H. C. WIRT & F. W. SANFORD.

LAMP SOCKET.

APPLICATION FILED JUNE 22, 1908.

1,043,380. Patented Nov. 5, 1912.

Fig. 1.

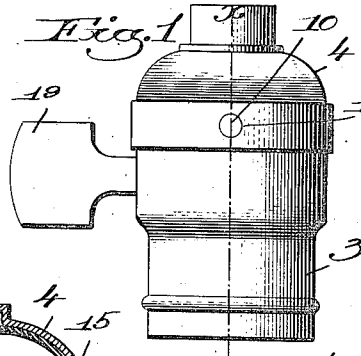


Fig. 7.

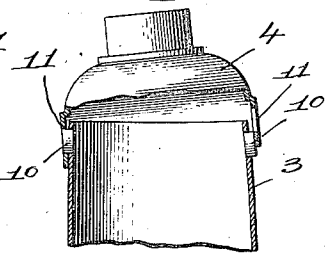


Fig. 2.

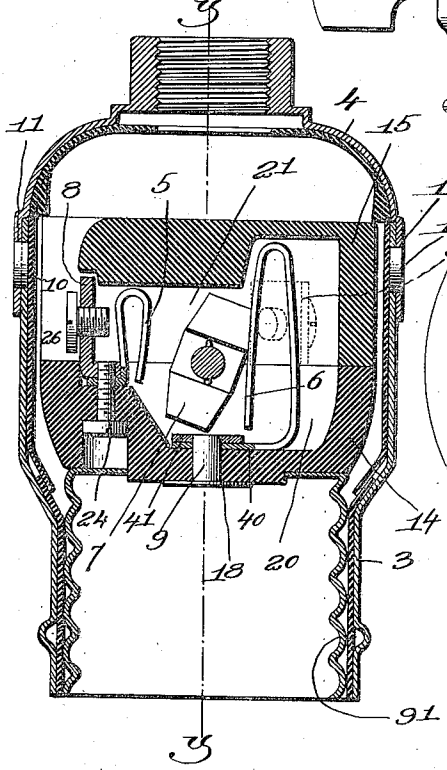


Fig. 3.

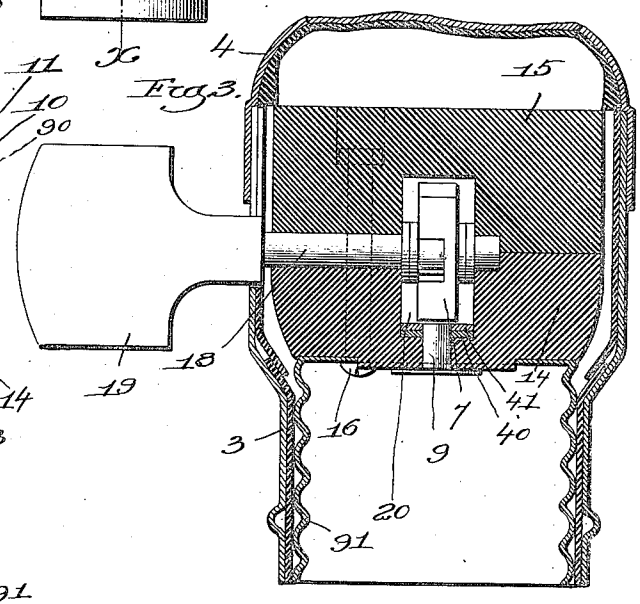


Fig. 4.

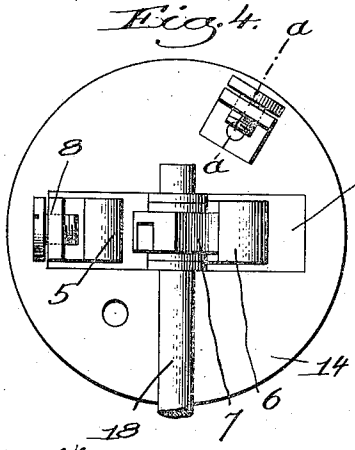


Fig. 5.

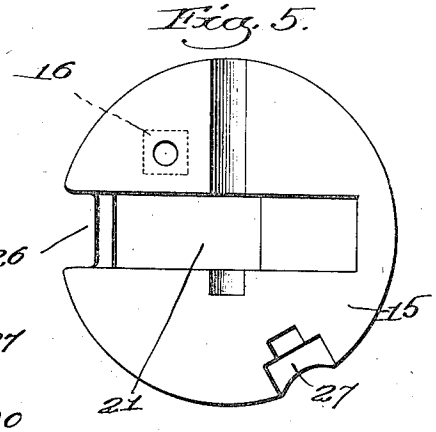
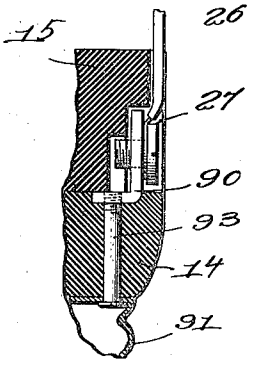


Fig. 6.



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UNITED STATES PATENT OFFICE.

HERBERT C. WIRT, OF PLYMOUTH, MASSACHUSETTS, AND FRANK W. SANFORD, OF CHICAGO, ILLINOIS.

LAMP-SOCKET.

1,043,380. Specification of Letters Patent. Patented Nov. 5, 1912.

Application filed June 22, 1908. Serial No. 439,705.

To all whom it may concern:

Be it known that we, HERBERT C. WIRT and FRANK W. SANFORD, citizens of the United States, and residents of Plymouth, county of Plymouth, State of Massachusetts, and Chicago, county of Cook, and State of Illinois, respectively, have invented an Improvement in Lamp-Sockets, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to lamp sockets and has for its objects to provide a novel means for retaining the cap to the shell of the socket and also to provide a novel manner of mounting the circuit terminals on the porcelain base.

In accordance with our invention the cap is held to the shell of the socket by providing one of the parts on opposite sides with projections of uniform cross-sectional area throughout their length, which projections enter apertures in the other part. This construction not only securely holds the two parts together, but prevents one part from turning on the other. The porcelain base of the socket is made in two sections, each of which is provided with cavities or recesses having such a relation to each other that when the sections are in position, suitable chambers are formed for receiving the switch mechanism and the circuit terminals. Both the switch mechanism and the circuit terminals are mounted on the lower section of the base and means separate from said terminals and switch mechanism is provided for securing the two sections together.

The novel features wherein our invention resides will be more fully hereinafter described and then pointed out in the appended claims.

In the drawings wherein we have illustrated one embodiment of our invention, Figure 1 is a side view of a socket embodying the invention; Fig. 2 is an enlarged sectional view on the line *x—x*, Fig. 1; Fig. 3 is a sectional view on the line *y—y*, Fig. 2; Fig. 4 is a top plan view of the lower half of the porcelain base with the circuit terminals and the switch contacts secured thereto; Fig. 5 is an under side view of the cap portion of the porcelain base; Fig. 6 is a section on line *a—a*, Fig. 4; Fig. 7 is a sectional view of the cap and shell showing the manner of removing the cap.

3 is the shell of the socket and 4 the cap thereof. Situated within the shell is the usual porcelain base which sustains the switch contacts 5 and 6, the contact 5 being electrically connected with a circuit terminal 8 to which one of the conducting wires may be attached, and the contact 6 being electrically connected to the usual center lamp terminal 9. 90 is the second circuit terminal to which the other conducting wire is attached and which is electrically connected with the screw shell 91. These are the parts which are commonly found in lamp sockets.

One feature of our invention relates to the manner in which the shell and the cap are secured together. In accordance with this feature of the invention, either the cap or the shell has extending therefrom on opposite sides thereof projections 10 which are received in apertures 11 formed in the other part. In the present embodiment of our invention the projections are carried by the shell and the apertures are formed in the cap.

We prefer to make the projections 10 of substantially uniform cross sectional area throughout their length and also to make them with all the sides thereof extending substantially at right angles to the wall of the shell. While it is within the invention to make the projections of any cross-sectional shape we prefer to make them cylindrical as shown in the drawing, in which case the apertures 11 will have a corresponding shape. The shell is slightly larger than the porcelain base so that it is possible to press the side of the shell inwardly adjacent either one of the projections 10 sufficiently to withdraw the projection from the aperture 11 and then to separate the cap and the shell at this side. The projections 10 extend radially so that the side walls thereof are perpendicular to the shell and form square shoulders for engagement with the walls of the apertures 11. As a result when the cap and the shell are locked together, it will be impossible either to turn the cap

with relation to the shell or to separate the cap from the shell by a longitudinal movement without first pushing inwardly on the side of the shell adjacent the cap, as seen in Fig. 7, to withdraw the projection from the aperture. These projections 10 may be either formed by striking up the material of the shell or may be in the form of pins or other projections secured to the shell.

One advantage of our present construction is that the projections and apertures may be placed at any desired points on the shell and cap. We prefer to place them opposite each other, although this is not essential to the invention. We prefer also to so place them that a line connecting them extends at right angles to the key shaft 18. The advantage of this construction is that the strain or twisting action produced by the turning of the key 19 will not tend to disconnect the shell from the cap as might be the case if the projections were arranged in substantially the same plane as the key. The twisting strain to which the socket is subjected when the key is turned would tend to turn the shell relative to the cap about the axis of the key, and it will be obvious that this strain can be much better resisted when the projections are placed at right angles to the axis of the key.

The procelain base which supports the circuit terminals and switch contacts comprises the two members 14 and 15 which are shown as being clamped together when in operative position by means of a clamping bolt 16 that passes through the two members. The key shaft 18 carries the usual switch cam 7 and is provided at its end with a thumb piece or key 19. The shaft 18 is journaled in a bearing formed partly in each of the two members 14 and 15, said shaft being held in place between the two members when the latter are clamped together by the bolt 16.

One feature of our invention relates to the manner in which the contacts and terminals are supported and according to this feature both contacts and both terminals 8 and 90 are supported entirely on the lower member 14 of the porcelain base. The member 14 is provided with the recess 20 in which the contacts are partially received, and the member 15 is provided with an alined recess 21 which when the two members 14 and 15 are together forms with the recess 20 a cavity to receive both the switch contacts 5 and 6, as clearly seen in Fig. 2. The contact 6 is formed from a strip which is bent into V-shape and one arm of which is provided with the foot 40 which rests on the bottom of the recess 20 and through which the lamp terminal or stud 9 passes, said foot being held firmly in place by the head 41 formed on or applied to the stud.

The contact 5 is held in position by a clamping screw 24 which enters the member 14 from the bottom, as seen in Fig. 2, and the same screw 24 screws into the terminal 8 and secures it in place.

The cap portion 15 of the porcelain base is provided with a side recess 26 in which the terminal 8 is received and in which the conducting wire leading to the terminal 8 is also received. This side recess 26 leads into and connects with the recess or cavity 21 and the cap member 15 is preferably made with a notch 44 to receive the upper end of the terminal 8, (see Fig. 2).

The terminal 90 is secured to the lower portion 14 of the porcelain base by a suitable screw 93 (see Fig. 6) which passes through the screw shell 91 and thus electrically connects said terminal to the shell as well as securing the terminal to the part 14 of the porcelain base. The cap portion 15 of the porcelain base is made with the recess 27 in which the terminal 90 is received.

It will thus be seen that all the securing means for the terminals and contacts are located in the section 14 of the porcelain base and that the cap portion 15 can be removed without disturbing any of these securing means. It is possible, therefore, to remove the cap 4 and then to remove the clamping bolt 16 and the cap portion 15 of the porcelain base thereby to gain access to the terminals and the contacts without disturbing any of the devices used to secure said terminals and contacts in their proper position.

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

1. In a lamp socket, the combination with a shell, of a cap, and means for securing the cap and shell together comprising two radially-extending projections rigid with one of said parts, the other part having apertures to receive said projections, each projection having its side walls perpendicular to the walls of the part from which it extends and the walls of said parts adjacent one of said projections being capable of radial movement relative to each other to permit engagement and disengagement of the projections with the apertures, the perpendicular side walls of the projections preventing turning movement of the parts relative to each other.

2. In a lamp socket, the combination with a shell having rigid therewith two oppositely-disposed cylindrical projections, the wall of the lamp socket adjacent one of the projections being capable of being pressed inwardly, of a cap for the socket, the portion of the cap which embraces the socket being imperforate except for two apertures adapted to receive the projections.

3. In a lamp socket, the combination with

a shell having rigid therewith two oppositely-disposed cylindrical projections, and a key slot situated midway between said projections, of a cap for the shell, the portion of the cap which embraces the shell being imperforate except for two apertures which receive said projections.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HERBERT C. WIRT.
FRANK W. SANFORD.

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