A. WEBER, Sr., A. WEBER, Jr. & J. WEBER.

INCANDESCENT ELECTRIC LAMP SOCKET.

APPLICATION FILED JULY 18, 1904.

916,812.

Patented Mar. 30, 1909.

2 SHEETS—SHEET 1.

FIG

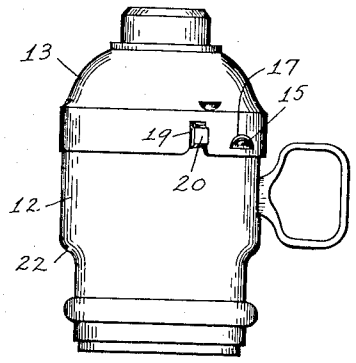


FIG 3

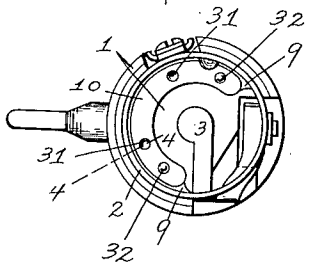


FIG 2

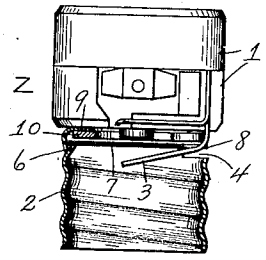
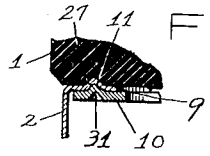


FIG 4



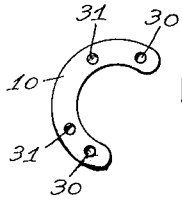


FIG 5

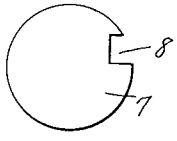


FIG 7

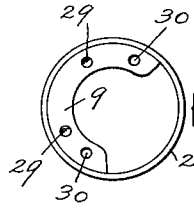


FIG 6

WITNESSES

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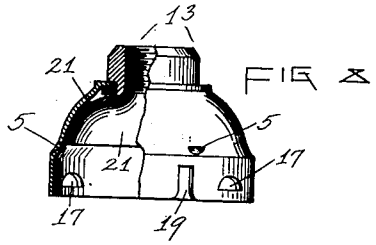


FIG 8

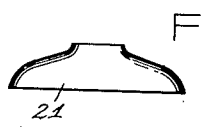


FIG 12

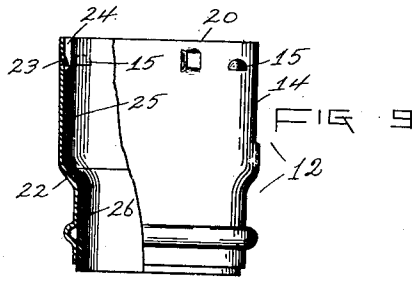


FIG 9

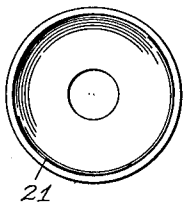


FIG 13

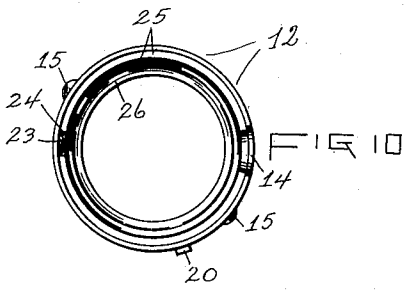


FIG 10

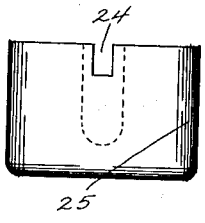


FIG 14

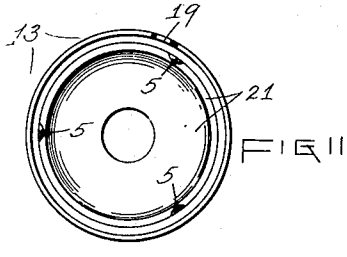


FIG 11

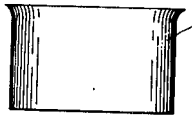


FIG 15

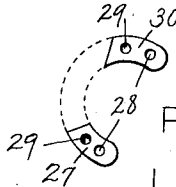


FIG 16

WITNESSES

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UNITED STATES PATENT OFFICE.

AUGUST WEBER, SR., AUGUST WEBER, JR., AND JOHN WEBER, OF SCHENECTADY, NEW YORK, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO WEBER ELECTRIC COMPANY, OF SCHENECTADY, NEW YORK, A CORPORATION OF NEW YORK.

INCANDESCENT-ELECTRIC-LAMP SOCKET.

No. 916,812. Specification of Letters Patent. Patented March 30, 1909.

Application filed July 16, 1904. Serial No. 216,964.

To all whom it may concern:

Be it known that we, AUGUST WEBER, Sr., AUGUST WEBER, Jr., and JOHN WEBER, citizens of the United States, residing at Schenectady, county of Schenectady, and State of New York, have invented certain new and useful Improvements in Incandescent-Electric-Lamp Sockets, of which the following is a specification.

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification. Similar characters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a view in side elevation of our improved incandescent electric lamp socket. Fig. 2 is a view in side elevation of the same with the case removed and the screw-shell, clamping-plate and insulating disk shown in cross-section. Fig. 3 is a plan view of the bottom or outer end of the same. Fig. 4 is a cross-section on an enlarged scale taken on the broken line 4—4 in Fig. 3 illustrating the manner in which the insulating-base, screw-shell and clamping-plate are assembled. Fig. 5 is a plan view of the clamping-plate. Fig. 6 is a plan view of the outer end of the screw-shell. Fig. 7 is a plan view of the insulating disk for the screw-shell. Fig. 8 is a view partly in side elevation and partly in central, vertical section of the cap casing member. Fig. 9 is a similar view of the sleeve casing member. Fig. 10 is a plan view of the top or inner end of the construction shown in Fig. 9. Fig. 11 is a plan view of the bottom or inner end of the construction shown in Fig. 8. Fig. 12 is a side view of the insulating-washer for the cap. Fig. 13 is a bottom plan view of the same. Fig. 14 is a side view of the insulating lining-tube for the larger end of the casing sleeve. Fig. 15 is a similar view of the insulating lining-tube for the smaller end of the casing-sleeve. Fig. 16 is a plan view of a modified form of clamping device.

This invention relates to sockets for incandescent electric lamps and in certain of its features more particularly to such sockets as are provided with a screw-shell to receive the screw-threaded base of the lamp.

Among the objects of the invention are to simplify and improve the construction and to facilitate the assembling of the parts together in the process of manufacture and use.

Referring to the drawings wherein the invention is illustrated in its preferred form, 1, represents the insulating base, and, 2, the screw-shell, which for certain purposes of the invention may be of any desired form, as for example, that shown and described in U. S. Letters Patent No. 743,207, granted to us November 3, 1903, to which patent reference may be had for a more complete understanding of the present invention. The screw-shell is adapted to form one of the contact members whereby the circuit is formed through the lamp inserted in the socket.

The central contact-member, 3, projects through a cutaway portion, 4, of the screw-shell interiorly thereof being mounted upon the insulating base in the manner shown in said prior patent, or in any other known manner. Opposite the cut-away portion of the screw-shell the shell wall is slitted transversely and a portion thereof introverted on the outer side of the slit, as shown at 6.

The disk, 7, of mica, or other insulating material, is inserted within the inner end of the screw-shell and is retained in position by the abutting engagement of its outer side with the overlying central contact-member, 3, and the cut edge of the introverted portion, 6, of the shell. The introverted portion, 6, of the shell is inclined inwardly toward the slit whereby its cut edge is formed, forming an incline over which the curved edge of the mica disk is adapted to ride easily as the disk is forced inwardly into position, the disk yielding or springing sufficiently to permit it to do this. As soon as the edge of the disk has passed the cut edge of the introverted portion, 6, the disk snaps into position resuming its full circular shape opposite said introverted portion. The edge of the disk, 7, is notched as shown at, 8, to receive the shank of the central contact-member.

In assembling the insulating base and the various parts mounted thereon it is necessary to secure perfect alinement of screw-aper-

tures formed in said base and the parts mounted upon the inner end thereof, such as the introverted end-flange, 9, on the screw-shell and the horseshoe-shaped clamping-plate, 10, adapted to receive the ends of the connecting screws, 32, and to clamp said end flange of the shell upon the end of the insulating base. To facilitate assembling the parts with the screw holes so alined, the end of the base is shown provided with depressions, 11, adapted to receive corresponding projections, 27, on the conductive-member adapted to rest upon said end of the base, the arrangement being such that when said projections are seated in said depressions the screw-holes, 30, of the assembled parts will be in alinement.

As shown, the flanged end of the screw-shell rests upon the inner end of the base and the projections are formed thereon by displacing portions of the end-wall or flange of the shell outwardly at 29 forming on one side thereof said projections and on the other side corresponding depressions. The clamping-plate 10 may in like manner be provided with projections adapted to enter the depressions so formed in the end-flange of the screw-shell to cause alinement of the screw-apertures in all the connected parts, as shown in Figs. 4. and 5, said projections being formed by indentations 31.

The base and parts mounted thereon are inclosed within the casing comprising a sleeve, 12, and a cap, 13, adapted to telescopically receive the inner end of said sleeve. The inner end of the sleeve is provided with a slot, 14, whereby it is rendered compressible and is also provided on opposite sides of this slot with exterior projections, 15, as by slitting the sheet metal transversely and forcing outwardly a portion of the metal shell on the inner side of the slit, the projection thus formed terminating abruptly at its outer end and inclining inwardly therefrom toward the inner end of the sleeve. The cap is provided with recessed portions or apertures, 17, arranged to correspond with the position of the projections, 15, on the shell and adapted to receive said projections respectively when the parts are telescopically applied to each other with the projections in line with the corresponding recesses. The sleeve being compressible and said projections beveled or inclined from the inner end of the sleeve toward their outer ends whereat they terminate abruptly, the parts will interlock with a snap-action when telescopically applied to each other. To insure the alinement of said projections and recesses during telescopic application to each other of the sleeve and cap, the edge of the cap is provided with a slot, 19, adapted to receive a projection, 20, on the outer side of the sleeve and guide the parts in their telescopic application to each other with the interlockable projections and recesses of the shell and cap respectively in alinement. The projection, 20, is preferably formed by displacing outwardly a portion of the sleeve wall between two longitudinal slits whereby when said projection enters the slot in the end of the cap rotative movement of the cap relatively to the shell is effectively prevented by engagement of the cut edges of the displaced portion of the shell with the cut edges of the slot-walls. The projection, 20, may be formed in any known manner. The cap and shell or sleeve have their edges opposite their interlocking portions continuous or unbroken, the projection, 20, and slot, 19, forming the sole guiding means for telescopically applying the parts one to another. The cap, which is provided with a central-aperture for the passage of the circuit wires, has an insulating washer, 21, secured therewithin by inward projections formed on the cap, the cap-wall being provided with transverse slits and portions, 5, of its wall on the outer side of said slits being introverted, the insulating washer which has a continuous circular periphery being secured between the end-wall of the cap and the cut-edges of said introverted portions. This construction permits the washer to be easily snapped into place and serves as an effective guard against its accidental removal.

The sleeve, 12, has opposite ends of different diameters connected by a tapered intermediate portion, 22, in the usual manner, and is provided with an insulating lining comprising insulating tube sections of different diameters adapted to fit within the respective ends of the shell. It is desirable to have the lining for the shell of tubular form, but it is difficult to make a tubular lining of different diameters at its opposite ends, as the difference in diameter is so great that the tubing is weakened or broken either by expanding to the larger diameter a portion of the tube of the smaller diameter, or by compressing to the smaller diameter a portion of the tube of the larger diameter. In providing such lining for the shell we employ two sections of tubing, one of the smaller diameter and the other of the larger diameter and displace the neighboring ends of said tube sections, that of the larger tube by contraction and that of the smaller tube by expansion to approximately the same diameter so that said displaced ends abut one upon the other. The displacement thus necessitated is inconsiderable and is effected at the ends of the tube sections which yield readily to manipulation. The tube section, 25, of larger diameter thus abuts upon and prevents the escape of the section of smaller diameters, 26. The shell is provided in its inner end with a transverse slit, the wall on the inner side of said slit being introverted at, 23, and the

larger section of insulating tubing is provided with a notch, 24, in its inner end adapted to receive said introverted portion of the shell. The larger tube section is thus secured within the shell between the portion thereof of smaller diameter and the cut-edge of the introverted portion 23. The tube sections of differing diameters may be secured within the opposite ends of the sleeve in any known manner.

This invention permits the use of ordinary insulating tubing which can be cut up into sections of desired length.

By insulating tubing we mean insulating material in unbroken, substantially cylindrical form, as distinguished from sheet material bent up to slitted or split tubular form.

If desired, the clamping-plate may be divided into two members, 30 and 27, as shown in Fig. 16, each of said members being provided with a screw-aperture, 28, and an indentation, 29, adapted to enter a corresponding depression in the neighboring part of the lamp socket, whereby the screw holes in the two screw-connected parts may be brought into alinement.

What we claim as new and desire to secure by Letters Patent is—

1. In a device of the class described and in combination, a pair of tubular, sheet-metal members, one adapted to telescopically receive the other, having mutually abutting cut-metal edges on the respective members to prevent relative rotative movement, and automatically interlocking means for preventing a telescopic movement of separation of one member from the other, said means permitting, without manipulation thereof, the telescopic application of the members to each other.

2. In a device of the class described and in combination, a pair of interlocking, tubular sheet-metal members, one adapted to telescopically receive the other, having mutually abutting cut-metal edges on the respective members to prevent a telescopic movement of separation of one member from the other when interlocked; and having other interengaging means for preventing a relative rotative movement of the interlocked members.

3. In a device of the class described and in combination, a pair of tubular sheet-metal members, one adapted to telescopically receive the other, having mutually abutting cut-metal edges on the respective members to prevent relative rotative movement, and mutually abutting cut-metal edges on the respective members to prevent a telescopic movement of separation of one member from the other.

4. In an incandescent electric lamp socket, the combination with the shell having its opposite ends of different diameters, and its wall of larger diameter slitted transversely and a portion thereof adjacent to said slit introverted on the outer side thereof; of an insulating cylindrical tube fitting within the larger end of the shell having a portion thereof confined between the portion of the shell of smaller diameter and the overhanging cut edge of said introverted portion of the shell and adapted to interlock therewith with a snap-action.

5. In an incandescent electric lamp socket, the combination with the shell having its opposite ends of different diameters, and its wall of larger diameter slitted transversely and a portion thereof adjacent to the slit introverted on the outer side thereof; of an insulating lining therefor comprising separate tube-sections of different diameters fitting within the respective ends of the shell having portions thereof displaced to cause the contiguous ends of said tube-sections to abut one upon the other, the larger tube-section having a cylindrical outer end adapted to abut upon the cut edge of said introverted portion of the shell and adapted to interlock therewith with a snap-action.

6. In an incandescent electric lamp socket, the combination with the shell having opposite ends of different diameters connected by a tapered intermediate portion, and having its wall of larger diameter slitted transversely and a portion thereof adjacent to the slit introverted on the outer side thereof; of an insulating lining therefor comprising separate tube-sections of different diameters fitting within the opposite ends of the shell, the contiguous ends of said tube-sections being displaced, that of the larger tube by contraction and that of the smaller tube by expansion, to abut one upon the other, and the larger tube having a cylindrical outer end adapted to abut upon the cut edge of said introverted portion of shell-wall and adapted to interlock therewith with a snap-action.

7. In an incandescent electric lamp socket, the combination with the shell having its opposite ends of different diameters, and its wall of larger diameter slitted transversely and a portion thereof adjacent to said slit introverted on the outer side thereof; of an insulating tube fitting within the larger end of the shell having a notched cylindrical outer end portion adapted to receive the introverted portion of the shell and abut upon the cut edge thereof.

8. In an incandescent electric lamp socket, the combination with the cap provided with an aperture in its end-wall and having its body slitted and portions thereof adjacent to the slits introverted on the side opposite said end-wall; of a washer of insulating material having a continuous circular periphery secured within said cap between the end-wall thereof and the cut-edges of said introverted portions.

9. In an incandescent electric lamp socket, the combination with the insulating base and

the screw-shell mounted thereon having its side wall slitted and a portion thereof adjacent to the slit introverted on the inner side thereof and inclined inwardly toward said slit; of a disk of insulating material secured within the screw-shell having a circular edge portion adapted to ride over said inclined-introverted portion, and abutting upon the cut edge thereof.

10. In an incandescent electric lamp socket, the combination with an insulating base; a screw-shell mounted thereon having its side wall slitted and a portion thereof adjacent to the slit introverted on the inner side thereof and inclined inwardly toward said slit; and having its side wall cut away opposite said slitted portion; and the central contact-member projected through the cut-away portion of said screw-shell interiorly thereof; of a disk of insulating material located within the screw-shell with its outer side in engagement with the overhanging portion of said central contact-member and the cut-edge of said introverted portion of the shell, said disk having a circular edge portion adapted to ride over said inclined introverted portion.

11. In a device of the class described, and in combination, a pair of members comprising a compressible sheet metal sleeve, and a cap adapted to telescopically receive the slotted end of said sleeve, said sleeve and cap having interengaging portions adapted when brought into line with each other to automatically interlock with a snap-action when the sleeve and cap are telescopically applied to each other, and having unbroken edge portions opposite said interengaging portions, one of said members being provided with a slot extending to its edge and the other with a projection adapted to enter said slot when the interlockable parts are in line with each other to guide the parts in their telescopic application to each other.

12. In a device of the class described, and in combination, a pair of members comprising a sheet metal sleeve having a slotted end, and a sheet metal cap having a slotted end adapted to telescopically receive the slotted end of said sleeve, one of said members having a recessed portion and the other having an inclined displaced portion whereby said members are adapted to automatically interlock with a snap-action when telescopically applied to each other with said displaced portion of the one in line with said recessed portion of the other, and an outward projection on said sleeve adapted to enter the slot in the end of the cap to guide the members in their telescopic application to each other, said telescopic members having unbroken edge portions opposite their interlocking portions.

13. In a device of the class described and in combination, a pair of automatically interlocking tubular sheet-metal members, one adapted to telescopically receive the other, having mutually abutting cut-metal edges on the respective members to prevent relative rotative movement; and mutually abutting cut-metal edges on the respective members to prevent a telescopic movement of separation of one member from the other.

14. In a device of the class described and in combination, a pair of members comprising a compressible sheet-metal sleeve, and a cap adapted to telescopically receive the slotted end of said sleeve, said sleeve and cap having interengaging portions adapted, when brought into line with each other, to automatically interlock with a snap-action when the sleeve and cap are telescopically applied to each other, one of said members being provided with a pair of longitudinal slits and having the metal between said slits displaced to one side of the body of the member, the other of said members being provided with a cut-away portion adapted to receive said displaced portion to prevent rotative movement of one member upon the other when said members have been interlocked by telescopic application of one member to the other.

In testimony whereof, we have hereunto set our hands this 14th day of July, 1904.

AUGUST WEBER, Sr.
AUGUST WEBER, Jr.
JOHN WEBER.

Witnesses:
MARCUS WING,
MATTHEW TAYLOR.