

(No Model.)

F. H. SODEN.
SOCKET FOR INCANDESCENT LAMPS.

No. 536,792.

Patented Apr. 2, 1895.

Fig. 1.

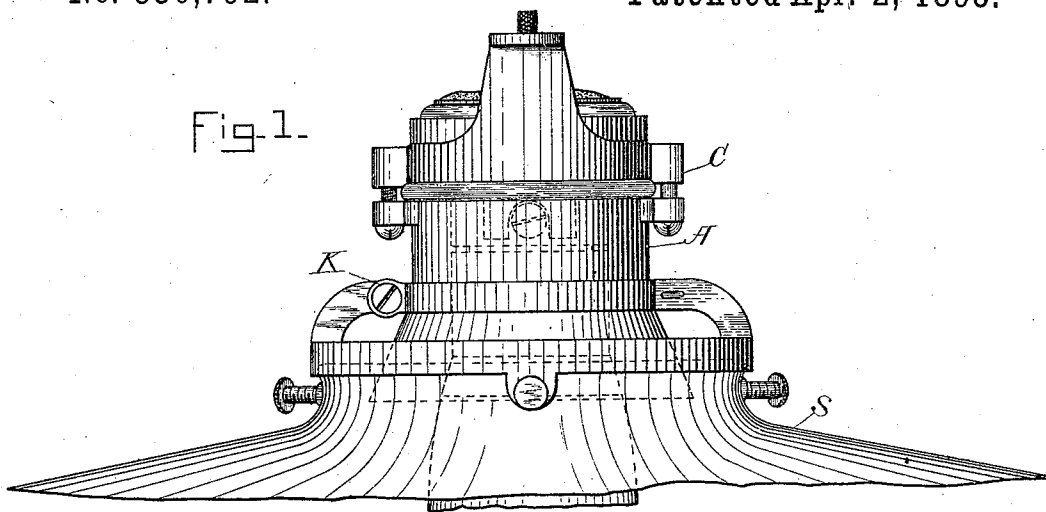


Fig. 2.

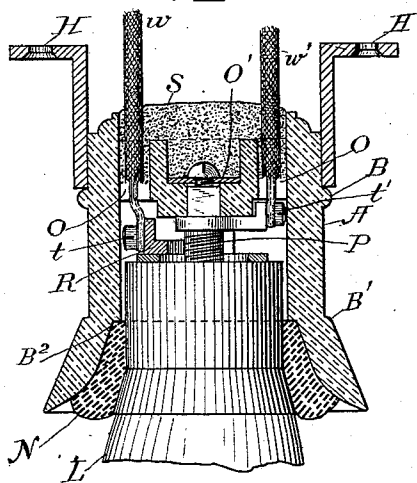


Fig. 3.

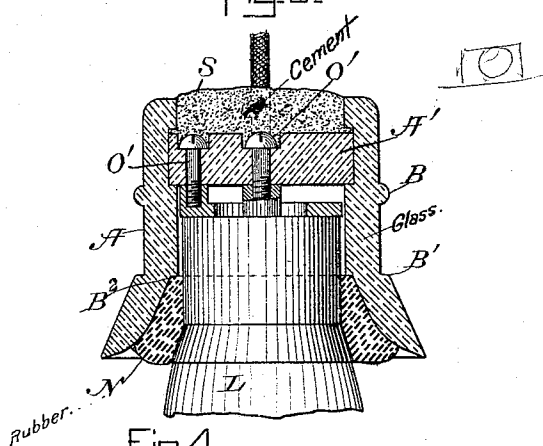


Fig. 4.

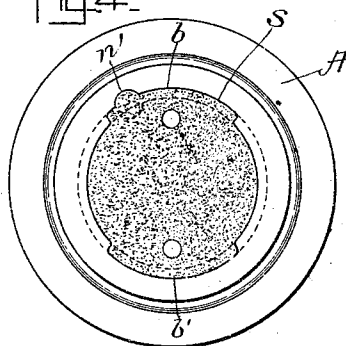
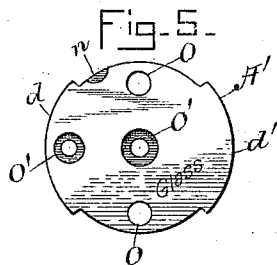


Fig. 5.



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SOCKET FOR INCANDESCENT LAMPS.

SPECIFICATION forming part of Letters Patent No. 536,792, dated April 2, 1895.

Application filed February 12, 1890. Serial No. 340,107. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS H. SODEN, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Socket for Incandescent Lamps, of which the following is a specification.

The present invention relates to sockets for incandescent lamps.

10 The object of the invention is to secure a socket for incandescent lamps which are to be used in damp or wet situations, or in a situation where acid or other chemical fumes can gain access to the metallic sockets as heretofore made and commonly used. Such conditions as to dampness are found in packing houses, and the condition of chemical fumes which would act injuriously on the metallic parts of the socket arising from various operations in chemical manufacture, &c., exists in establishments where the manufacture of chemicals is carried on and in various other establishments where sulphuric, nitric, hydrochloric and other acids, or chemicals which will affect metal and electric insulation, are employed. In such situations the ordinary metallic socket is not capable of being used advantageously because of the metallic parts becoming rusted and ruined, destroying the electric connections, and the insulation affected so as to destroy its integrity and purpose. In the socket of the invention no metallic parts whatever that are used to convey current are exposed to such deleterious influences but the exterior casing is composed entirely of materials such as porcelain, glass, cement, or other such substances which are not affected by moisture or acid or chemical fumes.

40 Figure 1 is a side view illustrating the construction of the invention. Fig. 2 is a section through the view Fig. 1. Fig. 3 illustrates a modification in the construction which may be employed in some instances to advantage. Figs. 4 and 5 are different views of the parts of Fig. 3 on end.

50 In Fig. 1, which figure shows the socket complete, A is a glass, porcelain, or earthenware socket or shell molded or pressed into the form shown, the shape being better seen in the sectional view Fig. 2. The socket is pref-

erably made, as seen in Fig. 2, slightly bell shaped or flaring at its lower exterior portion so that water coming from above will be led away from and not toward the lamp which is screwed into place in the interior of the socket, and so that the water will drip from the outer edge. At the outer and upper part of the socket is formed a bead or raised portion B. This is for the purpose of supporting the socket by a suitable clamp C, Fig. 1, which is held to a ceiling or wall by screws passing through the holes H H Fig. 2 or is otherwise suitably secured to such wall or ceiling. Of course a groove or depression might exist instead of the bead B for the securing of the clamp C to the socket and it would answer the purpose equally well.

Through the upper part of the socket A Fig. 2, are left openings or holes O, O', O', those marked O, O' being made for the entrance of the leading in wires W, W', and those marked O', O', for the reception of screws which hold the metallic connection parts in the interior of the socket firmly in position.

At the lower and outer part of the socket Figs. 2 and 3 is seen a shoulder B'. This is for the purpose of supporting a shade or reflector and it is not essential that the socket be made in exactly this form. The metallic clamp K, Fig. 1, rests upon this shoulder B', the clamp itself being made in two parts so as to be easily removed from the socket.

The metallic parts in the interior of the socket for the connections to the lamp and for its support may be made in any desired manner and form no especial part of this invention. They are shown in Fig. 2 as consisting of an outer metallic ring R and a central threaded portion P. These pieces are held at a distance from each other and firmly attached to the socket A by screws passing through the base of the socket, suitable openings for the same being provided as shown and explained. The leading in wires *w, w'*, are first secured to these terminals *t, t'*, and then by drawing upon the wires the metallic parts are pulled into the interior of the socket and secured in position by the screws just mentioned which pass through the base. After these connection parts are properly in place a strong adhesive cement, indicated at S, such

as a mixture of sulphur and sand, or sulphur alone, or any other good cement is poured into the upper part of the socket so as to completely fill all the space left in a manner to
 5 form a hermetically sealed watertight joint around the leading in wires w, w' , and the whole upper part of the socket. In situations where the incandescent lamps depend from overhead and where water dripping from above
 10 is only to be provided against the construction of the socket so far described will be sufficient for the protection of the connections, &c., from wetting or dampness, but in case
 15 the lamps are secured to a side wall so as to project in a horizontal position or in case they are used in situations where the metallic connection parts would be subjected to the influence of acid or other fumes which would act deleteriously I employ in addition a ring
 20 or gasket of insulating or waterproofing material N Figs. 2 and 3, which may be made of pure rubber, or of rubber composition, or other material which is elastic, insulating, and durable in its nature. The inner bell shaped
 25 part of the socket is also preferably made with the shoulder at B^2 for a retaining or holding surface or point of abutment for the ring N, and the ring N is preferably molded into a shape approximating that which it will take
 30 when in position in the socket, though this is not absolutely necessary for the formation of a joint or sealing of the kind desired. The insertion of the lamp compresses this ring so as to complete the sealing of the socket
 35 against the entrance of anything from the outside by entirely closing the lower portion of the same. As will be seen in Fig. 2 this ring or washer reaches down to the lower edge of the usual metal envelope in the neck
 40 of the lamp so as to protect such metal envelope from corrosion.

Fig. 3 shows a modification in the construction of the socket in which the insulating or socket shell instead of being made in one
 45 piece as in the case of the figures just described is made in two parts A, A'. One of the forms which may be given to the part A is shown in Fig. 4 and the base piece is shown at A' in Fig. 5. If desired the part A' may in
 50 this construction be made of vulcanized fiber or other suitable insulating material to which the interior metallic connection parts may be directly and easily attached. The outer shell A is made with cut away portions at b, b' ,

Fig. 4 corresponding to the projections d, d' , 55 of the base piece A' Fig. 5, so that when the piece A' is applied to the shell A and given a quarter turn it is locked in position. To prevent the part A' rotating with respect to the piece A there are provided niches, n in 60 the piece A' and n' in the shell A, which becoming filled with cement when it is applied to lock the parts in position and complete the sealing prevents any movement of such parts laterally. The engaging edges of A and A' 65 permit no displacement vertically.

The construction of the socket of two separate parts as described makes it easier to accomplish the necessary wiring and the connections may be made to the base piece A' 70 while it is accessible for working upon. The outer shell A can then be slipped over the base piece A' and the retaining, insulating and sealing cement applied as before, holding the parts firmly in position and against 75 displacement. The first construction is, however, preferred for general use.

While I have shown and described one way of sealing that end of the shell B in which the metallic connecting and attaching devices 80 for the lamp are supported I do not wish to be understood as limiting myself to such special means since these devices may be indefinitely varied, provided that there is a proper seal formed to prevent access through the 85 upper end of the shell, of vapor or moisture to the metallic connections within the shell.

What I claim as my invention is—

A socket for incandescent electric lamps consisting of a shell of porcelain or like material provided with grooves about its inner periphery, a partition of insulating material fitted removably in said grooves and dividing the socket transversely, lamp contacts 95 mounted in said partition to which the conductors are connected at one side of the partition, cement filled in about said conductors thus sealing one end of the socket, and means for sealing the lamp in the other end of the socket, as and for the purpose described. 100

Signed at Chicago, in the county of Cook and State of Illinois, this 6th day of February, A. D 1890.

FRANCIS H. SODEN.

Witnesses:

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FRANK L. STAGG.