No. 744,330. PATENTED NOV. 17, 1903.

J. H. GOEHST.

ELECTRIC LAMP SOCKET.

APPLICATION FILED MAY 12, 1902.

NO MODEL.

Fig 1

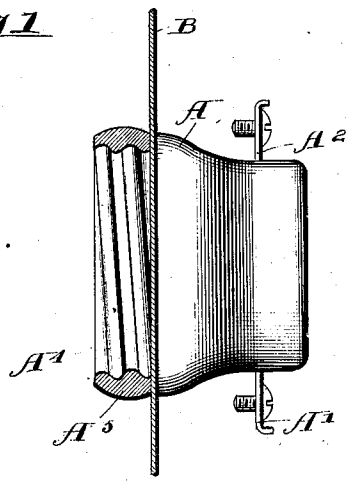


Fig 2

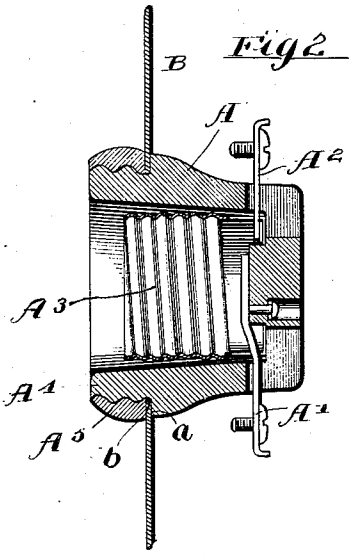


Fig 3

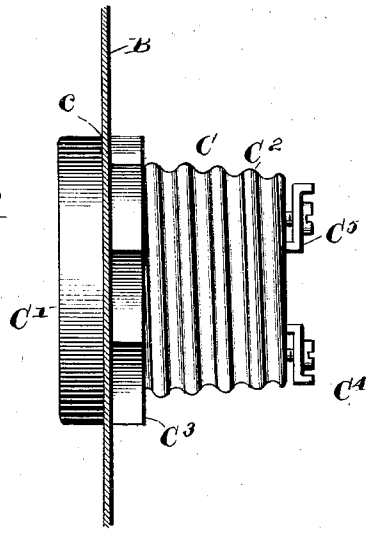
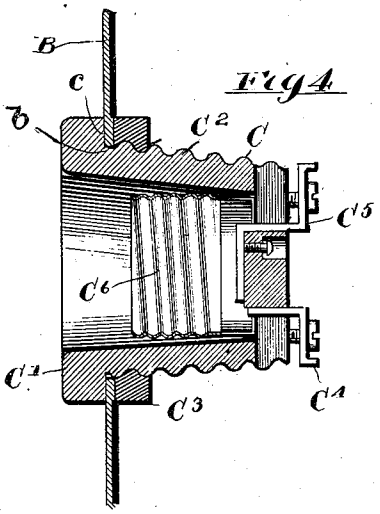


Fig 4



Witnesses:

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his Attorneys

No. 744,330. Patented November 17, 1903.

UNITED STATES PATENT OFFICE.

JOHN H. GOEHST, OF CHICAGO, ILLINOIS, ASSIGNOR TO FEDERAL ELECTRIC COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ELECTRIC-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 744,330, dated November 17, 1903.

Application filed May 12, 1902. Serial No. 107,013. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. GOEHST, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electric-Lamp Sockets; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in electric-lamp sockets, and refers more specifically to an improved construction for attaching the sockets to the support therefor.

My improvements are herein illustrated as applied to keyless sockets adapted for use in places where it is desired to support the sockets on relatively thin supporting-bodies, such as sheet metal, wood, glass, or the like.

An instance or example of the use of the socket herein shown is found in my copending application, filed by me of even date herewith for improvements in electrically-illuminated signs, Serial No. 107,012. My improvements may, however, be applied to other forms of sockets and for other purposes, as will hereinafter more fully appear.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

As shown in the drawings, Figure 1 is a side elevation, with parts in section, of a lamp-socket made in accordance with my invention, showing the support to which it is attached. Fig. 2 is an axial section thereof. Figs. 3 and 4 are a side elevation and an axial section of a modified form of the socket.

Said socket consists, in general terms, of two detachably-connected parts, one of which (the main body of the socket) extends through an opening in the support therefor and is provided with a shoulder to engage one side face of the support and the other or detachable part of which is connected with the part of said main body which extends beyond the support and constitutes a shoulder opposing the shoulder on the main body, between which shoulders the support is clamped, thereby holding the socket rigidly in place.

As shown in Figs. 1 and 2 of the drawings, A designates the hollow body or receptacle of the socket, usually made of porcelain or like insulating material, and B designates the support to which the socket is attached, said support usually having the form of a thin sheet-metal plate or the like. A′ designates one of the terminals, to which one of the conductors is attached, A^2 the other terminal, to which the other conductor is attached, and A^3 a metal screw-ring connected with the terminal A^2 and located in the hollow receptacle or body A for screw-threaded connection with the plug of the lamp. The outer or exposed end of the socket is provided with a reduced screw-threaded portion A^4, which extends through an opening *b* in the support B and a distance beyond said support, and said body is provided inside said reduced portion with an annular shoulder *a*, which bears against the inner face of said support B. A^5 designates a screw-threaded ring, which has screw-threaded engagement with the outer reduced end A^4 of the body of the socket A and is adapted to be turned tightly against the outer face of the support B, the inner end of said ring or nut A^5 constituting a shoulder which opposes the shoulder *a* of the body and between which and said shoulder *a* the support B is clamped. Said nut or ring A^5 is made of any suitable soft material which will readily adapt itself to the coarse screw-threads of the porcelain, copper or aluminium being a suitable substance for this purpose. The nut or ring is shaped on its outer margin to give a finished appearance to the socket, and the periphery of said ring is knurled to facilitate turning the ring in place.

In the construction shown in Figs. 3 and 4 the screw-threaded end of the body of the socket extends through the supporting-plate B from front to rear thereof, and the clamping ring or nut therefor engages said body inside of said support. As shown in said figure, C designates the socket as a whole, which extends through the opening *b* in the support B from front to rear thereof. The outer end C′ of the body of the socket is made of greater diameter than the opening in the support through which the inner end of the body extends, whereby is formed an inwardly or rearwardly directed annular shoulder *c*, which bears against the outer face of the support B

when the socket is in place. The inner or reduced part C^2 of said body is screw-threaded to receive a clamping ring or nut C^3, which bears against the inner face of the support B and which clamps said support between said ring and the shoulder *c* of the body. As herein shown, the reduced part of said body or receptacle is screw-threaded to the extreme rear or inner end of the same; but said screw-threads need not necessarily be extended to the extreme end of said body, but only a sufficient distance to afford the proper adjustment of said nut or ring on said body. It will be observed, however, that in this construction the screw-threads may be made of sufficient length to give considerable adjustment to the ring or nut C^3, and thereby enable the socket to be fitted to a support B of greater width than that shown in Figs. 1 and 2. The terminals C^4 C^5, to which the conductors are adapted to be attached, are in this instance extended through the end wall of the body of the receptacle and do not extend radially outside of the circumference of the reduced or screw-threaded end of the body, thereby enabling the ring or nut to pass thereover to engage the screw-threads of the socket-body. To the metal terminal C^4 is attached the usual screw-threaded sleeve or ring C^6, which is located inside the hollow body for engagement with the lamp-plug.

An important advantage of the construction described is that the base-supports to which the sockets have heretofore been attached may be omitted, thereby cheapening and making more compact the construction to which the sockets may be attached and of which they form a part.

The form of socket shown is especially valuable in the construction of electrically-illuminated signs—such, for instance, as is shown in my prior United States Letters Patent No. 690,649, granted January 7, 1902, or in my copending application, Serial No. 107,012, hereinabove referred to. By reason of the fact that I am enabled to omit the internal socket-supports shown in said prior Letters Patent the socket-inclosing frame may be made considerably thinner and more compact, thereby increasing the attractive appearance of the sign and materially cheapening its construction. Furthermore, the work of assembling the sign is facilitated.

As before stated, my invention is capable of general application where it is desired to attach electric-lamp sockets to supports having relatively thin or sheet-metal walls—as, for instance, said construction may be employed for attaching lamps to cornice-work, to metal ceilings, reflectors, and other like locations.

As a further improvement in sockets of this class adapted for outdoor use I have shown the bore of the hollow body flared outwardly, so that the bottom part of said bore is inclined downwardly and outwardly in a manner to drain water therefrom which may find its way into said socket. In this manner I prevent the accumulation of moisture in the socket, which if allowed to collect therein tends to produce an electrolytic action which impairs the electrical connections of the socket.

The sleeves A^3 and C^6 are securely fastened at their inner ends to their terminal strips A^2 and C^4, respectively, to insure the firmness of said sleeves without actual contact thereof with the walls of the bores or recesses of the socket-bodies.

It is obvious that changes may be made in the structural details herein illustrated without departing from the spirit of my invention, and I do not wish to be limited to such details except as hereinafter made the subject of specific claims.

I claim as my invention—

1. An electric-lamp socket comprising a tubular body made of a single piece of insulating material and provided with an exterior screw-thread and with an exterior shoulder at the base of the screw-thread, a screw-threaded clamping-ring engaging the screw-thread of the body and opposing said shoulder, and terminals in the rear end of said socket-body.

2. An electric-lamp socket comprising a tubular body made wholly of insulating material and provided with an exterior shoulder, a retaining-ring surrounding said body and opposing said shoulder and terminals at the rear ends of said body, one of which is connected with a metallic screw-threaded ring within the socket-body constructed to receive a screw-threaded lamp-plug.

3. An electric-lamp socket comprising a tubular body made of insulating material and provided with an exterior screw-thread and with an exterior shoulder at the base of the screw-thread, and a clamping-ring engaging said screw-thread and opposing said shoulder and made of a material softer than that of the body.

4. The combination of an electric-lamp socket and a sheet-material part to which it is attached, said socket comprising a tubular body made of a single piece of insulating material which is adapted to protrude through an opening in said sheet-material part and means for clamping said socket to said part.

5. The combination of an electric-lamp socket and a sheet-material part to which it is attached, said socket comprising a tubular body made of a single piece of insulating material which is adapted to protrude through said opening and with an exterior screw-thread and an exterior shoulder at the base of the screw-thread adapted to engage one side of said sheet-material part and a screw-threaded clamping-ring engaging said screw-thread of the body and opposing said shoulder.

6. An electric-lamp socket comprising a tubular body made wholly of insulating material and provided with an exterior shoulder, a retaining-ring surrounding said body and opposing said shoulder, terminals at the rear

end of said body and a metallic ring within said tubular body adapted to receive a lamp-plug and connected with one of said terminals, the outer end of the bore of said body being made outwardly flaring and of greater diameter than the said plug-receiving ring.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 11th day of April, A. D. 1902.

JOHN H. GOEHST.

Witnesses:
WILLIAM L. HALL,
GERTRUDE BRYCE.