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W. DUBILIER

1,779,804

LAMP SOCKET

Filed Jan. 8, 1927

Fig. 1

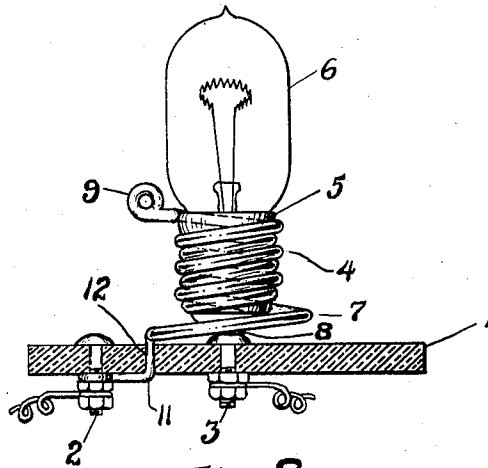


Fig. 2

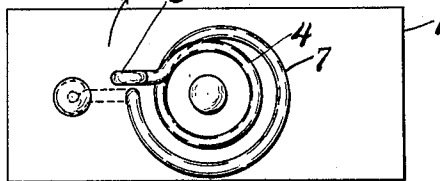


Fig. 7

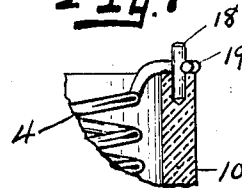


Fig. 5

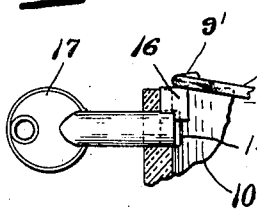


Fig. 3

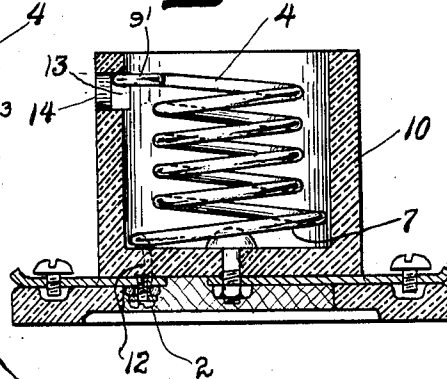


Fig. 4

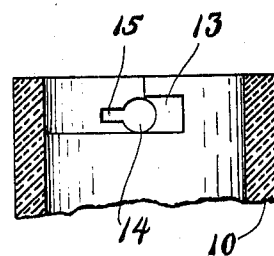
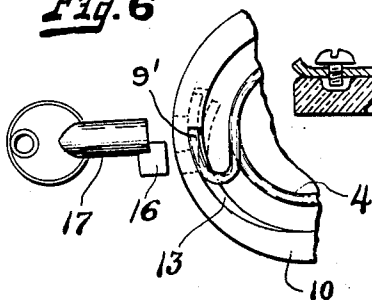


Fig. 6



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LAMP SOCKET

Application filed January 8, 1927, Serial No. 159,970, and in Germany November 1, 1926.

This invention relates to improvements in lamp sockets; and especially electric lamp sockets adapted to hold the lamp securely in operative position.

An object of this invention is to provide means for mounting and engaging an incandescent lamp in such wise that a force tending to loosen the lamp is automatically so counteracted that the lamp is held all the more tightly in place.

Another object is to provide means affording at all times good contact with the terminals of the circuit to which the lamp is connected.

A further object of this invention is to mount the lamp in such a way that it is supported so as to be less liable to damage by jarring and consequent breakage of the filament.

A further object of the invention is to provide a simple structure, easy to manufacture, and therefore inexpensive.

The nature of the invention is set forth in the following description and accompanying drawings, which show several forms in which my invention is embodied, but the disclosure is illustrative only and I may make changes in detail without departing from the principle of the invention or exceeding the scope and meaning of the terms of the appended claims.

On the drawings,

Figure 1 shows a side view, partly sectional, of one form of my device;

Figure 2 is a top plan view of the same device;

Figure 3 shows another form of my device;

Figure 4 is a view of what is shown at the top of Figure 3 in section through the middle of this figure;

Figure 5 is a detail of what is shown at the upper left hand corner of Figure 3 to illustrate how a key can be employed to permit the removal of the lamp;

Figure 6 is a top plan of part of the socket shown in Figure 4 further illustrating the use of a key when the lamp is to be removed; and Figure 7 shows another detail of the invention.

The same numerals identify the same parts throughout.

In Figure 1 an insulating base 1 supports two terminal contacts 2 and 3, and a coiled spring 4 so arranged that it encircles the ferrule or neck 5 of a lamp 6 and holds it firmly in position. The lowermost turn 7 of this coiled spring is of a larger diameter than the others, making a support for the spring, and gives to the body of the coiled spring 4 an axial flexibility so that it presses the central contact 8 of the lamp firmly against the contact point 3. The lower end of the spring 4 is connected to the other terminal 2, while the upper end has an extension 9 which may serve to unlock or unwind to some extent the turns of the spring when it is necessary to remove the lamp. For this purpose this extension is moved in a clock-wise direction, as illustrated by an arrow in Figure 2.

As appears clearly from inspection of Figures 1 and 2, the lamp when it is screwed downward into the mounting comprising the coil spring 4 is turned clockwise. The friction between the neck 5 of the lamp and the turns of the spring 4 tends to open or distend the turns of the coiled spring and thus the lamp can very easily be screwed into place. But the turning of the lamp in the opposite direction creates a frictional drag, so to speak, on the turns of the spring 4, and the effect of this so-called drag is such that the turns of the spring tend to wrap themselves around the neck 5 more tightly. The lamp is thus effectually held against loosening and the only way to dismount the lamp is to take hold of the extension 9 and pull it backward so as to loosen or uncoil the spring 4 to some extent. Any force tending to make the lamp work loose in the coiled spring mounting 4 is thus automatically counteracted.

The construction in Figure 3 is essentially similar to that of Figure 1, except that all the working parts are mounted inside an insulating socket 10, or as an alternative, a metallic socket with insulator lining. In practice, the lower turn of the coiled wire has an extension 11 passing through a corresponding hole 12 in the insulator base 1 or socket 10, and fastened around the contact screw 2.

Thus the assembly of the socket is extremely simple, while the completed structure will hold a lamp firmly and in such a manner that it cannot be removed without loosening the

5 spring 4 by turning outward the extension 9. It will also be seen that the support for the lamp is flexible and resilient; that is, the lamp is actually mounted by the spring and is therefore protected from excessive shocks.

10 In the form of my invention shown in Figures 3, 4, 5 and 6, the upper end 9' of the spring is doubled upon itself and normally fits into a recess 13 on the inner surface of the socket 10. Passing through the socket 10 and communicating with this recess is a key-hole 14, this key-hole having a recess 15 to receive the bit 16 of a key 17. The hole 14 and its extension 15 are right beneath the end 9', as indicated particularly in Figure 3. So

20 long as the end 9' remains in the recess 13, the lamp cannot be dismounted from the spring 4, and by reference to Figure 6 it will be seen that the extremity of the end 9' lies beneath the overhang or undercut top of the extremity of the recess 13, so that this end 9' cannot be lifted up upon the top of the socket 10 and turned counterclockwise to loosen the spring and release the lamp, but when this

30 key 16 is inserted the end of the key abuts the end 9' and forces this end inward to dotted-line position in Figure 6, so that the end 9' will clear the overhang above the end of the recess 13 and then upon the key being turned, the bit 16 lifts the end 9', as shown in Figure 5. Then the spring can be engaged by

35 one's fingers or with a tool to turn the end 9' counterclockwise, loosening the coils around the neck 5 of the lamp and thus permitting the lamp to be unscrewed.

40 In Figure 7, the socket 10 has a stop 18 to be engaged by a loop 19 on the spring 4 to hold the spring. To unscrew the lamp, the loop 19 is lifted from the pin 18.

Having described my invention, what I believe to be new and desire to secure and protect by Letters Patent of the United States is:—

1. A lamp holder comprising a socket, a coiled wire supported in said socket, the coil

50 being spaced from the interior of the socket, said socket having a recess into which one end of said coil is received, and being provided with a key hole adjacent one end of said recess so that when a key is pushed into said hole

55 the end of said spring can be forced to clear said socket and move upward upon the top of the socket, above said key.

2. A lamp holder comprising a socket, a helix within the socket and having one end secured thereto, said helix comprising turns adapted to lie within the valleys of a threaded lamp base with a normally tight fit which loosens when the spring is distorted, the

60 socket having a recess into which the free end of the helix is received, and being pro-

vided with a key-hole whereby a key may be inserted into said recess, the free end of the helix being adapted to be forced out of the socket by engagement with a key inserted therein.

In testimony whereof I affix my signature.
WILLIAM DUBILIER.

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