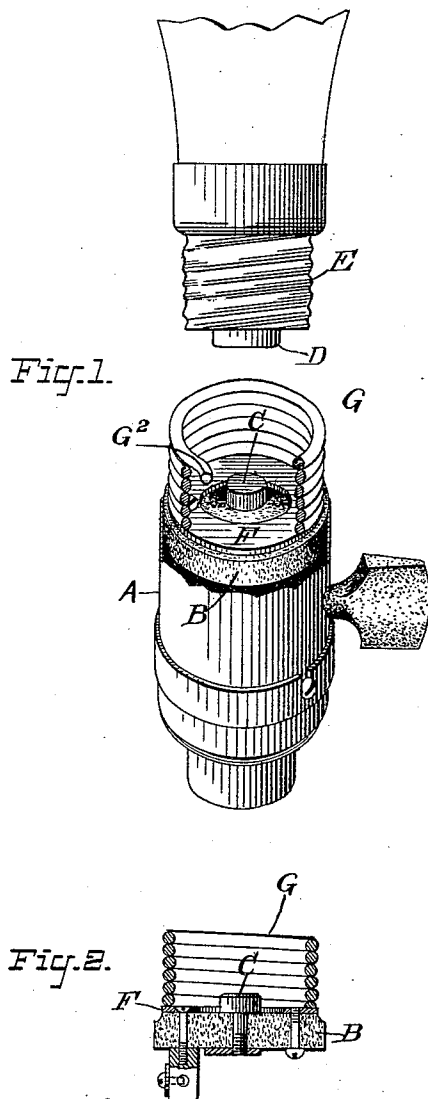


(No Model.)

C. R. ARNOLD.
INCANDESCENT ELECTRIC LAMP SOCKET.

No. 473,373.

Patented Apr. 19, 1892.



ATTEST:
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CRAIG RITCHIE ARNOLD, OF SHARON HILL, PENNSYLVANIA.

INCANDESCENT-ELECTRIC-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 473,373, dated April 19, 1892.

Application filed December 17, 1891. Serial No. 415,324. (No model.)

To all whom it may concern:

Be it known that I, CRAIG RITCHIE ARNOLD, a citizen of the United States, and a resident of Sharon Hill, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Sockets or Holders for Incandescent Electric Lamps, of which the following is a specification.

My invention relates to the construction of a socket or holder for incandescent lamps, and is designed to furnish a holder which will not only provide a flexible suspension for the lamp when used in places, as on shipboard, where it is subjected to much vibration, but will also prevent the lamp from working loose from its support, as frequently happens in the case of sockets having the usual means for attachment of the lamp.

My invention is designed more particularly as an improvement upon that class of sockets or holders with which lamps having a screw-threaded collar upon the neck of the lamp are employed.

My invention consists, essentially, of a spiral spring forming a spring contact-terminal and socket for the support of the lamp and having its turns free or disconnected from one another at the socket end, in combination with the lamp having a metal screw-terminal formed on or attached to its neck or base and adapted to be screwed into and out of said spiral-spring socket.

My invention consists, further, in certain details of construction, as hereinafter more particularly described and claimed.

In a socket constructed in accordance with my invention the lamp cannot work loose, because if the lamp turns in a direction to unscrew it from the spiral spring the effect will be to contract the said spring and cause it to bind tighter upon the screw-thread on the collar, whereas the reverse movement will obviously result simply in screwing the lamp farther into its socket.

To provide for the convenient detachment of the lamp, I furnish the end of the spiral-spring socket with a stud or projection, by means of which the turns of the spring may be slightly sprung open to permit the lamp to be unscrewed without binding of the spring upon the collar.

In the accompanying drawings, Figure 1 is

a perspective view of a socket or holder embodying my invention. Fig. 2 is a vertical cross-section through the upper portion of the apparatus.

In the drawings I have shown the invention as carried out in connection with a key-socket, but as will be obvious the invention is likewise applicable to keyless sockets.

A indicates the shell, which contains the operative parts of a key or switch socket.

B is a plate or disk of some insulating material, which is supported in any desired manner upon the parts contained within the shell. The disk B carries the central contact or stud C, which forms one contact-terminal of the holder, and is engaged by a contact stud or projection D on the lamp itself and forming one contact-terminal of the latter.

E indicates the usual metallic screw-threaded collar or shell upon the neck of the lamp and forming the other contact-terminal of the latter.

The contact C of the socket is electrically connected with the parts of the switch or the leading-in wires of the holder, when the invention is used with a keyless socket, in any desired manner.

Fastened upon the disk or plate B by means of screws or otherwise is a ring F, which is connected beneath the disk B by screws or otherwise with the switch-contacts or the circuit through which the lamp is supplied in any ordinary or suitable manner.

G is a spiral spring, into which the neck of the lamp is adapted to fit, and which has its turns so formed that they will form a screw-thread adapted to register with or fit the turns of the screw-threaded shell E on the neck of the lamp. The spring G is attached to the plate F by soldering or by other means. Preferably the spiral spring G is formed from wire wound upon a former of suitable gage. The free end of the spring has a slight teat or projection G², by means of which it may be sprung open slightly to allow the lamp to be detached. When the lamp is screwed into the socket thus provided by the spring G, the contact-terminal D of the lamp will bear upon the contact-terminal C of the socket and may rock thereupon. The spring G provides the flexible suspension, and the only movement of the lamp which can take place will be in a

direction to move it farther into the socket and insure the contact of D and C. The movement in the opposite direction cannot take place by vibration, owing to the fact that
 5 the tendency will be to contract the turns of the spring and bind it more firmly upon the collar E, thus locking the latter from rotation.

The spring G provides a flexible suspension and takes up the vibrations which would be
 10 communicated from the support, thus relieving the lamp from vibrations, which tend to destroy the filament.

When the lamp is to be withdrawn, it is necessary to open the turns of the spring
 15 slightly, which may be done by means of the stud G², which may be opened sufficiently to allow the lamp to be unscrewed without binding of the spring-socket upon the collar.

What I claim as my invention is—

20 1. The combination, substantially as described, of a lamp-holder having a contact-terminal consisting of an attached spiral spring constituting a screw-threaded socket for attachment of the lamp and having its turns
 25 free or disconnected from one another at the open or socket end, and the lamp having a metal screw contact-terminal formed on or attached to its neck or base and adapted to screw into and out of the said spiral-spring
 30 contact, as and for the purpose described.

2. In a socket or holder for incandescent lamps, the combination, substantially as described, with a suitable insulating-base, of a metal ring fastened thereto and a spiral
 35 spring projecting from the ring and constituting a contact-terminal of the socket or holder, and a lamp having a screw-threaded metallic collar constituting a contact-terminal of the lamp and adapted to screw into and
 40 out of the open end of the spring-socket formed by said spiral spring, as and for the purpose described.

3. In a socket or holder for incandescent

lamps, the combination, substantially as described, of two attached socket-terminals, one
 45 consisting of a spiral spring forming at its outer end a screw-threaded spring-socket, the turns of which are adapted to contract or to be sprung open, as described, the other consisting of a central projecting contact-stud
 50 within said spring-socket, and an incandescent lamp having two contact-terminals, one consisting of a screw-threaded collar adapted to engage with the turns of the spiral spring at its contractible and expansible open end
 55 and the other consisting of a stud or projection adapted to engage with and rock upon the central projection within the spiral spring upon the holder.

4. In a holder for incandescent lamps, a
 60 contact and socket consisting of a spiral spring G, having at its outer free end a stud G², by which the spirals may be sprung apart, in combination with the lamp having a contact-terminal adapted to screw into and out of the
 65 open end of the spring, as and for the purpose described.

5. In a holder for incandescent electric lamps, the combination, substantially as described, with a plate or support of insulating
 70 material, of a ring F, mounted thereon, the spiral spring G, attached to said ring and having a stud G², a central projecting contact-stud C, also mounted on the holder, but insulated from the ring, and an incandescent electric lamp having contact-terminals D and E,
 75 adapted to engage with the contacts G and C upon the holder, as and for the purpose described.

Signed at Chester, in the county of Delaware and State of Pennsylvania, this 1st day of December, A. D. 1891.

CRAIG RITCHIE ARNOLD.

Witnesses:

J. LENTZ GARRETT,
 LETTIE D. ALLMOND.