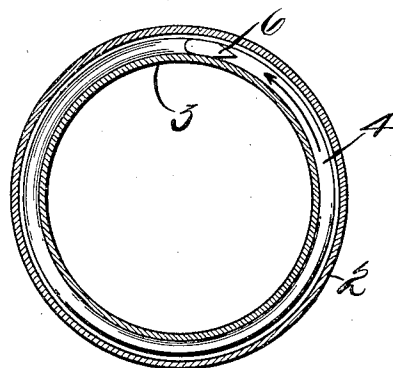
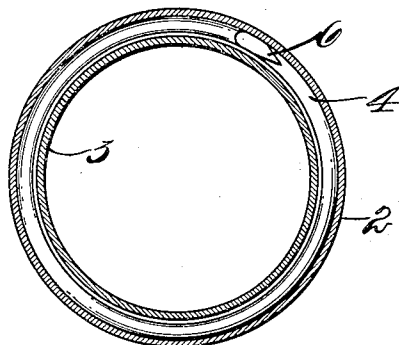
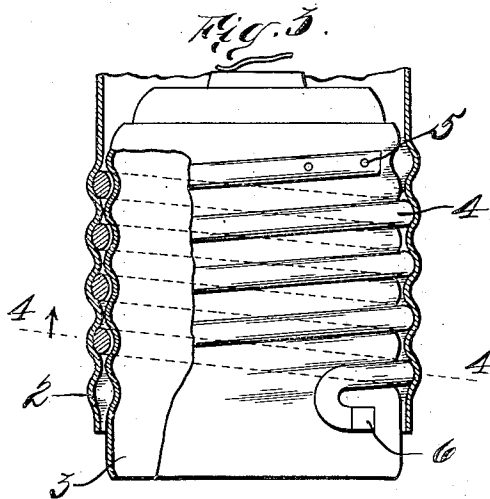
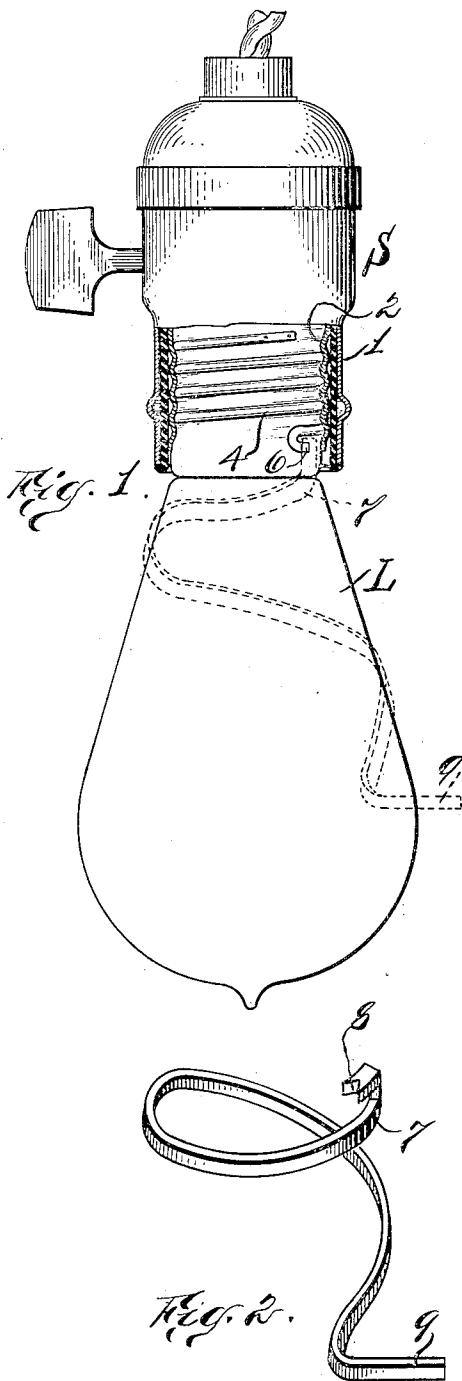


R. W. MORGAN, DEC'D.
E. G. MORGAN, EXECUTRIX.
INCANDESCENT LAMP SECURING MEANS.
APPLICATION FILED SEPT. 19, 1908.

1,056,354.

Patented Mar. 18, 1913.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

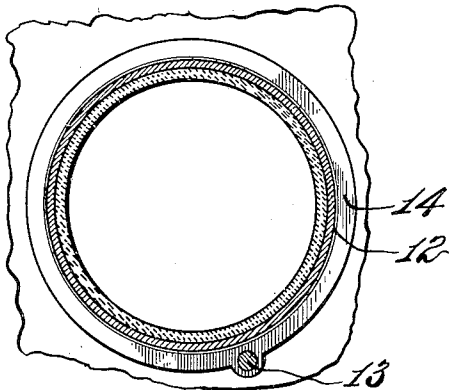
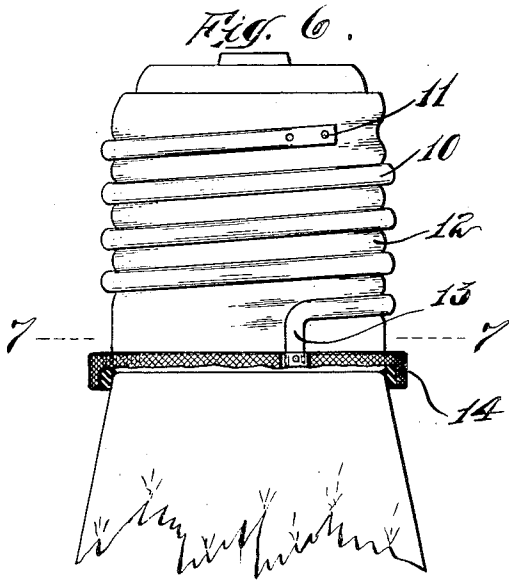
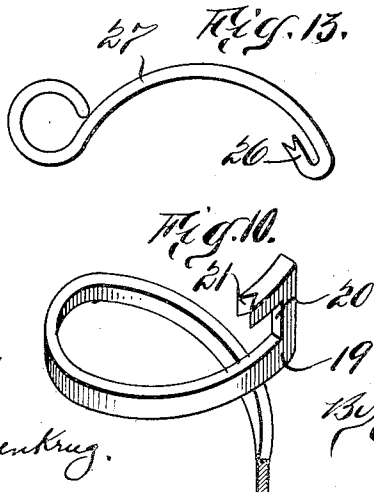
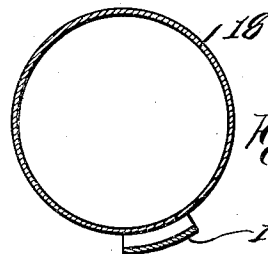
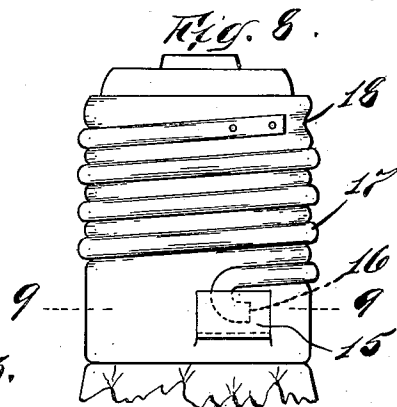
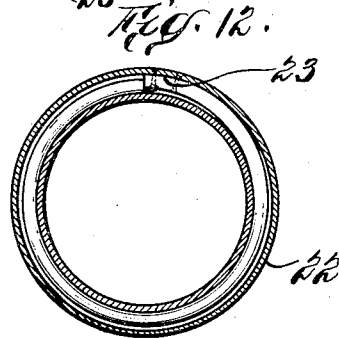
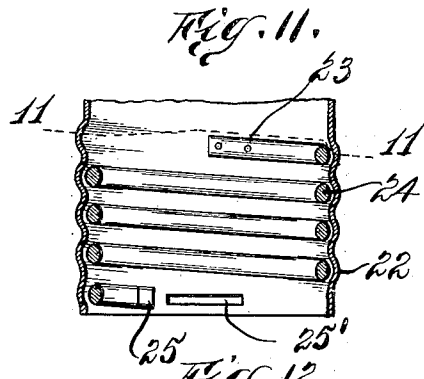


Fig. 7.



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UNITED STATES PATENT OFFICE.

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INCANDESCENT-LAMP-SECURING MEANS.

1,056,354.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed September 19, 1903. Serial No. 453,721.

To all whom it may concern:

Be it known that I, ROBERT W. MORGAN, a citizen of the United States, residing at Bronxville, county of Westchester, and State of New York, have invented certain new and useful Improvements in Incandescent-Lamp-Securing Means, of which the following is a clear, full, and exact description.

The object of this invention is to provide a means which will permit the insertion of an incandescent lamp into its socket with the same ease as has formerly been the custom, but to prevent its removal without the use of some special tool or key.

In carrying out the invention, I provide means either on the socket or on the lamp base, which means in essence, consist of a spring or its equivalent device, which will contract and hug the shell to which it is secured, upon the rotation of the lamp when the same is being inserted, but which will expand or be displaced when the lamp is reversely rotated as when it is being removed.

In carrying out my invention, I prefer to make use of a spiral spring fastened at one end like a helical clutch, and free at the other end, and I provide a key to grasp the free end to render the clutch-like operation *nil*. When the spring is secured to the lamp base, it is secured near the top thereof, and its free end caused to extend downwardly near the skirt of the socket shell, so that a tool or key may be caused to grasp this end of the spring and the tool upon its rotation, rotate the spring, cause it to hug the base tightly, and thus rotate the lamp and permit it to be removed. When the spring instead of being secured to the base, is secured to the socket, I provide means to allow a key to expand the spring to cause it to hug the interior wall of the shell, so that the lamp may be unthreaded so long as the spring is held in this position, but if not held the mere rotation of the lamp will cause the spring to more and more tightly grip the base, and prevent its removal, which is an ordinary function of a spring or helical clutch.

The scope of my invention will be pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation, partly in section of a lamp and socket provided with my invention, with the removal key shown in dotted lines preparatory to removal of the lamp.

Fig. 2 is a perspective view of the key. Fig. 3 is a sectional side elevation of part of the lamp socket enlarged and a side elevation of the base, partly broken away. Fig. 4 is a sectional view in plan on line 4—4 Fig. 3, showing the lamp with its spring gripping the shell of the socket, so that upon the rotation of the lamp the gripping effect will be increased. Fig. 5 is a view similar to Fig. 4, but showing the position of the knife edge of the spring, when the same has been moved in the direction of the arrow to permit the removal of the lamp by a contraction of the spring. Fig. 6 is a view of the modified construction of lamp base, showing a collar instead of knife edge for the free terminal of the spring. Fig. 7 is a sectional plan view on line 7—7, Fig. 6. Fig. 8 shows a lamp base quite similar to the lamp base of Fig. 3, but with a ward projecting the knife edge. Fig. 9 is a section on line 9—9 Fig. 8. Fig. 10 is a perspective view of the key for use in the device of Figs. 8 and 9. Fig. 11 is a sectional side elevation in section of a socket provided with my improved clutch device. Fig. 12 is a sectional plan view of the said socket of Fig. 11 on line 11—11 thereof. Fig. 13 is a perspective view of the key for use with the device in Figs. 11 and 12.

As shown in Figs. 1 to 5 inclusive, the lamp receptacle or socket S is composed of the usual outside shell 1, and inside screw threaded socket or shell 2, and the other usual and normal parts of the lamp socket not shown in detail in these figures. The lamp L is provided with a base 3, preferably of threaded exterior contour, but of less diameter at its greatest width than the smallest diameter of the shell 2 of the socket. A spiral spring 4 preferably of spring brass is secured at 5 to the upper part of the lamp base, and its lower end is curved reversely upon itself, and provided with a knife edge 6, which when the base is in place in the shell, will be adjacent to the lower edge of the socket 2. A key 7 formed with a V shaped recess 8 in its head, and with a handle 9, connected on a suitable curve with the head, is adapted to be passed around the lamp as shown in dotted lines on Fig. 1, so that the recess 8 may be caused to engage the knife edge 6.

In operation, upon screwing the lamp

clockwise into the socket, the tendency will be to compress the spring 4 to allow it to be readily screwed into place, but upon reversing rotating the base, all friction caused and aided by the expansive action of the spring 4 will act as in all helical clutches, to expand the spring and cause the base and its spring to more and more tightly bind in the shell. In order that this binding effect may be overcome, the key 7 is brought into play, and before rotating the lamp to take it off, the spring is rotated into position of Fig. 5, that it may clear the walls of the socket, and then the key and the lamp are simultaneously rotated contra-clockwise, in which event the lamp may be readily removed.

The device of Figs. 6 and 7 differs slightly from the device of Figs. 1 and 2. It has a helical spring 10 secured at 11, to the base 12. An extending arm 13 however, fits into and is held in a collar preferably of insulation 14, surrounding the base of the lamp, so that one wishing to remove the lamp, need first merely turn the insulating ring 14 either ahead of the lamp or simultaneously with the lamp itself.

The device shown in Figs. 8, 9 and 10 differs from the device of Fig. 3 only in having a ward 15 extending from the base of the shell, and protecting the knife edge 16 of the helical spring 17, which is secured to the base 18. A key 19 of U shaped recess 20 at one end and having a V shaped recess 21, is adapted to enter behind the ward to engage the knife edge 16.

When the device instead of being applied to the lamp base, is applied to the socket, I use a device such as shown in Figs. 11 and 12. 22 is the brass socket to the interior of which there is secured at 23 a helical spring 24, having a free end 25, with the usual knife edge. This spring may normally tend to stand free of the interior wall of the socket 22, as shown in Fig. 11. A slotted opening 25' is provided near the skirt of the shell for the insertion of a hook 26 of the key 27. An ordinary lamp may be threaded into place in the socket of Fig. 11, and as it is rotated clockwise, it will freely be threaded onto the spiral spring, but immediately that one attempts to rotate the device contra-clockwise, the helical spring will more and more tightly wrap itself about the lamp base, and grip the same against removal.

It will be seen that in those instances where the helical spring is secured to the lamp base that the threaded shell of the socket acts as a protective covering shell for the spiral spring to prevent a person not provided with a key or the like from getting at the free end of the helical spring, to prevent it assuming its clutch action against the shell. In the modification shown in Figs. 11 and

12, where, to the shell of the socket there is secured a helical spring with one end free, the screw shell shown in Figs. 11 and 12 also acts as a protective covering to prevent one getting at the free end of the spring when an ordinary lamp is in place. It is obvious that the screw shell shown in Figs. 11 and 12 does not necessarily depend, for the operativeness of the structure, upon the corrugation of the shell, but merely on the thread like formation of the helical spring. It is of course a workmanlike manner of mounting the spring in the grooves of the threaded shell. In the claims where the term "protective covering" is used, it will be apparent that it is used in that broad sense which will include any structure which will envelop and prevent free access to the helical spring when the lamp is in place, whether the spring be permanently affixed to lamp or socket. "Socket" is obviously used in the broad sense to include any receptacle.

I claim as my invention:

1. The herein described means for fastening against removal an incandescent lamp in its socket, comprising the lamp socket, a protective shell therefor, the lamp and its base, a helical spring having one end free, and covered by the protective shell when the lamp is in position.

2. The herein described means for fastening against removal an incandescent lamp in its socket, comprising the lamp socket, a protective covering therefor, the lamp and its base, a helical spring covered by a protective cover when the lamp is in position, one end of the helical spring being free, and means adapted to render the clutch action of the spring nil to allow the removal of the lamp.

3. The herein described means for fastening against removal an incandescent lamp in its socket, comprising the lamp socket, a protective shell therefor, the lamp and its base, a helical spring having one end free and covered by the protective shell when the lamp is in position, and a key adapted to enter behind the protective cover to render the clutch action of the helical spring inoperative.

4. In combination with a lamp socket and its protective covering shell, a lamp adapted to be inserted therein by a threading motion, said lamp having a base, a helical spring secured at one end to the base, but free at the other end, said spring when the lamp is in place, being covered by said protective covering shell.

5. In combination with a lamp socket and its protective covering shell, a lamp adapted to be inserted therein by a threading motion, said lamp having a base, a helical spring secured at one end to the base, but free at the other end, said spring when the lamp is in place, being covered by said protective cov-

ering shell, and means for engaging the free end of the helical spring to control the same.

6. In combination with a lamp socket and its protective covering shell, a lamp adapted to be inserted therein by a threading motion, said lamp having a base, a helical spring secured at one end to the base, but free at the other end, said spring when the lamp is in place being covered by said protective covering shell, a key adapted to engage the end of the helical spring.

7. In combination with a lamp socket, a covering shell therefor, a lamp adapted to be inserted therein by a threading motion, said lamp having a base, a helical spring secured at one end to the base, but free at the other end, said spring, when the lamp is in place, covered by said shell, a key adapted to engage the end of the helical spring, said key having a V shaped recess, and said free end of the spring having a knife edge.

8. In combination with a lamp socket, a lamp adapted to be inserted therein by a threading motion, said lamp having a base, a helical spring secured at one end to the base, but free at the other end, a key adapted

to engage the end of the helical spring, a ward adapted to protect against tampering with the free end of the spring.

9. The herein described electrical lamp, comprising a bulb, a filament, terminals, a base, a helical spring upon that part of the base which is adapted to enter and be covered by the socket when the lamp is in place, the spring being secured at one end to the base, but free at its other end.

10. The herein described electrical lamp comprising a bulb, terminals, a filament, a base, a helical spring upon that part of the base which is adapted to enter and be covered by the socket when the lamp is in place, the spring being secured at one end to the base, but free at its other end, and a key adapted to be inserted between the base and the socket shell to engage the free end of the spring as and for the purposes described.

Signed at New York city this 18th day of September 1908.

ROBERT W. MORGAN.

Witnesses:

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MAY WALLACE.