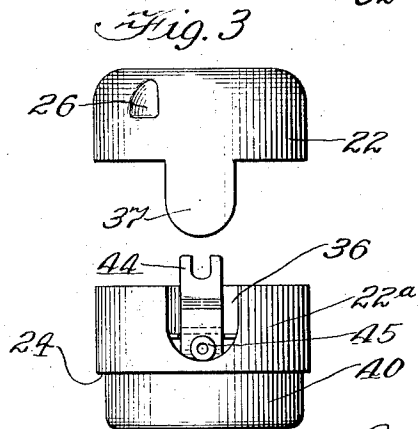
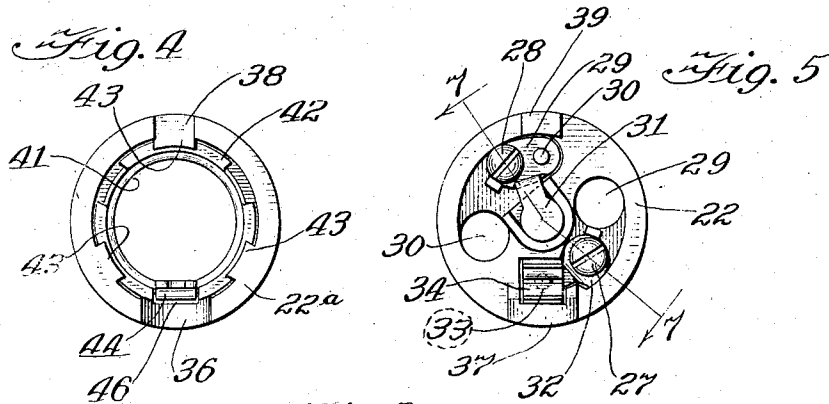
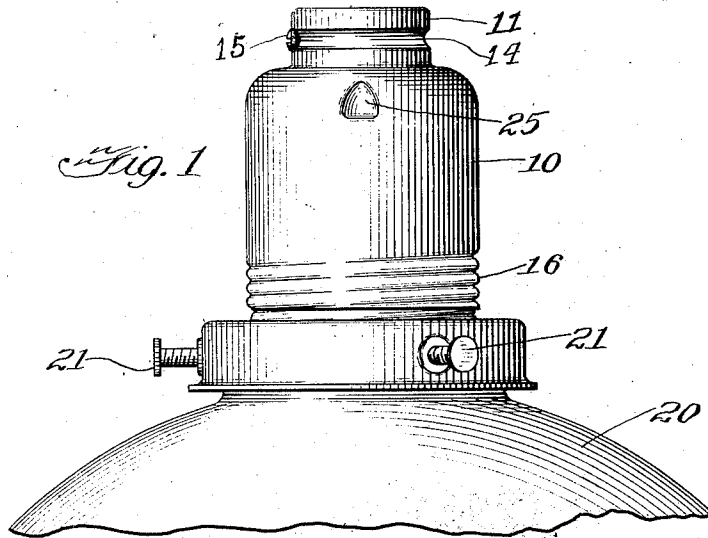


R. B. BENJAMIN.
WEATHERPROOF ELECTRIC LAMP SOCKET.
APPLICATION FILED JULY 23, 1909.

1,025,238.

Patented May 7, 1912

2 SHEETS-SHEET 1.



Witnesses:-
Wm. H. Yagle
C. L. Hopkins

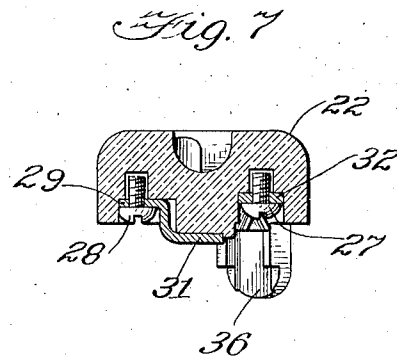
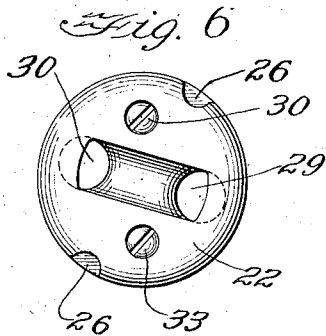
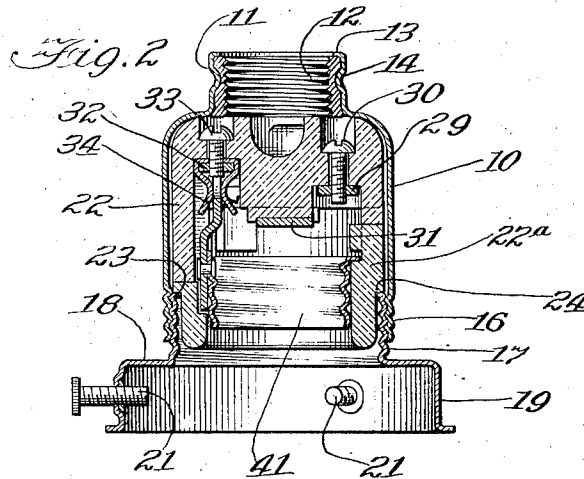
Inventor:
Reuben B. Benjamin
by Jones, Addington & Ames,
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UNITED STATES PATENT OFFICE.

REUBEN B. BENJAMIN, OF CHICAGO, ILLINOIS, ASSIGNOR TO BENJAMIN ELECTRIC MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

WEATHERPROOF ELECTRIC-LAMP SOCKET.

1,025,238.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed July 23, 1909. Serial No. 509,184.

To all whom it may concern:

Be it known that I, REUBEN B. BENJAMIN, 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 Weatherproof Electric-Lamp Sockets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to improvements in weatherproof electric lamp sockets, one of the objects of the invention being to provide a socket in which the means for making connection with the supply wires are readily accessible after the device has been secured in place upon its supporting pipe.

As electric lamp sockets are usually constructed the upper part of the casing shell constitutes a cap which is made separable from the body of the casing, this cap having a bushing which is threaded for the reception of the supporting pipe. One of the disadvantages of such a construction is that, in order to make electrical connection between the supply wires and the binding posts of the device, it becomes necessary to separate the body portion of the casing from the cap before access can be gained to said binding posts. Another disadvantage of the old construction is that where a heavy globe is to be supported by the socket, as is often the case in outdoor lighting with large lamps, the body part of the casing is liable to become separated from the supporting cap and permit this body part, together with the lamp and globe, to fall and become broken or be left suspended by the leading-in wires.

It is, then, another principal object of my invention to construct a device in which the globe-carrying part of the casing cannot become separated from the part which is secured to the supporting pipe except when such parts are designedly separated.

In the accomplishment of the above objects I so construct the parts of the casing that mechanical connection between these parts is made by screwing one of said parts into the other. As a further means toward the accomplishment of these objects I construct a globe-holding flange upon the lower part of the casing in order to do away with the necessity of attaching a separate element consisting of a globe-holder of the ordinary form. Where such holders are employed

with heavy globes the holders are likely to become loosened from the casing of the device. Furthermore, by forming the lower edge of the casing so that it may receive the upper edge of a globe rain, dust and the like are effectually excluded from the globe without the provision of special means for maintaining a weatherproof connection, as is required between an ordinary shade-holder and the casing of a socket. As a further means toward the adaptation of the device for use in exposed positions, in that it permits the casing to be without a joint at any point where moisture finding its way into the casing would create a short circuit, I so arrange the insulating base, socket and binding posts that the base with the socket and binding posts thereon may be withdrawn from the lower end of the casing after the globe-carrying part of the casing has been separated from the body part thereof.

In the accompanying drawings, Figure 1 is a side elevational view of my improved socket, the upper portion of a globe being also shown; Fig. 2 is a vertical longitudinal sectional view of the device; Fig. 3 is an elevational side view of the insulating base, showing the same separated on a horizontal line, in a manner hereinafter described, in order that the supply wires may be more readily secured to the binding posts; Fig. 4 is a top plan view of the lower member of the separable base; Fig. 5 is a bottom plan view of the upper member of said base; Fig. 6 is a top plan view of the part shown in Fig. 5; Fig. 7 is a vertical sectional view of the same part, the section being taken on the line 7-7 of Fig. 5 looking in the direction indicated by the arrows; and Fig. 8 shows, partly in elevation and partly in section, a modified form of lower member for the casing, this member being intended for use when it is not desired to employ a globe.

In the several figures of the drawings, 10 is a shell forming the upper and main portion of the casing. This shell is of general cylindrical form, but has its upper portion drawn into a smaller diameter than its main portion to form a neck 11. A metallic bushing 12, interiorly screw threaded for the reception of the threaded end of a supporting pipe, is held in place in the neck partly by an inturned flange 13 on the upper end of the neck 11 and partly by means of an inwardly extending bead 14 on the neck, this

bead occupying an annular recess in the bushing 12. For securing the device against rotation with respect to the pipe, and consequent unscrewing of the device from said pipe, there is provided a set screw 15, as usual.

The lower end of the casing shell 10 has screw threads 16 rolled thereon for a short distance, and into this screw threaded portion of the casing shell is inserted, by rotating the same, a threaded ring 17, the latter being flanged outwardly at 18 and downwardly at 19. The downwardly extending portion 19 is given a diameter which adapts it for the reception of the upper portion of the globe 20, suitable clamping screws 21 being provided which, when screwed in, pass into a groove (not shown) in the neck of the globe as usual.

The insulating base is formed in two parts 22 and 22^a and is sustained in position in the casing by means of an inturned flange 23 upon the upper edge of the ring 17, the lower member of the base being provided with a circumferential shoulder 24 which rests upon the inturned upper edge of this ring. To prevent rotation of the base in the casing when a lamp is screwed into the socket or unscrewed therefrom the casing is indented at two opposite points, one of which is seen in Fig. 1 and is designated 25, the upper portion of the base being formed with depressions 26 (see Fig. 6) for the reception of the indented portions of the casing, which indented portions appear upon the inside of the casing as humps.

In order to facilitate the operation of connecting the leads with the binding screws the base is, as above mentioned, made in two portions which separate on a horizontal line as shown in Fig. 3. The upper portion 22 of the base carries the binding screws 27 and 28 upon the lower side thereof, a pair of openings 29 and 30 extending through the material of this part of the base for the accommodation of the lead wires. The binding screw 28 is carried by a plate 29 which is secured in position by a screw 30 which extends through the base and has its head sunk in a recess in the upper side of the base. The plate 29 has formed thereon a lug 31 which extends inward toward the center of the base and forms the contact which engages with the center terminal of the lamp. The binding screw 27 is carried by a plate 32 which is held in position by means of a screw 33 which extends through the base. Clamped between the plate 32 and the base is a thin metallic member 34 which extends down on each side of the plate 32 and has its ends arranged to almost meet each other and then turn outward slightly. This member 34 forms one of a pair of co-operating members which are arranged to make electrical connection with each other

when the two parts of the base are put together, as will be explained in detail, hereinafter.

The lower part 22^a of the base is ring-shaped and is formed with a recess 36 in its upper edge adapted for the reception of a downwardly extending lug 37 which is formed upon the upper base member 22, so as to insure the two parts of the base being put together in proper alinement. To further insure the parts of the base being properly put together the lower part of the base is provided with a small notch 38 into which fits a short lug 39 formed on the upper member of the base.

The lower ring-shaped portion of the base has its exterior diameter made larger at its upper portion than at its lower portion 40, thereby forming the shoulder 24 hereinbefore referred to which rests upon the inturned upper edge of the ring 17. The interior of the ring is also enlarged at its upper portion. A threaded metallic sleeve 41 is inserted into the ring-shaped part of the base and has its upper edge 42 flanged over into the enlarged part of the ring in order that the threaded sleeve may not be drawn out of the insulating ring by the act of screwing a lamp into the sleeve. Three lugs 43, formed on the insulating ring extend in over the outturned edge of the sleeve 41 to hold the same in position, the edge of the sleeve being notched at suitable points in order that the sleeve may be inserted from the top of the ring. After the sleeve has been inserted and turned slightly a metallic strip 44 is secured, as for instance by means of a rivet 45, to the outside of the sleeve, this strip occupying a notch 46 formed in the material of the insulating ring. The sleeve is now held against rotation in the insulating ring by reason of the fact that the strip 44 is firmly secured to the sleeve and occupies the recess or notch 46 in the insulating ring. This strip 44 constitutes a contact finger which, when the two parts of the base are put together, is inserted between the downturned ends of the contact member 34 carried by the upper portion of the base. Electrical connection is thus made, upon putting the parts of the base together, between the binding post 27 and the threaded sleeve 41. If now a lamp be screwed into the threaded sleeve its outer threaded terminal member will be electrically connected with one of the binding posts, the other terminal being connected with the other binding post through the center contact member 31.

It will be seen that if a globe be secured in the expanded portion 19 of the globe-supporting ring said globe will be very firmly and rigidly supported, and that the connection between this globe and the supporting pipe which carries the whole arrangement

will be such that the globe cannot become loosened, nor can any part of the device become separated from the supporting pipe except by unscrewing and removing the globe-supporting ring. This, while readily accomplished, when desired, is not likely to occur as the effect of vibration, nor are there any connecting or supporting means, such as set screws or the like, which are depended upon for carrying any heavy part of the device.

It may, in some cases, be desired to dispense with the globe, and when this is the case the ring which screws into the lower end of the casing shell need not have its lower portion expanded. In Fig. 8 I have shown a ring which is adapted to the purpose of holding the porcelain base and parts carried thereby up in position in the casing, this ring being provided with the inturned flange 24 upon its upper edge but having its lower edge expanded only slightly and roughened or knurled in order that it may be firmly grasped when it is to be screwed into or unscrewed from the casing shell.

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

1. In a lamp socket, the combination of a casing shell having means thereon for securing the same to a support, the lower end of said shell having screw threads, a threaded ring screwing into said shell, a base inserted into said shell and resting upon said ring, lamp-holding means carried by said base, and binding terminals carried by said base.

2. In a lamp socket, the combination of a casing shell, means secured thereto for supporting the same, a ring insertible into the lower end of said casing shell, means for securing said ring in position in said shell, an insulating base resting upon said ring, and lamp-holding means carried by said base.

3. In a lamp socket, the combination of a casing shell, a supporting bushing secured to said shell, a member insertible into said shell from the lower end, a base resting upon said insertible member, lamp-holding means carried by said base, and binding terminals carried by said base and accessible through said lamp-holding means.

4. In a lamp socket, the combination of a casing shell having a bushing secured at its upper end and having its lower end screw threaded, an insulating base inserted into the lower end of said casing shell, a threaded sleeve carried by said base, binding terminals upon said base, and a threaded ring screwed into the threaded end of said casing shell and arranged to support said base in said casing shell.

5. In a lamp socket, the combination of a casing shell having a supporting neck, a base inserted into the lower end of said

shell, means inserted into said shell after said base is in position and supporting said base, a lamp-receiving sleeve supported by said base, and binding terminals carried by said base, said binding terminals being accessible through said sleeve.

6. In a lamp socket, the combination of a casing shell having a supporting neck upon one of its ends, a base inserted into the shell through the opposite end of said shell, a lamp-receiving sleeve supported by said base, and a ring secured in said shell below said base for sustaining said base in position, said ring being expanded below said shell to receive a globe.

7. In a lamp socket, the combination of a casing shell having a supporting neck upon one of its ends, a base inserted into the shell through the opposite end of said shell, said base being separable into two parts on a transverse line, binding terminals carried by the upper of said parts, a lamp-holder carried by the lower of said parts, cooperating contact members on said parts of said base arranged to engage each other when said parts are put together and thereby connect said lamp-holder with one of said binding terminals, and means for sustaining said base in said shell.

8. In a lamp socket, the combination of a casing shell having supporting means and having its lower end provided with screw threads, a lamp-holder and binding terminals within said casing shell, and a globe-supporting ring provided with screw threads for cooperation with the screw threads of said casing shell, said ring being arranged to engage the lower part of said lamp holder and thereby support it in said shell.

9. In an electric lamp socket, the combination of a casing shell, a supporting bushing secured thereto, a base insertible into the lower end of said casing shell, said base comprising an upper member and a lower ring-shaped member, binding terminals carried by the upper of said members, a threaded lamp-receiving sleeve carried by the lower of said members, means for making electrical connection between said sleeve and one of said binding terminals when said base members are put together, and means for sustaining said base member in said casing shell.

10. In an electric lamp socket, the combination of a casing shell, a base insertible into said casing shell through the lower end thereof, said base comprising an upper member and a lower ring-shaped member, binding terminals carried by the upper of said members upon the lower side thereof, a threaded lamp-receiving sleeve carried by the lower of said members, interengaging contacts carried by said members and connected with one of said binding terminals

and said lamp-receiving sleeve respectively, and means for sustaining said base member in said casing shell.

11. In a lamp socket, in combination, a
5 casing shell having the lower end thereof open, a lamp holding device insertible into said shell through the open lower end thereof, a member secured to said shell at the lower portion thereof for sustaining said
10 lamp holding device within said shell, said

member being extended below said shell for the reception of a globe or the like.

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

REUBEN B. BENJAMIN.

Witnesses:

CHARLES G. COPE,

CHARLES L. HOPKINS.