiving means therein shown is in the form of a button 20 provided with apertures through which the cords 5 pass in such a way that said cords are bent around portions of the button sufficiently to preven them from being pulled through or out of said button. As herein shown, the button 20 is provided with a central aperture to receive both cords and a pair of apertures 22 and 23 for each cord. In using the device, the cords 5 are inserted through the central aperture 21 and then said cords are separated, and one cord is inserted up through one aperture 22 and the other cord through the other aperture 22 and then said cords are bent over and passed down through the two apertures 23, as plainly shown in the drawings. The ends of the cords after extending down through the apertures 23 are secured to the terminals of the lamp as usual. Preferably the central aperture 21 will be connected with each of the apertures 22 on the bottom of the button by means of a groove 25 which is of sufficient depth to receive the cord, and the apertures 22 and 23 will be connected by grooves 26 on the top of the button which grooves are of sufficient depth to receive the cords, as best seen in Figs. 1 and 6. This strain-receiving device is placed on the cords and then the cap 4 is slipped over the cords and secured to the shell 3, as usual.

The passing of the cords through the ap-

ertures causes the cord to be held with sufficient friction so that the entire weight of the lamp will come on the strain-receiving device and thus be transmitted to the socket and will not come on the connections between the cords 5 and the terminals of the lamp.

It will be noted that the button 20 fills the space between the porcelain member 10 to which the terminals are connected and the cap, and when the cap is on, said button forms a solid backing for the porcelain member and holds it securely in position. This is an advantage because it prevents said porcelain from having any loose play in the socket and holds the lamp firmly in position.

In the form of the invention shown in Figs. 7, 8 and 9, the strain-receiving means is in the nature of an annulus 6, and in using it the cords 5 extend from the terminals up around the annulus and then down through the aperture 7 therein then around the edge thereof, as shown at 8 in Figs. 7 and 8, and thence out through the aperture in the cap 4. Owing to the way in which the cords 5 are threaded through the annulus 6, any strain on said cords due to the weight of the lamp or any other cause tends to turn the annulus bottom side up from the position shown in Fig. 8, and the edge 11 of said annulus is thus brought against the porcelain member 10 while the opposite side or edge 12 of said annulus impinges either on the cap of the socket or on the portion 8 of the cords 5. The friction on the cord afforded by its passing around the edge of the annulus up through the center and over the edge thereof again is sufficient so that any strain to which the cord is subjected will be taken by the annulus and will not be transmitted to the terminals of the lamp.

In assembling the parts the annulus is slipped over the cord 5 with the face 13 thereof, Fig. 7, on the underside, and when said annulus has slid down to the shell of the socket 3 it is turned over into the position shown in Figs. 7 and 8, thereby bending the cord about it, the cap 4 may then be placed on the shell 3 in the usual manner. This construction has the advantage that the strain-receiving means is located entirely within the socket. The form of the invention shown in Figs. 7 and 8 also has the advantage that the strain-receiving means serves to keep the porcelain member 10 pushed forward into its correct position and to hold it firmly in such position.

While I have shown herein two forms of strain-receiving means located within a socket, I wish it understood that my invention is not limited to these two constructions, since I believe I am the first to provide a strain-receiving means located within the socket of the lamp. I desire, therefore, to claim this feature broadly.

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

1. The combination with a lamp socket of conductor cords leading thereinto, and strain-receiving means within the socket.

2. The combination with a lamp socket of conductor cords leading thereinto, of means within the socket to frictionally hold said cords thereby to relieve the terminals from any strain.

3. The combination with a lamp socket of conductor cords leading thereinto, a combined strain-receiving and lamp-positioning means within the socket.

4. The combination with a lamp socket having a cap of conductor cords leading thereinto, and a strain-receiving device within the cap, said strain-receiving device engaging both the cap of the lamp and the terminal-carrying member of the lamp thereby serving to hold the latter firmly in position.

5. The combination with a lamp socket including a shell and a cap, of conductor cords leading thereto, and strain-receiving means within said socket and having frictional engagement with the cords.

6. The combination with a lamp socket including in its construction a shell and a cap, of conductor cords leading thereinto, and strain-receiving means separate from said socket located therewithin and having frictional engagement with said cords.

7. The combination with a lamp socket comprising a porcelain member, a shell and a cap, of conductor cords leading thereinto, and a strain-receiving device separate from the porcelain member of the socket situated within the socket and having frictional engagement with the cords.

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,
MARGARET A. DUNN.