W. C. JONES.

CLUSTER LAMP SOCKET.

APPLICATION FILED OCT. 20, 1906.

934,542.

Patented Sept. 21, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

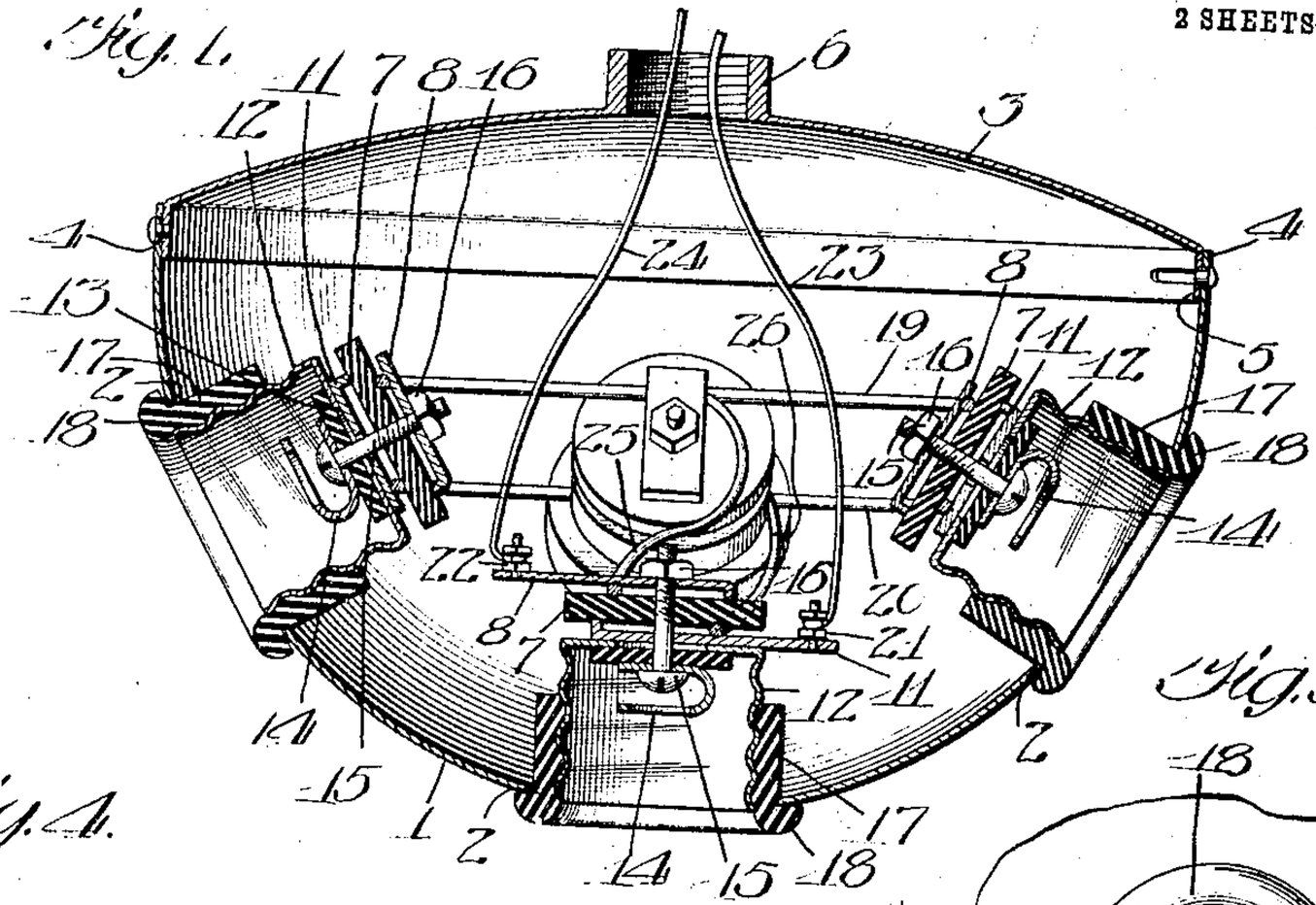


Fig. 4.

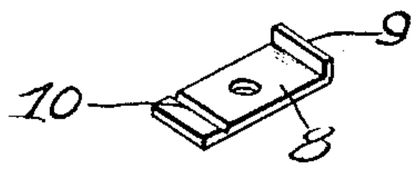


Fig. 3.

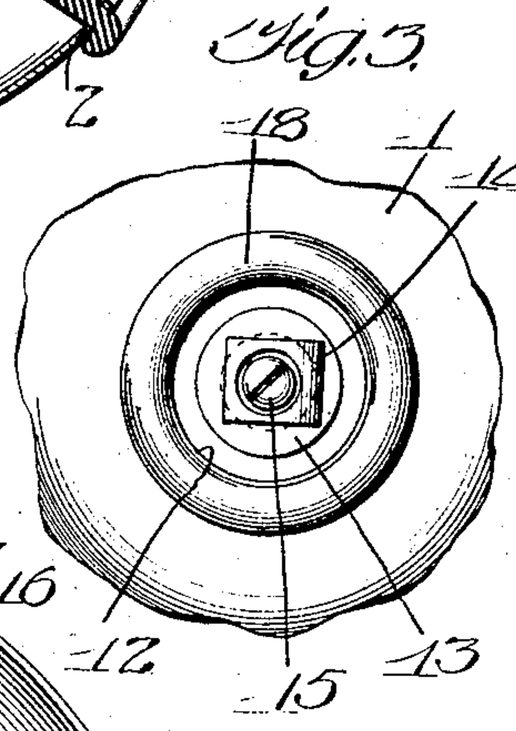
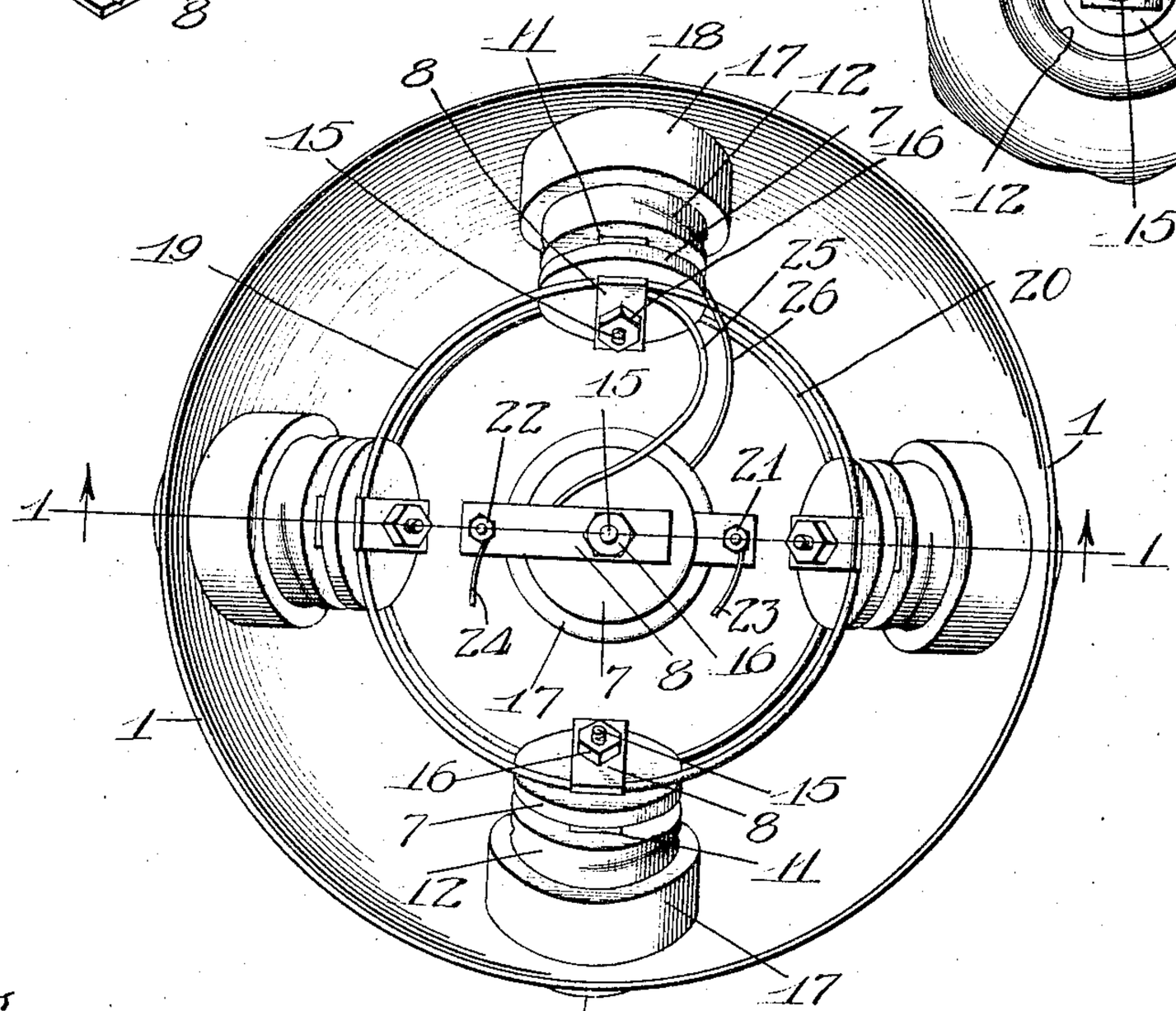


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 5.

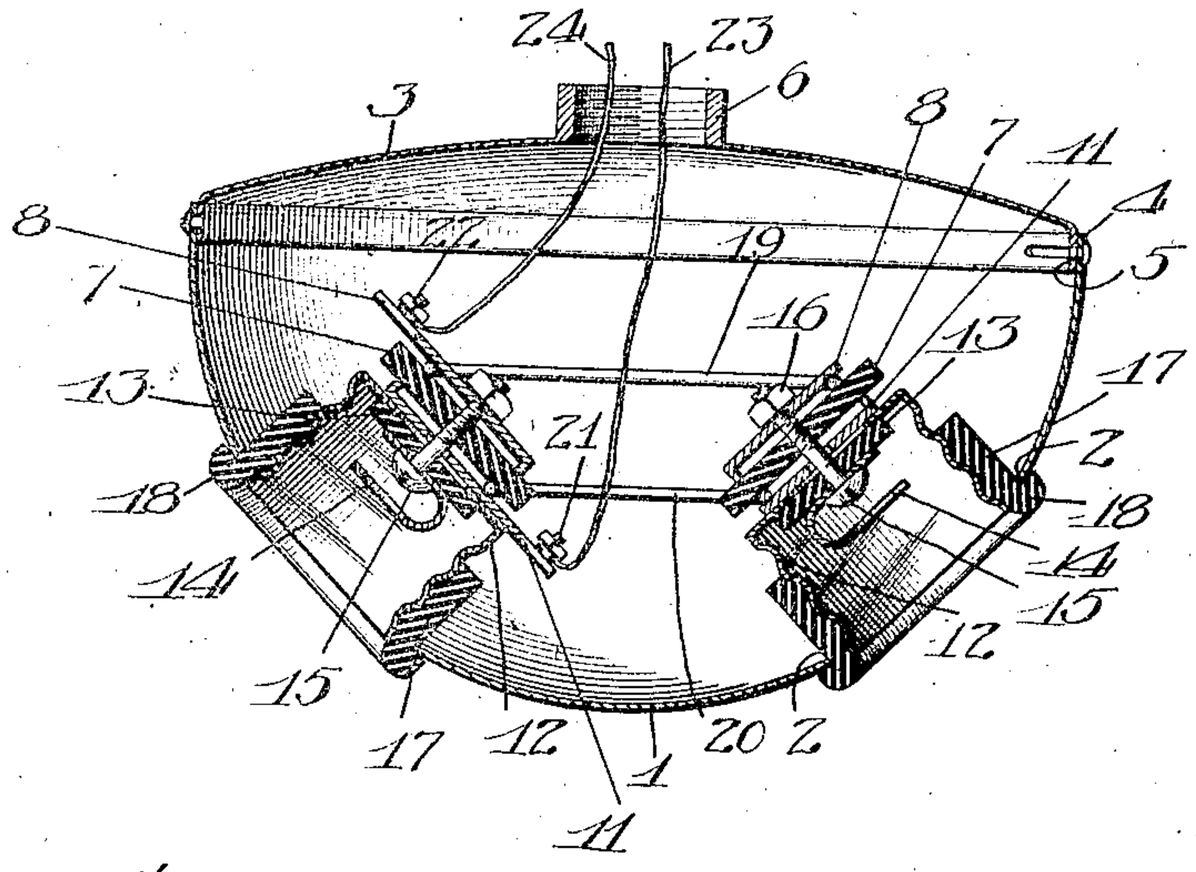


Fig. 6.

Fig. 7.

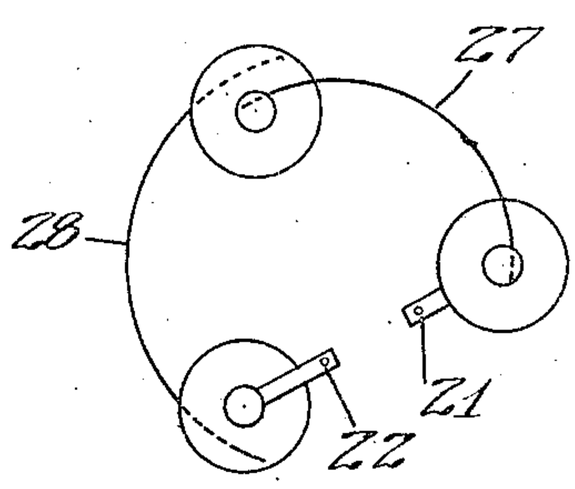
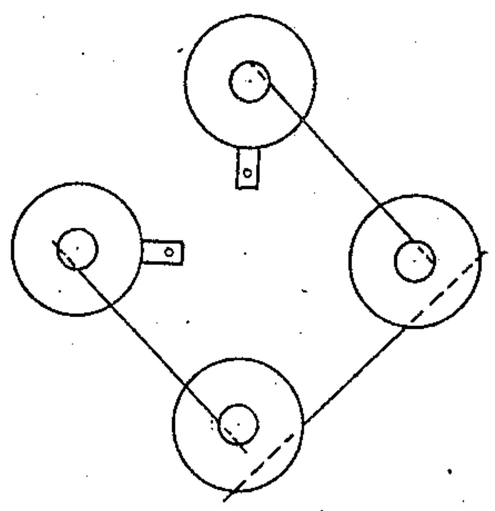
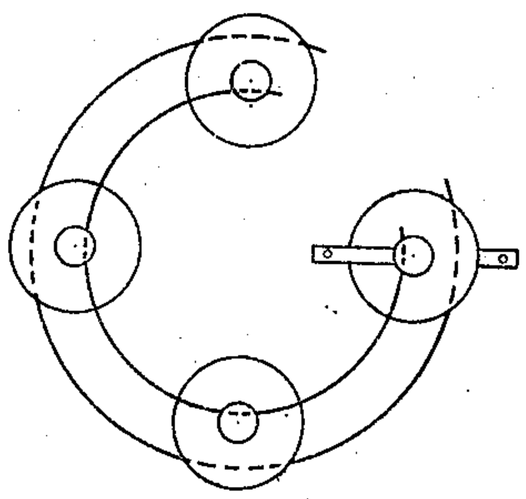


Fig 8.





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UNITED STATES PATENT OFFICE.

WALTER CLYDE JONES, OF CHICAGO, ILLINOIS.

CLUSTER LAMP-SOCKET.

934,542.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed October 30, 1906. Serial No. 339,308.

To all whom it may concern:

Be it known that I, WALTER CLYDE JONES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Cluster Lamp-Sockets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to an improved cluster lamp socket, my object being to provide an improvement in that type of sockets, for electric lamps commonly known as plural lamp sockets in which the lamp receivers and associated contacts for a plurality of electric lamps are assembled in cluster form into a unitary structure which can be assembled at the factory and shipped for use so that it is merely necessary to connect the leading-in wires with a pair of binding posts to place the structure in commission.

In plural lamp clusters of this type, as commonly constructed heretofore, it is impracticable or extremely difficult after the device has been shipped from the factory, to readjust the circuit arrangement of the lamp receivers and contacts, that is, if the cluster socket is designed for four lamps connected in multiple, it is impracticable or extremely difficult to rearrange the cluster for lamps connected in series. Likewise, where the lamps are arranged in a particular multiple series grouping, it is impracticable or extremely difficult in the structures as heretofore made, to change or rearrange the circuit plan.

It is one of the objects of the present invention to provide a cluster socket in which the structure, even after it leaves the factory, may be readily rearranged as to the circuit arrangement between the lamps.

A further object of my invention is to provide a structure in which each lamp receiver and its associated contacts are unitary in character, so that clusters to accommodate any desired number of lamps and have any desired circuit arrangement may be constructed through the agency of the unitary lamp receiving element.

My invention further contemplates a cluster socket having features of mechanical novelty, as more particularly set forth in the claims appended hereto.

I have illustrated my device in the accompanying drawings, in which:

Figure 1 is a sectional view of my cluster socket; Fig. 2 is a top plan view thereof with the support or cover removed; Fig. 3 is a plan view of one of the lamp receivers; Fig. 4 is a detailed view of one of the clamps for connecting the lamp receivers and contacts; Fig. 5 is a sectional view of another form of my socket; Fig. 6 is a diagrammatic view showing one manner of connecting the contacts of the lamp in a three-lamp socket; Fig. 7 is a diagrammatic view showing one manner of connecting the contacts of the lamps in a four-lamp socket; and, Fig. 8 is a diagrammatic view showing another manner for connecting the lamps of a four-light socket.

In the embodiment of my invention which I have worked out as the preferred construction thereof, I provide a casing 1, preferably dome-shaped and made of brass and provided with a number of circular openings 2, corresponding to the number of lamps desired. The upper or open side of this casing is covered by a metallic disk 3, which engages therewith by means of a number of bayonet joint connections, the edge of the casing having a number of inwardly projecting pins 4, which fit in angular grooves in a flange 5 on the edge of the disk. By means of this disk, the cluster is attached to the ceiling or other support and for this purpose is provided with a central threaded hub 6, which may screw into the end of a conduit extending from the ceiling or wall.

Within the casing I provide a plurality of socket elements each constructed alike and comprising a disk-like insulating block 7, to which is attached on the upper side of the disk, a clamp 8, preferably consisting of a small strip of brass or like material having one end 9 thereof turned down and the under face on the side opposite the flange grooved as at 10. A similar clamp 11 is secured upon the under side of the disk 7. This clamp 11 is preferably interposed between the back of a threaded shell 12 and the disk. Upon the inner side of the back of the threaded shell an insulating block 13 is secured, which serves to insulate a preferably U-shaped spring center contact 14, from said shell. A screw 15 passes through an opening in the contact 14, the insulating disk 13, the shell 12, the clamps 11 and 8 and the disk or block 7, and when a nut 16 is screwed home upon the inner side of said screw, all the above mentioned parts are drawn together and

form a unitary structure. This structure is supported upon the casing and insulated therefrom by an insulating bushing 17 screwed upon the shell 12 and having a flange 18 engaging the outside of the casing 1.

Arranged to be secured between each of the clamps 8 and the disks or blocks 7, is a conductor 19, which it will be noted extends between all of the side lamps of the socket. A second conductor 20 is connected between the clamps 11 and the disks 7. In this respect, it will be noted, that the clamp 8 is electrically connected with the center lamp contact by means of the screw 15, while the clamp 11 being in engagement with the back of the threaded shell 12, is electrically connected thereto, whereby, when the electrical conductors 19 and 20 are secured in position, the threaded shells and the center lamp contacts are all electrically connected. The clamps of the shell which support a lamp in a vertical position, have extensions thereon which carry binding posts 21 and 22, to which the leading-in wires 23 and 24 may be readily secured. Extending between the clamp carrying the binding post 22, and one of the clamps 8, is a conductor 25 and extending between the clamp carrying the binding post 21 and one of the clamps 11, is a conductor 26.

I have illustrated in Fig. 5, a cluster in which only two lights are provided. The structural features, however, of this cluster are substantially the same as just described. In Fig. 6 I have illustrated, diagrammatically, one means of electrically connecting the contact of a three-light structure. In this figure it will be noted that a conductor 27 extends between the center contacts of two of the lamps and a conductor 28 extends between the ring contacts of two of the lamps, the leading-in wires being connected by binding posts 21 and 22. By this arrangement, the three lamps are connected in series. In Fig. 7, I have shown a series arrangement for four lamps and in Fig. 8 I have shown a multiple connection for four lamps. From these illustrations, one skilled in the art will readily understand how to apply my invention to the various requirements of cluster work.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. The combination with a support, of a casing connected thereto, a plurality of insulating blocks, lamp-receivers and their associated contacts arranged within the casing and supported thereby, means for securing each of said insulating blocks to its corresponding lamp-receiver and associated contacts, a pair of clamps attached to opposite sides of each of said blocks, and conductors extending between said receivers and connected with the contacts thereof by means of said clamps.

2. The combination with a support, of a casing removably connected thereto, a plurality of insulating blocks, lamp receivers and their associated contacts arranged in and wholly supported by said casing and attached to said blocks, a pair of clamps attached to opposite sides of each of said blocks and conductors extending between said receivers and connected with the contacts thereof by means of said clamps, one pair of said clamps carrying binding posts for the leading-in wires.

3. In a cluster socket, the combination with a support, of a casing removably connected therewith, a plurality of shell-contacts carried by said casing and insulated therefrom, a pair of conductor-clamps associated with each of said shell-contacts, an insulating block between each pair of conductor-clamps, a screw for securing each of said insulating blocks with its pair of conductor-clamps to the corresponding shell-contact, and a center contact carried by each of said screws, one of each pair of conductor-clamps being electrically connected with its associated shell-contact, while the other conductor-clamp of each pair is electrically connected to the corresponding center contact.

4. In a cluster socket, the combination with a support, of a casing removably connected therewith, a plurality of shell-contacts carried by said casing and insulated therefrom, a pair of conductor-clamps associated with each of said shell-contacts, an insulating block between each pair of conductor-clamps, a screw for securing each of said insulating blocks with its pair of conductor-clamps to the corresponding shell-contact, a center contact carried by each of said screws, one of each pair of conductor-clamps being electrically connected with its associated shell-contact, while the other conductor-clamp of each pair is electrically connected to the corresponding center contact, conductors held between said conductor-clamps and insulating blocks for electrically connecting said lamp-contacts, and a pair of binding-posts for the leading-in wires carried by one pair of said clamps.

5. The combination with a support, of a casing removably connected thereto, a plurality of lamp receivers arranged in and wholly supported by said casing, each receiver comprising a threaded lamp shell and a center contact, an insulating base, a pair of clamps, a common binding screw for connecting said parts together, one of said clamps being electrically connected with the center lamp contact through said binding screw and the other clamp being electrically connected with said threaded shell, electrical connections extending between the clamps connected with said center lamp con-

tacts, electrical connections extending between the clamps of the threaded shells, and a pair of binding posts for the leading-in wires carried by one pair of said clamps.

6. A lamp cluster comprising a casing, a plurality of socket elements, an insulating block and a pair of conductor-clamps for each socket element, said conductor-clamps being secured to said insulating block upon opposite sides thereof.

7. A lamp cluster comprising a casing, a plurality of socket elements, an insulating block and a pair of conductor-clamps for each socket element, said conductor-clamps being secured to said insulating block upon opposite sides thereof, and means for insulating the socket elements from the casing.

8. A lamp cluster comprising a casing, a plurality of socket elements, an insulating block and a pair of conductor-clamps for each socket element, said conductor-clamps being secured to said insulating block upon opposite sides thereof, and insulating bushings for each socket element.

9. In a lamp-cluster, a plurality of socket-elements comprising each a shell-contact, an insulating block, a pair of conductor-clamps mounted upon opposite sides of said block, a center contact, and means for holding the parts together in operative relation.

10. A lamp cluster comprising a casing and a plurality of socket elements, each element comprising a threaded shell, an insulating block, conductor-clamps mounted upon opposite sides of said block, a center contact, and a clamping screw, for holding the parts together in operative relation.

11. In a lamp-cluster, a plurality of socket-elements comprising each a shell-contact, an insulating block, a pair of conductor-clamps mounted upon opposite sides of said block, means for holding the parts together, and a center contact carried by said holding means.

12. In a lamp-cluster, a plurality of socket-elements comprising each a shell-contact, an insulating block, a pair of conductor-clamps mounted upon opposite sides of said block, a clamping screw for holding the parts together, and a center contact carried by said screw, said screw serving to electrically connect the center contact with one of the conductor-clamps.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

WALTER CLYDE JONES.

Witnesses:
PERRY HAHN,
E. R. KING.