No. 889,812. PATENTED JUNE 2, 1908.

F. J. RUSSELL.

MULTIPLE SOCKET FOR ELECTRIC LAMPS.

APPLICATION FILED DEC. 18, 1907.

2 SHEETS—SHEET 1.

Fig. 1

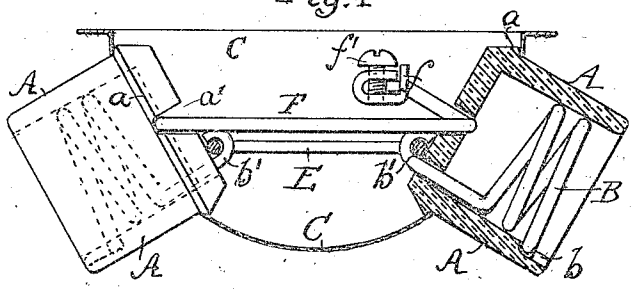


Fig. 2

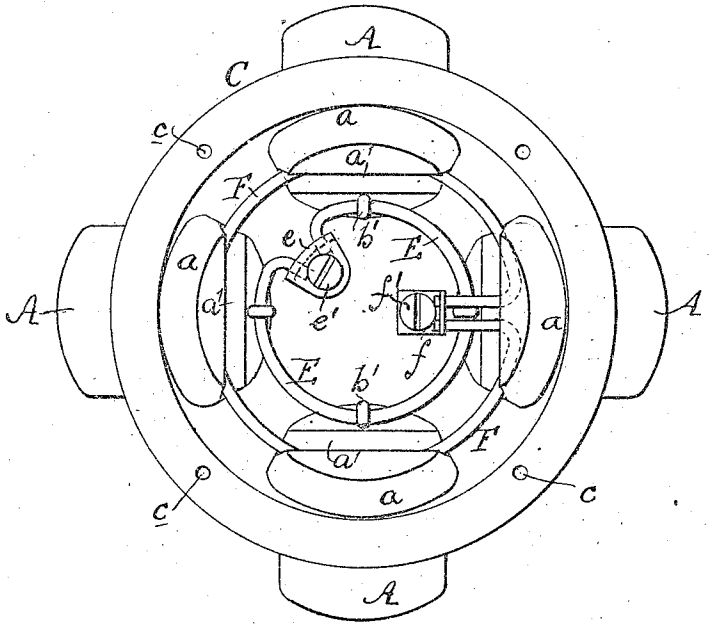
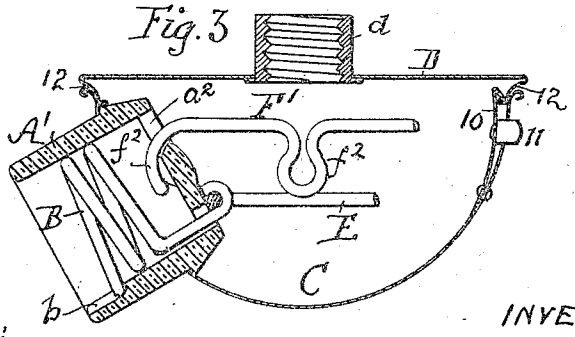


Fig. 3



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Fig. 4

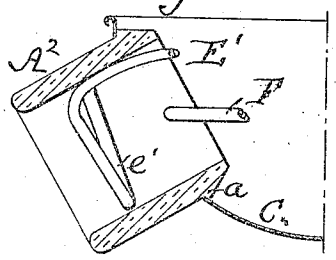


Fig. 5

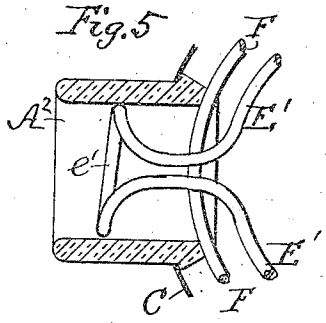


Fig. 6

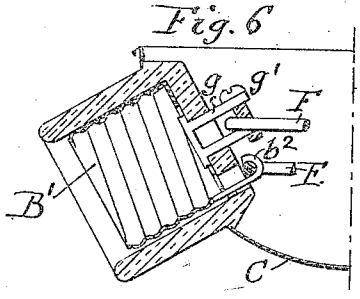


Fig. 7

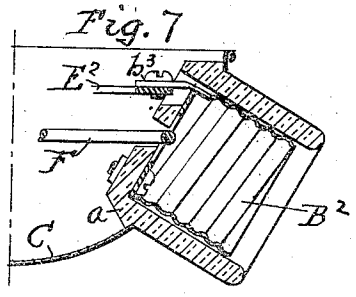


Fig. 8

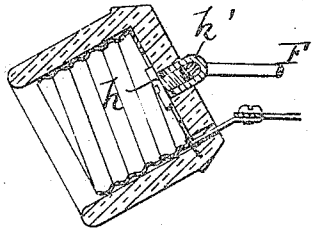
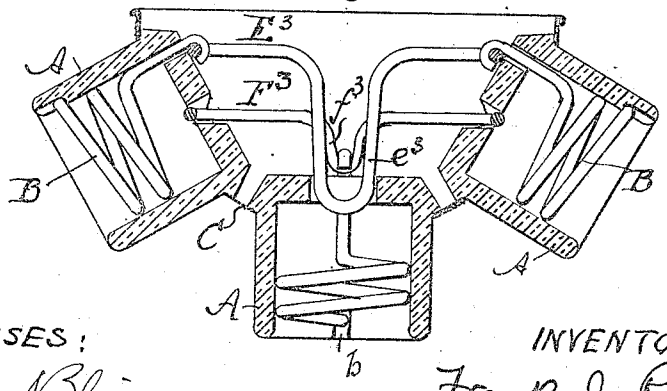


Fig. 9



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UNITED STATES PATENT OFFICE.

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MULTIPLE SOCKET FOR ELECTRIC LAMPS.

No. 889,812. Specification of Letters Patent. Patented June 2, 1908.

Application filed December 18, 1907. Serial No. 407,074.

To all whom it may concern:

Be it known that I, FRANK J. RUSSELL, a citizen of the United States of America, residing in the city, county, and State of New York, have invented a certain new and useful Improved Multiple Socket for Electric Lamps, of which the following is a specification.

My invention relates to that class of electric lamp sockets, which are known as multiple sockets or cluster fixtures, and the main objects of my invention are to construct a multiple socket with the fewest possible number of parts and the simplest forms of the parts, both of porcelain or other insulation and the metal, and with the fewest possible number of screws, and with consequent economy of manufacture, simplicity and ease of assembling, reliability and strength in use, and good separation of the metallic current-carrying parts of opposite polarity. These objects I attain by the construction which I will now describe and which has as an important characteristic feature, the construction of the cluster in what may be termed skeleton form, dispensing with the use of the insulating base commonly employed in socket clusters as heretofore made.

In the accompanying drawings Figure 1 is a vertical section of one form of cluster constructed in accordance with my invention; Fig. 2 is a plan view of the same; Fig. 3 is a sectional view of a modification; Fig. 4 is a vertical sectional view, and Fig. 5 a sectional plan, of another modification; Figs. 6, 7 and 8 are sectional views of other several modifications; and Fig. 9 is a sectional view of still another modification.

Each construction of my improved multiple socket comprises only three principal parts, namely, the canopy or cover, the sockets and the two conducting pieces (preferably rings), electrically connected one to one set of lamp terminals, and the other to the other set of lamp terminals in the several sockets, and the several sockets are supported in the canopy, while the two conducting pieces are supported independently of each other in the insulating portions of the sockets. By this means, the usual common insulating base to support the lamp terminals or conducting rings or plates is dispensed with. And furthermore, this construction permits a dealer or other person provided with the units, to readily assemble a cluster with two, three, or other number of lights, and so make it unnecessary to wait to have an order filled from the factory.

Referring to Figs. 1 and 2, C is the sheet metal dome-shaped canopy or cover, which in each case will have formed in its walls the number of holes according to the number of lights for which it is intended. This canopy at its margin may be constructed in any usual or suitable way for mechanical attachment to the back piece on which it is to be mounted. In Fig. 2, I have indicated it as adapted to be secured by screws through holes *c* to any supporting plate. In Fig. 3 I have indicated it as provided with spring latches 10 to engage a flange 12 on a metallic back plate D which has a screw nipple *d* for attachment to a pipe; and in this case, buttons 11 may be provided to be pressed by the thumb and fingers to free the latches from the flange. Other well known or mechanical means may be employed to detachably secure the canopy to its support.

The bodies of the several sockets A, (four sockets are shown in the cluster, Fig. 2), are preferably formed of porcelain or other suitable insulating material in cup-shape, and are made of a diameter to pass into and fit snugly within, the holes in the canopy, and at their rear ends the socket bodies are formed with shoulders *a*, such that when the sockets are inserted into their respective openings from the inside of the canopy, these shoulders will bear against the walls of the canopy and support the sockets in position against thrust from the inside, as shown in Fig. 1. Behind the shoulders *a*, the socket bodies are preferably beveled, as shown, to permit of a close assembling where a large number of sockets are grouped in one canopy, (see Fig. 9.) The lamp-receiving terminals in the sockets may be constructed in any convenient form.

In Figs. 1 and 2, I have shown how the screw to receive the threaded ring of an Edison lamp base is formed of a spirally twisted wire B, the outer end of the coil being let into a groove *a'* in the mouth of the socket body, so as to prevent the clamping action of the coil, which would otherwise be liable to occur in unscrewing a lamp. The other end of the coil is passed out through an opening in the back wall of the socket body and is there hooked or otherwise formed for mechanical and electrical connection with the conducting piece E, which I have shown as

a simple wire ring (Figs. 1 and 2.) This ring E, which is thus supported by the insulation of the several sockets, at the same time aids in holding the several sockets in position in the canopy, as well as supplying current to the several lamp terminals B, has its ends connected to a binding post e, (Fig. 2), with a binding screw e^1, to which one of the supply wires is to be connected. The central contacts for the several sockets may be formed by the other conducting piece F itself, and I have so shown it in Figs. 1 and 2. This conducting piece F I have shown in these figures as also made of a wire ring with its ends connected to a binding post f, with screw f^1 for attachment of the second supply wire. In the center of the back wall of the insulation of each socket, I form a transverse slot of sufficient size for the admission of a sufficient portion of the ring F to project through and into the interior of the socket and to there present a metallic surface to form the central contact for the end terminal of an Edison lamp base. As in the case of the conducting piece E, so also this conducting piece F is thus supported by the insulating positions of the several sockets but independently of the ring E, and with a sufficiently large air space between to prevent any danger of short circuit between these parts of opposite polarity. This ring F, as well as the ring E, also aids in holding the sockets mechanically in place in the canopy against rotary motion, as well as inward thrusts.

In Fig. 3, I have shown a ring, similar to the ring F, but here marked F^1, as provided with bent loops f^2 passing into openings a^2 in the base of the socket body A^1, in such a way that when a lamp is screwed into place in the socket, it will tend to bind the loop f^2, which thus forms the central contact against the back of the socket body.

In Figs. 4 and 5, I have shown how the other ring, here marked E^1, may be formed into a single loop or coil e^1 to itself form the lamp-receiving and holding ring. In this case, the insulating body A^2 of the socket is shown as made open at the back for the convenient insertion of the coil e^1.

In the modification, Fig. 6, I have shown the socket as provided with the common form of Edison screw shell B^1, provided with a hook b^2 projecting through the rear wall of the socket body for mechanical and electrical connection with the conducting ring E, while the central contact in the bottom of the socket is formed of a yoke-shaped piece g with a screw g^1 for mechanical and electrical connection with the conducting ring F.

In Fig. 7, the ring F is shown as projecting into the interior of the socket to form the central contact, while an Edison screw shell B^2 has an extension piece b^3 connected by a screw to a flat ring E^2.

In Fig. 8, the central contact of the socket is shown as a headed screw h, threaded into the legs of a loop h^1, (tapped to receive the screw), and which loop embraces the ring F.

In Fig. 9, I have shown in addition to the usual arrangement of lamps radiating from the cluster in an inclosed position, how a central vertically pendent lamp may be added in my improved skeleton construction. For this purpose, each of the wire conducting rings, (E and F of Figs. 1 and 2), here marked E^3 and F^3, respectively, is formed with a downward loop e^3 (f^3), one for connection to the spiral coil, and the other to form the central contact, of the bottom socket, as will be readily understood.

I claim as my invention—

1. A multiple socket having a canopy, with a plurality of sockets supported in the canopy and two conducting pieces electrically connected one to one set of socket lamp contacts and the other to the other set of socket lamp contacts, said two conducting pieces being supported independently of each other by the insulating portions of the sockets, and at the same time serving to hold the sockets in place in the canopy.

2. A multiple socket having a canopy, with a plurality of sockets supported in the canopy and two conducting rings electrically connected one to one set of socket lamp contacts and the other to the other set of socket lamp contacts, said two conducting rings being supported independently of each other by the insulating portions of the sockets, and at the same time serving to hold the sockets in place in the canopy.

3. A multiple socket having a canopy, with a plurality of sockets supported in the canopy and two conducting metallic wire rings electrically connected one to one set of socket lamp contacts and the other to the other set of socket lamp contacts, said two conducting metallic wire rings being supported independently of each other by the insulating portions of the sockets, one of the wire rings having portions extending into the sockets to form lamp contacts.

4. A multiple socket having a canopy with a plurality of sockets inserted from within through openings in the canopy and having shoulders to bear on the canopy and two conducting pieces electrically connected one to one set of socket lamp contacts and the other to the other set of socket lamp contacts and mechanically holding the sockets in place.

5. A multiple socket having a canopy with a plurality of sockets having insulating bodies inserted from within through openings in the canopy and having shoulders to bear on the canopy and two conducting pieces electrically connected to the respective socket lamp terminals and mechanically holding the sockets in place.

6. A multiple socket, having a canopy, with a plurality of sockets supported in the

canopy and two conducting pieces electrically connected one to one set of socket lamp contacts and the other to the other set of socket lamp contacts, said two conducting pieces being supported independently of each other by the insulating portions of the sockets and at the same time serving to hold the sockets in place in the canopy, and one of said conducting pieces extending into the sockets.

7. A multiple socket, having a canopy, with a plurality of sockets supported in the canopy and two conducting pieces electrically connected one to one set of socket lamp contacts and the other to the other set of socket lamp contacts, said two conducting pieces being supported independently of each other by the insulating portions of the sockets and at the same time serving to hold the sockets in place in the canopy, and both of said conducting pieces extending into the sockets.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

FRANK J. RUSSELL.

Witnesses:
HUBERT HOWSON,
WILLIAM ABBE.