J. H. DALE.

CLUSTER LAMP SOCKET.

APPLICATION FILED MAY 6, 1908.

958,727. Patented May 24, 1910.

Fig. 1.

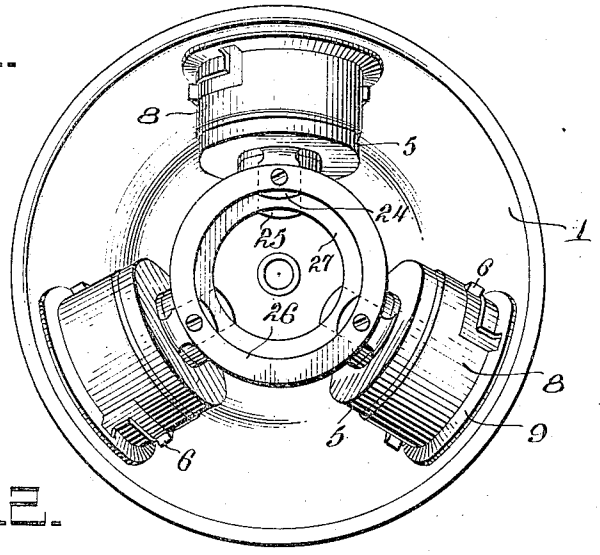


Fig. 2.

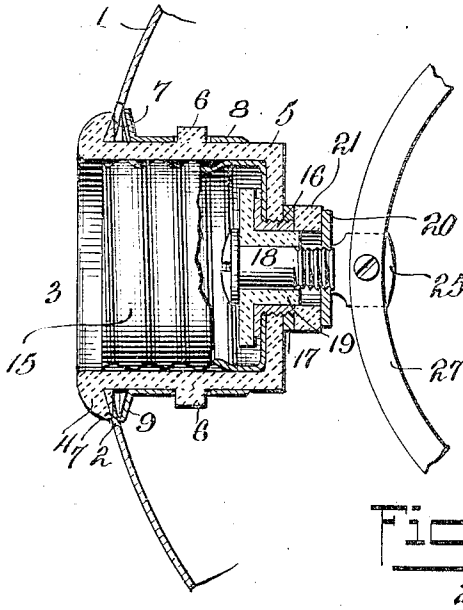


Fig. 3.

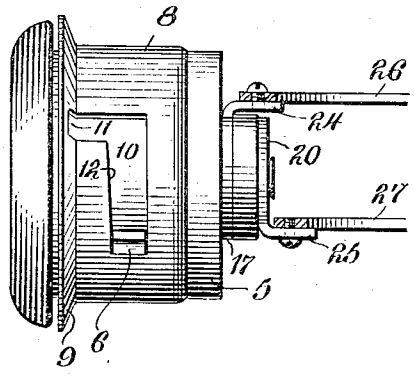
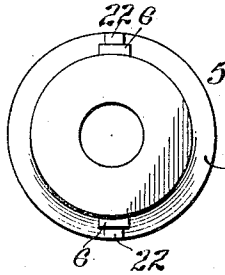


Fig. 4.



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CLUSTER LAMP-SOCKET.

958,727. Specification of Letters Patent. Patented May 24, 1910.

Application filed May 6, 1908. Serial No. 431,144.

To all whom it may concern:

Be it known that I, JOHN H. DALE, a citizen of the United States, residing at the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Cluster Lamp-Sockets, of which the following is a full, clear, and exact description.

My invention relates to cluster lamp sockets, particularly of that type having a substantially hemispherical casing from which the lamps project symmetrically outward at a slight downward inclination. The usual construction for this purpose embodies threaded shells on the outside of which are received insulating bushings which are applied and removed from the exterior of the casing, being received in socket holes to support said threaded shells in place. These detachable bushings are objectionable from the standpoint of insurance regulations, because they are capable of being readily removed by any one, thereby rendering a ground possible between the threaded shells and the surrounding casing. The arrangement is particularly objectionable because such removal of these bushings can be made without interfering with the operative function of the device, so that there is no necessity put upon their replacement. As the bushings are easily broken, lost or carried away, it is likely that they will gradually disappear in the use of the receptacle without any particular notice being taken of the fact. By the present invention I wholly overcome this difficulty, and provide a form of cluster socket in which the maximum possible protection is obtained against grounds and short circuits. For this purpose I make use of what is a practically separate complete socket or receptacle for each individual lamp, all of which are assembled within an ordinary casing in any desired relation. I further provide convenient means for fastening these separate sockets or receptacles within the cluster, and establishing the proper electrical connections between the same. Each individual socket or receptacle is so constructed that there is a continuous imperforate insulating barrier between all parts of opposite polarity. For this purpose each individual socket preferably includes a porcelain cup with an enlarged head or bead at its open end and receiving the threaded shell. The center contact is surrounded by a button which effectually separates it from the threaded shell at the base of the socket. I further aim to impart a particularly ornamental finish to the sockets when viewed from the exterior of the casing.

With these and other objects in view my invention consists in the features of construction and combination as hereinafter set forth and claimed.

In the drawings: Figure 1 is a top or plan view of a cluster socket embodying the principles of my invention; Fig. 2 is an enlarged detail sectional view of one of the sockets; Fig. 3 is a side view of the same; and Fig. 4 is a detail view looking toward the inside or end face of one of the sockets. This view is on the same scale as that of Fig. 1.

Referring to the drawings in which like parts are designated by the same reference sign, 1 indicates a casing conveniently of spun sheet metal, and which has peripheral openings 2, for the various lamp sockets.

3 indicate the individual sockets, each of which is substantially complete in itself, including a threaded shell and a central stud terminal. The various sockets are received in the holes 2 of the casing 1. Each socket has an enlarged head 4, which abuts against the outer surface of the casing 1 around the holes 2 through which the socket enters. On its inner cylindrical surface 5, the socket has integral lugs 6, which enter the casing through notches 7, at points around the holes 2 corresponding to the location of said lugs.

8 designates a sleeve preferably of sheet metal and having a flaring rim 9 at one end. This sleeve is slotted or cut away in an angular path 10 (see Fig. 3). The essential characteristic of this cut-away portion is that it extends through the rim 9 at 11, so as to receive a lug 6, and is capable of moving over said lug until the latter engages an inclined edge 12 of the slot 10, which acts as a bayonet joint fastening. It is evident that the socket can be securely fastened upon the casing 1 by slipping it through a hole 2 thereof and tightening the sleeve 8 upon this bayonet joint.

The particular interior construction of the individual sockets 3 may vary considerably without departing from the spirit of my invention. I prefer the construction shown in Fig. 2 in which the threaded shell 15 is clamped within the cup 5 by a threaded ring 16 of L-shaped transverse section, which re-

ceives the terminal clip 17, acting as a nut. I form the center contact of a screw 18, which is separated from the ring 16 and the threaded shell by a porcelain or similar button 19 of T-shaped transverse section.

20 designates a terminal clip threaded to receive the screw 18 and separated from the ring 16 by a porcelain or insulating washer 21. This construction organizes all the parts very compactly and strongly together, and furthermore secures a very adequate insulation between the threaded shell and the center contact, including all the allied parts which are of opposite polarity.

The various sockets 3 are assembled within the casing 1 in the manner shown in Fig. 1, and I provide means whereby each is positioned in a certain definite angular relation within its appropriate hole 2. For this purpose I provide small lugs 22, upon the interior annular face of the head 4, and which engage the notches 7 of the casing 1. The terminal clips 17 and 20 have outwardly extending ears 24 and 25 respectively, and which preferably project diametrically opposite one another in a diameter which is vertical of the casing 1 when the sockets 3 are properly engaged therein as above described. In this relation the ends of said terminal clips are capable of being bent slightly to make convenient connections with any desired parts. In Figs. 1 and 3 I have illustrated these terminal clips connected to metallic rings 26 and 27, thereby organizing the sockets into a complete unitary multiple cluster. The circuit wires may be soldered or otherwise applied to the rings 26 and 27. It is evident that the sockets may be connected in series or in separate circuits if desired.

It will be observed that the bent portions of the terminal clips 24 and 25 are deflected on axes which extend in exactly parallel directions, and these directions are both in planes perpendicular or normal to the axis of the casing 1. In other words, the lines on which the lugs 24 and 25 are bent are in all cases in or parallel to the planes of the rings 26 and 27, which connect the various lugs. This is a very important point in the construction because it enables the clips to be deflected more or less upward or downward until they are capable of finally coming exactly into the plane of said rings 26 and 27. This result cannot be attained unless the lugs are bent on lines which are in the planes of said rings, that is, perpendicular or normal to the axis of the casing 1.

What I claim, is:—

1. A socket comprising an insulating cup, a lamp receiving shell received therein, a metal ring of L-shaped transverse section engaging said shell, a terminal clip threaded on said ring, a screw constituting a center contact, a terminal clip threaded on said screw, an insulating washer separating said terminal clips, and an insulating button of T-shaped transverse section separating said screw from said ring.

2. In a cluster socket, a casing having holes, individual sockets received therein each formed with a flange outside the casing and a lug inside the casing, a sheet metal sleeve received on each socket and having an inclined slot engagement with said lug, a pair of metallic rings concentric within said casing, clips bent upward from one of said rings, center contact screws within said sockets threaded into said clips, insulating bushings surrounding said screws, metallic rings surrounding said bushings, threaded shells within said sockets and engaging said last mentioned rings, and metallic clips connected to said last mentioned rings and joined to the other concentric ring within the casing.

3. A socket comprising an insulating cup, a lamp receiving shell received therein, a metal ring of L-shaped transverse section engaging said shell, a terminal clip threaded on said ring, a screw constituting a center contact, an insulating washer separating said terminal clips, an insulating button of T-shaped transverse section separating said screw from said ring, and a pair of rings concentric with one another respectively joined to said clips.

4. A socket comprising an insulating cup with a flange, a sleeve also having a flange and a bayonet joint connection on said cup, a lamp receiving shell received in said cup, a metal ring of L-shaped transverse section engaging said shell, a terminal clip threaded on said ring, a screw constituting a center contact, a terminal clip threaded on said screw, an insulating washer separating said terminal clips, and an insulating button of T-shaped transverse section separating said screw from said ring.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

JOHN H. DALE.

Witnesses:
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