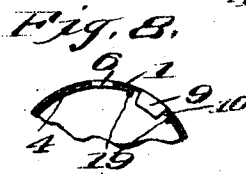
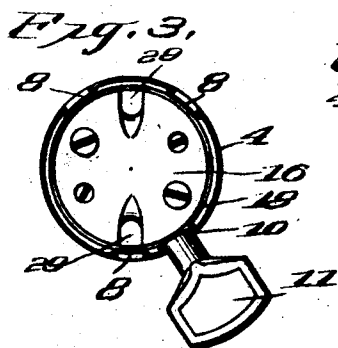
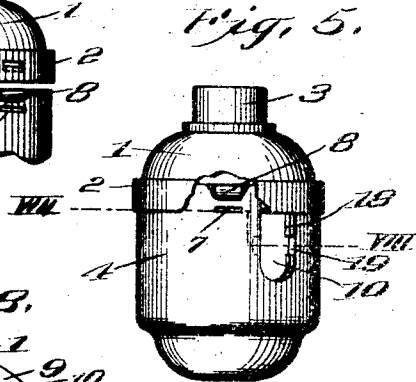
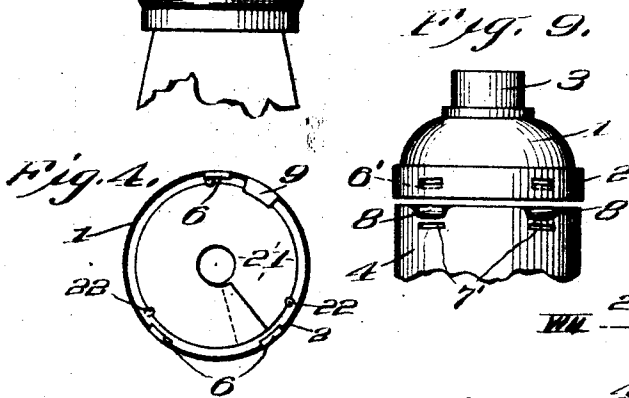
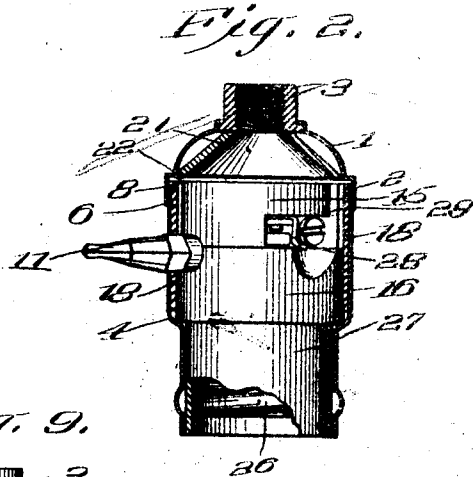
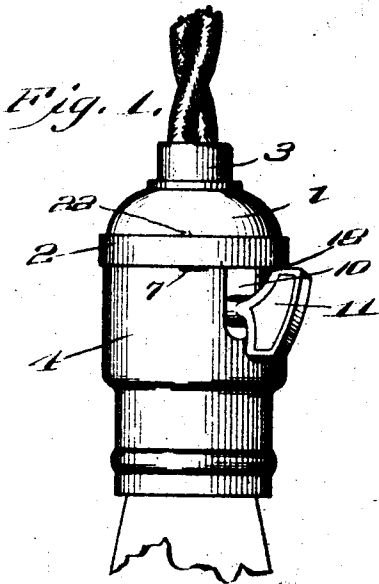


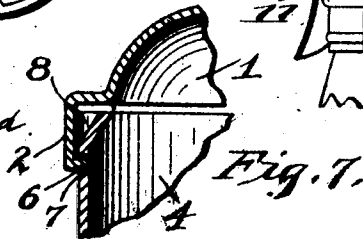
J. K. LUX.
 SOCKET FOR INCANDESCENT ELECTRIC LAMPS.
 APPLICATION FILED MAY 16, 1907.

954,117.

Patented Apr. 5, 1910.



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SOCKET FOR INCANDESCENT ELECTRIC LAMPS.

954,117.

Specification of Letters Patent.

Patented Apr. 5, 1910.

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To all whom it may concern:

Be it known that I, JULIUS K. LUX, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented new and useful Sockets for Incandescent Electric Lamps, of which the following is a specification.

My invention relates to sockets for incandescent electric lamps, and consists of a new construction of those parts, whereby the metallic parts are supported and protected, that is, of the sheet metal inclosing case, the insulating lining thereto and the insulating base on which the metallic parts in circuit are supported.

The important features of my invention are to form the cap with inwardly turned lips, and, the shell with corresponding marginal guide grooves to register with said lips and with slots adjacent to said margin and in line with said grooves, to engage with said lips when the shell is pushed straight home in the cap, whereby the shell is firmly and positively secured to the cap but may be easily disengaged therefrom when desired. The cap flange is also provided with an inwardly turned lug to register with the usual enlarged thumb-piece slot in the shell to insure a correct positioning of the shell when it is to be set on the cap. Lugs may also be provided in the edge of said thumb-piece slot to assist in retaining the fiber lining for the shell in position and a special form of insulating lining for the cap is also shown. The upper portion of the insulating body or base is made of smaller diameter than the lower to permit easy assembling and easy separation of the cap and shell.

My invention is shown in the drawing herewith, in which the reference numerals of the description indicate the corresponding parts in all the figures.

Figure 1 is a front elevation of the socket. Fig. 2 is a vertical section thereof with the porcelain base shown in elevation. Fig. 3 is a top plan of the socket with the cap removed. Fig. 4 is a bottom plan of the cap. Fig. 5 is an elevation of a pendent switch with parts broken away to show how my invention is applicable to a device of that sort. Fig. 6 shows my socket in elevation inclosed within a husk shown in enlarged section. Fig. 7 is a partial section of the cap and

shell as shown in Fig. 2. Fig. 8 is a partial cross section on line VIII VIII of Fig. 5. Fig. 9 is a partial elevation of the cap and shell separated, showing a slight modification in the arrangement of the lips and slots.

In the figures, 1 indicates the cap having the usual flange 2 and threaded bushing 3, whereby the cap is secured in position on the fixture or elsewhere.

4 is the substantially cylindrical shell having an upper margin adapted to be inserted within the cap flange whereby the insulating block or blocks carrying the parts in circuit are supported and protected after being wired.

To connect the cap to the shell when the parts are assembled, the cap flange is provided with a plurality of small inwardly turned lips 6, and the shell with corresponding slots 7 to engage with those lips, when the shell is inserted straight into the cap. The natural resiliency of the shell permits its margin to slip by the lips, and this is promoted by the marginal guide-grooves 8 in alinement with the slots to receive the lips initially and guide them to the slots. The cap is also formed with a guide lug 9, corresponding to the slot 10 in the shell for the thumb-piece 11 of the switch. By this lug the arrangement of the two parts, when the shell is to be set in the cap, is positively indicated. This lug also engages with the porcelain base to hold it away from the shell margin at that point, so that the margin can be pressed in, when the cap and shell are to be separated.

The object of this construction of cap and shell is to do away with the screws by which the shell has heretofore been commonly connected to the cap, and to provide means easily, and, so to speak, automatically to make such connection, when the shell is pushed straight home, without any twisting or turning of the parts one on the other. The guide lug insures proper alinement of the parts. Preferably, three lips, slots and guide grooves are provided, which are sufficient for security and prevent rocking of the shell on the cap. The shell is also easily withdrawn from the cap by pressing on the metal of the shell with the thumb at the left of the thumb-piece slot to disengage the shell from the cap lip at that point, and

then by slightly rocking the shell. When this socket is used with a husk 13 as shown in Fig. 6, so that the thumb cannot be used, the same disengagement of the shell margin from the cap flange may be effected by inserting between them some thin object such as a knife or screw-driver. This means for securing the shell to the cap is also neat and inconspicuous.

To adapt the interior parts of the socket to this particular construction of inclosing case, the upper part of the insulating base should be made of a smaller diameter than the lower. As here shown the base is composed of the porcelain blocks 15 and 16 of which the upper is slightly less in diameter than the lower. The reason is to afford a little space for the passage of the lug 9 and also space to permit the pressing in of the upper margin of the shell, when it is to be disengaged from the cap; furthermore if the two blocks were made of the same diameter (as common heretofore) there might be cases, where, owing to unavoidable accidental irregularities, the upper block would overhang the lower at some point, making difficult the placing of the shell in position.

The insulating lining 18 is positively secured in the shell and disarrangement thereof avoided by lugs 19 19 on each side of the thumb-piece slot turned in to engage with the lining. Corresponding notches to receive these lugs may be formed in the lining. The formation of the guide grooves 8 by forcing in the metal at the upper margin of the shell also coöperates to retain the insulating lining in position.

A simple and economical construction of fiber lining for the cap is shown. This consists of a ring of fiber 21, split at one point from the cord hole, forming a spiral with overlapping ends. The cap is formed with a plurality of small projections 22. The spiral ring is easily compressed to be inserted behind these projections, and, then expanding, is securely retained in place.

26 is the outer lamp terminal surrounded by the insulating bushing 27.

In Fig. 2 is shown one of the two wire terminals 28, to which the wires are led through the grooves 29 29. The switch and the other metallic parts connecting the respective terminals are arranged between the porcelain blocks.

In all the other figures the slots 7 are shown arranged in a circumferential line, and the lips similarly arranged and on the edge of the cap flange; but in Fig. 9, the lips 6' are formed on the flange above its edge, and inclined as shown; the slots 7' are similarly inclined. This slightly modified construction is sometimes desirable, as it permits the disengagement of the shell from the cap to be made more easily.

The reason for the inclination of the two

slots, remote from the thumb-piece slot 10, and of the corresponding two lips, is that, in compressing the upper margin of the shell to separate the parts, the two sides of the thumb-piece slot are forced toward each other and it is natural to rock the shell in that direction, *i. e.* toward the thumb piece slot, first to withdraw the lips 6' 6', on the opposite side from the slots 7' 7' (instead of compressing the margin to a greater extent and pulling the shell straight out). When the shell is so rocked, it will be evident that, if inclined as shown, the lips 6' 6' will more easily disengage from their slots.

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

1. In a device of the character described in which the operative parts are inclosed within a sheet metal protective casing, the combination of a brass cap having a flange, and a brass shell having its upper margin fitting within the cap, said shell being provided with a vertical slot extending downwardly from its upper margin, and with a plurality of substantially circumferential short slots, and said cap being provided with an inwardly turned guide lug corresponding to said vertical slot, and with a plurality of inwardly turned short lips corresponding to said short slots and adapted to engage therewith, and thereby secure the shell to the cap and retain the operative parts in position, said margin being compressible to permit the engagement of the lips and the disengagement thereof.

2. In a key socket for incandescent electric lamps, the combination of a sheet metal brass cap, and a tubular brass shell having its resilient upper margin adapted to be inserted in the cap, said shell being provided with a longitudinal, marginal, front slot for the key of the socket switch and with three short transverse slots adjacent to the margin edge, one of said short slots being arranged adjacent to the longitudinal slot, and the other two short slots at the rear being slightly inclined from a transverse line reversely to each other and said cap being provided with a larger inwardly extending lug adapted to engage with the longitudinal slot, and with three shorter inwardly extending lips on the cap flange, said lips corresponding in position and inclination with said short slots, substantially as described and shown.

3. In a key socket for incandescent electric lamps, the combination with a substantially cylindrical base of insulating material, of the terminals and connections secured on said base, a thin metal cap, a thin metal shell having its resilient upper margin fitting within the cap, said shell having a longitudinal key slot in its upper margin, an inwardly turned guide lug on the cap to

engage with said slot and its tip engaging with the smaller upper portion of the base, inwardly turned lips on the cap flange and said shell formed with slots adjacent to its margin to engage with said lips, said base having its upper portion slightly less in diameter than its lower to permit the compression of the resilient upper margin and the disengagement thereby of the lips from the slots.

4. In a key socket for incandescent electric lamps, the combination with an inclosing cap and shell, of means to connect the shell to the cap when the parts are assembled, a thin lining of insulating material for the shell, said shell and lining being formed with a marginal slot for the socket key, and inwardly turned lugs on the side of said shell slot, said lugs engaging with the lining to hold it in position.

5. In a socket for incandescent electric lamps, the combination with a cap and shell of thin metal, an insulating lining for the shell and an insulating lining for the cap, said cap lining being formed of a circular, resilient, substantially flat piece of insulating material split from its center to its margin at one point so as to be compressed and inserted within the cap and said cap being provided with inwardly extending projections to engage with said cap lining and maintain it in position.

6. In a key socket for incandescent electric lamps, the combination with a base, said base being composed of two substantially cylindrical blocks, the upper block being less in diameter than the lower, of terminals and connections on said base, and a thin brass inclosing shell for said base and the parts thereon, composed of a flanged cap and a tubular shell having a resilient upper margin fitting within the flange, said shell having a vertical marginal slot for the protruding key, a plurality of short, substantially transverse slots adjacent to the margin, and guide grooves in the margin opposite the transverse slots, said grooves being formed by forcing in the metal at the margin, and being of greatest depth at the margin edge and gradually diminishing in depth toward the transverse slots, said cap having inwardly turned, short lips on the flange corresponding in position around the circumference with the grooves and the slots, and being adapted to engage initially with the grooves and then enter the slots, and an inwardly turned guide lug adapted to fit the vertical slot on the shell and having its tip

adapted to engage the upper block, when the parts are assembled, substantially as described and shown.

7. In a socket for incandescent electric lamps, the combination with a substantially cylindrical base of insulating material, of the terminals secured on said base, a metal cap, a metal shell having its upper margin fitting within the cap, said shell having a slot in its upper marginal portion, an inwardly turned guide lug on the cap fitting said slot and adapted to engage the base, a plurality of engaging means on the cap and shell detachably to secure the shell to the cap one of said engaging means being arranged adjacent to the shell slot to facilitate the disengagement of the parts.

8. In a socket for incandescent electric lamps, the combination with a substantially cylindrical base of insulating material, of the terminals secured on said base, a metal cap, a metal inclosing shell for the base, adapted to marginal engagement with the cap, the marginal portion of said shell being spaced from the base and provided with a slot to facilitate the compression of the shell margin, a plurality of engaging means on the cap and shell detachably to secure the shell to the cap, said engaging means being arranged one adjacent to the shell slot on one side and a plurality oppositely arranged from said slot to facilitate the disengagement of the shell from the cap.

9. In a socket for incandescent electric lamps, the combination with a substantially cylindrical base of insulating material of the terminals secured on said base, a metal cap, a metal inclosing shell for the base adapted to marginal engagement with the cap, the marginal portion of said shell being spaced from the base and provided with a slot to facilitate the compression of the shell margin, an inwardly turned guide lug on the cap fitting said slot and adapted to engage the base, a plurality of engaging means on the cap and shell detachably to secure the shell to the cap, said engaging means being arranged one adjacent to the shell slot on one side and a plurality oppositely arranged from said slot to facilitate the disengagement of the shell from the cap.

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

JULIUS K. LUX.

Witnesses:

J. R. MILLWARD.
M. B. SMITH.