

C. DAMEY.
ELECTRIC INCANDESCENT LAMP AND HOLDER.
APPLICATION FILED SEPT. 22, 1910.

1,011,166.

Patented Dec. 12, 1911.

2 SHEETS-SHEET 1.

Fig. 1.

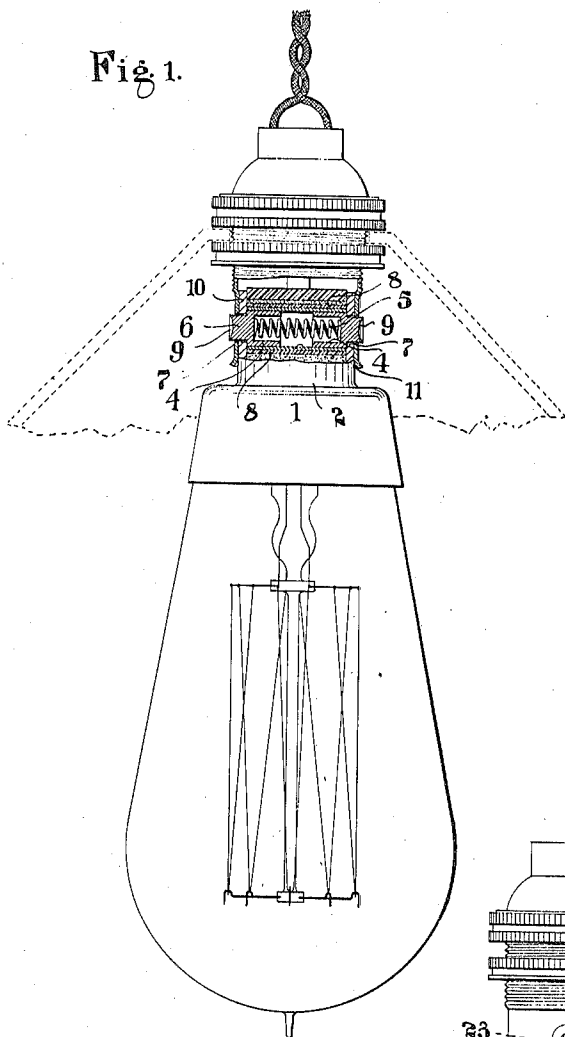


Fig. 2.

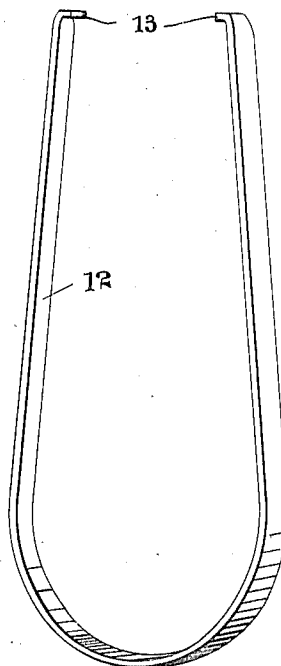
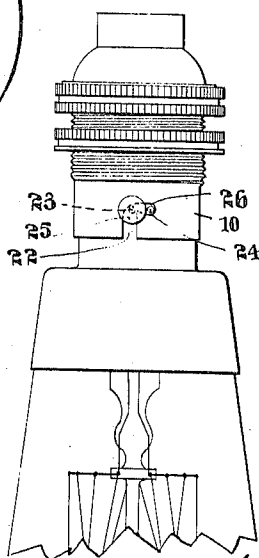


Fig. 5.



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2 SHEETS—SHEET 2.

Fig. 3.

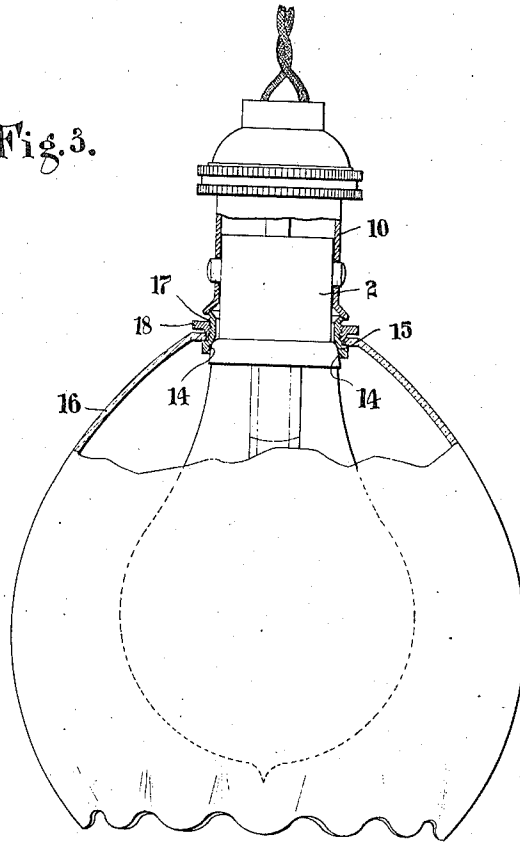


Fig. 4.

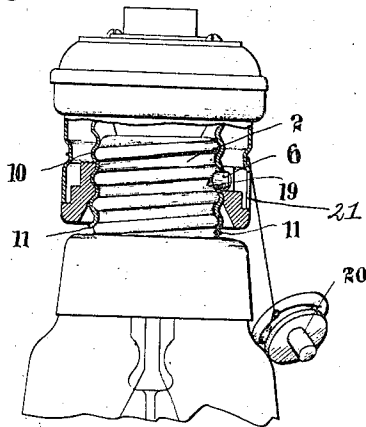
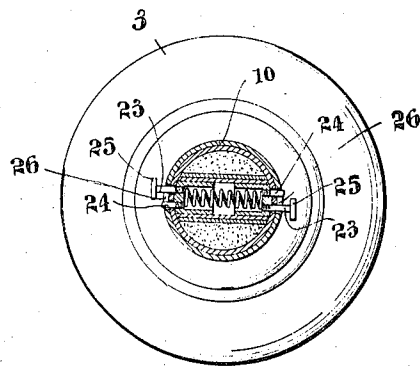


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES DAMEY, OF LONDON, ENGLAND.

ELECTRIC INCANDESCENT LAMP AND HOLDER.

1,011,166.

Specification of Letters Patent.

Patented Dec. 12, 1911.

Application filed September 22, 1910. Serial No. 583,205.

To all whom it may concern:

Be it known that I, CHARLES DAMEY, a subject of the King of Great Britain and Ireland, and residing at 24 Upper Marylebone street, in the county of London, England, have invented certain new and useful Improvements in Electric Incandescent Lamps and Their Holders, of which the following is a specification.

10 This invention relates to electric incandescent lamp bases and the sockets or holders into which they fit.

Hitherto it has been customary to provide the lamp base with two fixed laterally projecting pins adapted to engage in bayonet slots in the lamp holder, or the lamp base has been formed with a screw thread adapted to coact with a similarly threaded holder. With either of these forms of attachment it is found that lamps are frequently stolen, especially when fitted in public conveyances and other exposed places owing to the facility with which the lamps can be removed.

20 The object of the present invention is to prevent or minimize this fraudulent removal of the lamp, and it consists in providing the base of the lamp with one or more spring pressed plungers adapted to cooperate with an orifice or orifices in the holder.

30 The invention also consists in providing the spring pressed plungers in certain cases with auxiliary pins in order to adapt the invention to existing types of holder.

The invention further comprises various details hereinafter more particularly referred to.

Referring to the accompanying drawings, Figure 1 is an elevation partly in section of a lamp and lamp holder constructed according to the invention. Figure 2 is a view of a suitable key for operating the plungers in the lamp bases according to the invention. Fig. 3 is a part sectional elevation of a lamp base and holder arranged according to a modification of the invention. Fig. 4 shows in sectional elevation the application of the invention to screw threaded lamp holders. Fig. 5 is an elevation, and Fig. 6 is a plan of the invention as applied to the usual bayonet slot holder.

50 In carrying out the invention according to one mode and as in the application to incandescent lamps having the usual plain cylindrical form of base the latter instead of being provided with the customary pins or lugs is provided with two spring pressed

plungers. For example, referring to Fig. 1, a tube, 1, may be arranged across the cylindrical spigot, 2, of the lamp, 3, and within the same, and this tube, 1, may contain a pair of plungers, 4, normally pressed apart by a coiled spring 5, inserted between them. If desired, a pair of springs may be provided, with suitable abutments in place of the one spring 5. Each plunger fits the tube for a portion of its length and then has another portion of reduced diameter as at 6, projecting normally beyond the end of the tube 1. The portions of reduced diameter pass through holes, 7, in the base, 2, of the lamp, 3, and the shoulders, formed upon the plungers by making them of two diameters abut against the inner surface of the base and thereby limit the extent to which the projecting portions, 6, can be forced outwardly by the spring. The tube containing the plungers and the spring may be of insulating material or may be of metal covered with insulating materials as shown in Fig. 1. The inner ends of the plungers are preferably recessed or provided with sockets to receive the ends of the helical spring, while the outer ends are also recessed as indicated at 9 for the purpose of receiving a key such as illustrated in Fig. 2 and hereinafter described, or the ends may either be flat or rounded or of any desired shape.

The lamp holder, 10, is preferably formed with a slightly bell-shaped mouth, 11, in order that when the lamp is thrust into the holder the mouth engages the ends of the projecting plungers and are consequently thrust inwardly against the action of their spring, 5, so as to enable the base of the lamp to be inserted right into the holder. When this is effected the lamp is slightly rotated until the plungers are brought in coincidence with two holes in the holder whereupon the plungers automatically spring outwardly and lock the lamp in position. In order to remove the lamp the plungers must be forced back into the base and this can be done by hand or by means of a key or tool, 12, having jaws or teeth, 13, adapted to be inserted into the recessed ends, 9, of the plungers.

105 In order to facilitate the manipulation of the plungers and especially without requiring the use of a tool it is preferred to arrange the portion of the holder having the holes for receiving the plungers exterior to the shade when such is employed as illustrated in Fig. 3, and for this purpose the lamp base,

2, is preferably formed with a slight shoulder, 14, adjacent to the lamp proper in order to support a small gallery or ring, 15, upon which the shade, 16, may be carried, the gallery or ring, 15, having a cylindrical and threaded extension, 17, adapted to receive a milled locking ring, 18, or the like. In a modification of this arrangement the lower end of the holder, 10, may be externally screw threaded in order to receive a screw threaded ring or sleeve into which the gallery, 15, is adapted to be screwed for the purpose of further supporting the shade.

In carrying out the invention according to another mode, with reference to Fig. 4, as in the application to the type of lamp in which the base is threaded and is adapted to be screwed into an internally threaded holder, 10, a spring plunger 4, is arranged upon the base, 2, and a hole, 19, for receiving the same is arranged in the holder in such a position that when the lamp is screwed in sufficiently to make adequate contact, the plunger, 4, is opposite the hole, 19, in the holder and is free to spring outwardly through it. In this case also it is preferred to provide the holder with a conical or bell shaped mouth, 11, and to form the plunger with rounded end so that it will be automatically depressed when the lamp is merely inserted into its holder. In this form of lamp the plunger is in the circuit and an insulated key, 20, is provided. In order to release the lamp the key 20, in the form of a shouldered peg is inserted in the hole, 21, formed in the outer casing of the lamp holder thus forcing the plunger back out of engagement with the hole. The lamp may then be unscrewed in the usual manner. In this modification the lamp base has been described as provided with one spring pressed plunger but if it is thought desirable two plungers may be employed arranged in a similar manner to that described with reference to Fig. 1 above.

In applying the invention to lamps intended to be inserted in existing holders of the type in which bayonet slots, 22, (Figs. 5 and 6) are used and yet to securely lock the lamp in the holder, 10, each plunger, 4, is provided with two small projecting pins, 23 and 24, one 23, of which is provided with a head 25. This pin, 23, is longer than the headless pin, 24, and is for the purpose of enabling the plungers, 4, to be depressed to permit of the lamp being inserted into and removed from the holder 10, the longer pins in this operation passing up the bayonet slots until the depressed shorter pins, 24, are opposite the return portions, 26, of the slots 22, whereupon the plungers, 4, are released and the pins, 24, are thrust into these return portions. When in this position the longer pins, 23, prevent rotation of the lamp and therefore prevent extraction of the lamp

until the plungers are again depressed, which may be accomplished by hand or if desired with the aid of a key. In this arrangement the cap of the lamp, instead of being provided with two pairs of pins, that is to say, a pair upon the end of each plunger, may be provided with a pair of pins upon one plunger only, such being sufficient to lock the lamp in position, or only one plunger with a pair of pins may be provided, a fixed pin or lug as is usually employed being located in place of the second plunger.

It is to be understood that the form of plunger may be variously modified, for instance, although cylindrical plungers are preferred they may be of angular cross section or may even be in the form of flat strips inclosed in a flat tube in which case the spring acting upon them may be arranged outside the tube in the form of a coiled wire having its two ends entering the tube and abutting against the ends of the plungers or engaging in recesses therein.

Instead of a coiled spring with projecting ends a U-shaped spring similar to a lock spring may be used.

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

1. Means for attaching incandescent electric lamps comprising a lamp socket having an aperture extending through the wall thereof, a lamp base, a plunger located therein, a spring tending to press said plunger into engagement with said aperture with a view to positively locking the lamp in position and with a view to permitting unlocking when desired.

2. Means for attaching incandescent electric lamps comprising a lamp socket having apertures extending through the wall thereof, a lamp base, plungers located therein, a spring tending to press said plungers into engagement with said apertures, with a view to positively locking the lamp in position and with a view to permitting unlocking when desired.

3. Means for attaching incandescent electric lamps comprising, a lamp base, a sleeve within said base, a plunger located in said sleeve, a lamp socket having an aperture in the wall thereof and a spring within said sleeve, an abutment in said sleeve for said spring, said spring tending to press said plunger into engagement with said aperture, substantially as and for the purposes described.

4. Means for attaching incandescent electric lamps comprising, a lamp base, a sleeve within said base, plungers located in said sleeve, a lamp socket having apertures in the wall thereof, and a spring within said sleeve, tending to press said plungers into engagement with said apertures, substantially as and for the purposes described.

5. Means for attaching incandescent electric lamps comprising, a lamp base, plungers located therein, the outer ends of which have depressions, a lamp socket having apertures in the wall thereof and a spring tending to press said plungers into engagement with said apertures, substantially as and for the purposes described.

6. Means for attaching incandescent electric lamps comprising, a lamp base, plungers located therein, having a pair of pins upon the outer end of each, one of such pair of pins having a head forming a convenient manipulating hold, a lamp socket having the usual bayonet slots therein, with which the pins are adapted to engage, and a spring normally pressing the plungers outwardly, substantially as and for the purposes described.

7. Means for attaching incandescent electric lamps comprising, a screw threaded lamp base a plunger located therein, a screw lamp socket having an aperture in the wall thereof, a spring normally tending to press the plunger into engagement with said aperture, said aperture being adapted to receive a key for releasing the plunger, substantially as and for the purposes described.

8. Means for attaching incandescent electric lamps comprising, a lamp base, plungers located therein, the ends of which are rounded, a lamp socket having apertures in the wall thereof, and a spring tending to press

said plungers into engagement with said apertures, substantially as and for the purposes described.

9. A key for use in connection with means for holding incandescent electric lamps of the type which are screwed into their holders, comprising a peg adapted to engage the end of the plunger and a shoulder on said peg for the purpose described.

10. Means for attaching incandescent electric lamps comprising a lamp cap, an insulation core therein, a sleeve located within said insulation core located at right angles to the axis of the lamp, plungers arranged within said sleeve and having upon their inner ends sockets, their outer ends being formed so as to facilitate their release, a lamp socket formed with a bell-shaped mouth and apertures in the wall thereof, a spring, the ends of which lie within said sockets, tending to press the plungers forward into engagement with said apertures, said plungers having a shoulder to limit the forward movement thereof, substantially as and for the purposes described.

In testimony whereof I have hereunto affixed my signature this 13th day of September 1910, in the presence of two witnesses.

CHARLES DAMEY.

Witnesses:

BERTRAM H. MATTHEWS,
W. WARREN TRIGGS.