A. O. MACKIN.

INCANDESCENT LAMP LOCK.

APPLICATION FILED JULY 21, 1910.

994,854. Patented June 13, 1911.

Fig. 1.

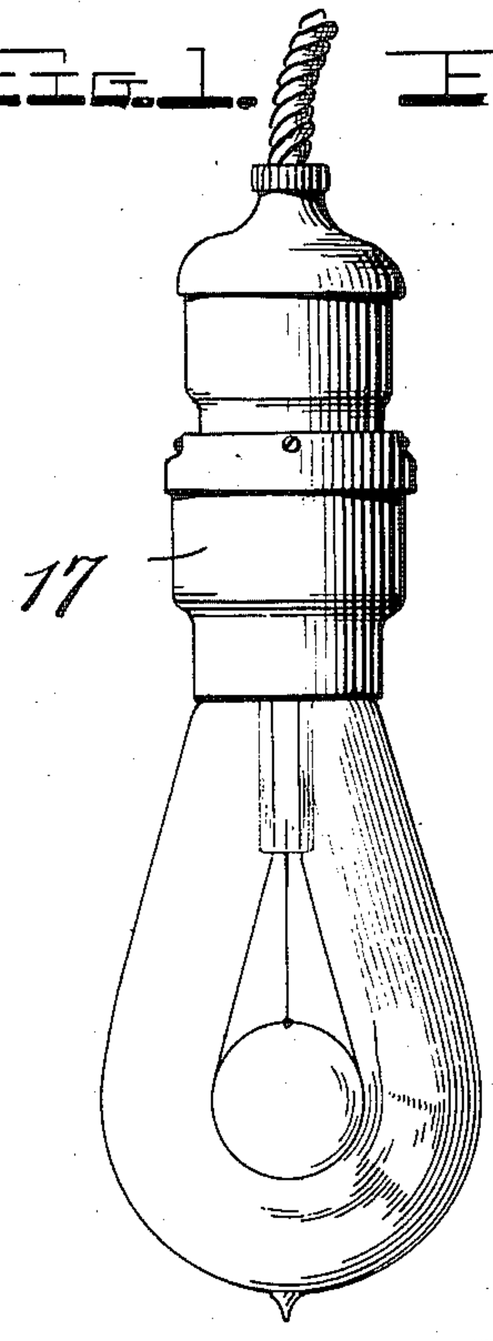


Fig. 2.

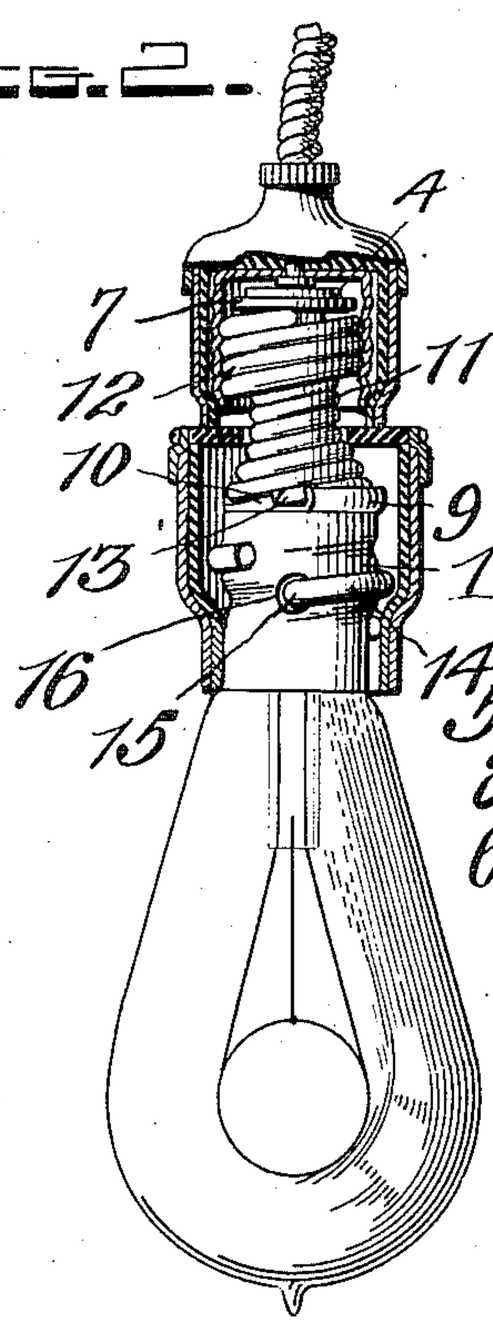


Fig. 3.

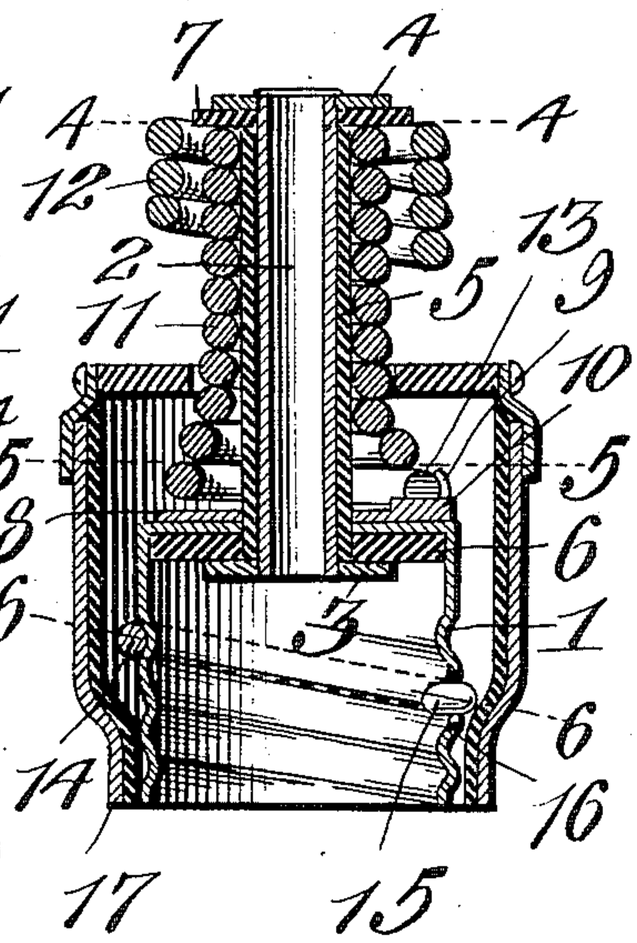


Fig. 4.

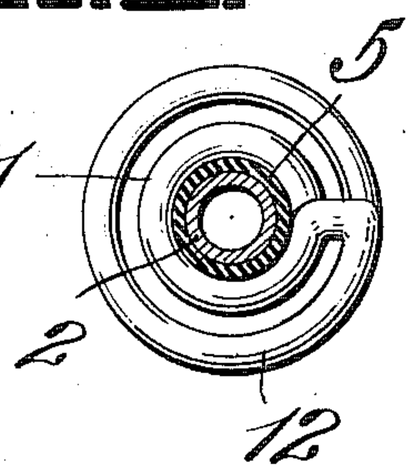


Fig. 5.

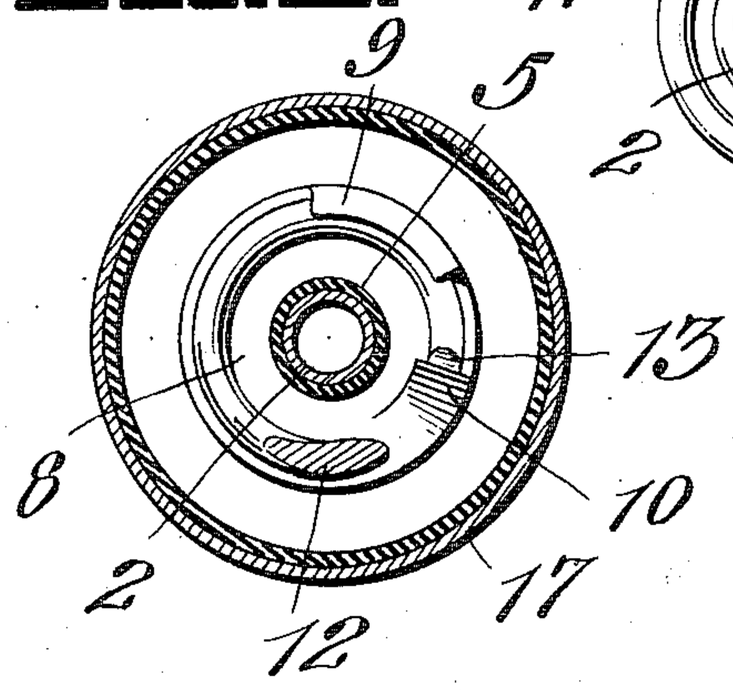
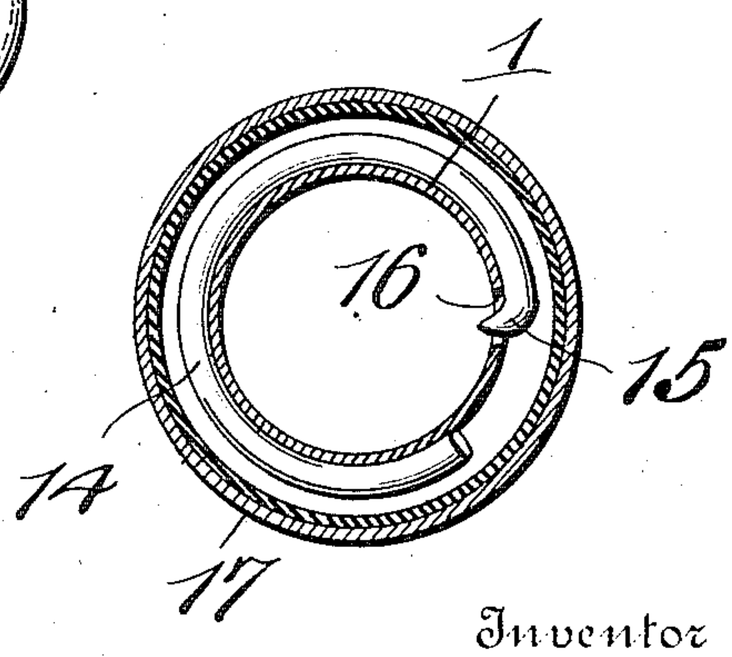


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

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INCANDESCENT-LAMP LOCK.

994,854. Specification of Letters Patent. Patented June 13, 1911.

Application filed July 21, 1910. Serial No. 573,081.

To all whom it may concern:

Be it known that I, ALVIE O. MACKIN, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Incandescent-Lamp Locks; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in locking attachments for incandescent lamps.

One object of the invention is to provide an attachment of this character adapted to be screwed into locked engagement with an ordinary incandescent lamp socket and having means whereby a lamp will be locked when screwed into engagement therewith thus preventing the removal by unauthorized persons of either the lamp or the locking attachment.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a side view of an incandescent lamp socket and lamp showing the application of the invention; Fig. 2 is a similar view with the socket and casing of the attachment in section; Fig. 3 is an enlarged vertical sectional view of the attachment; Fig. 4 is a cross sectional view on the line 4—4 of Fig. 3; Fig. 5 is a similar view on the line 5—5 of Fig. 3; Fig. 6 is a similar view on the line 6—6 of Fig. 3.

In the embodiment of the invention I provide a threaded lamp receptacle or socket 1 to the inner end of which is secured a tubular current conducting stem 2 having on its inner end a contact or terminal plate 3 and on its opposite end a similar plate 4. The stem 2 is inclosed in an insulated sleeve or covering 5 and has on its inner end an insulating disk 6 which is arranged between the plate 3 and the inner end of the socket 1 whereby the latter is insulated from said stem and plate. The outer end of the stem is also provided with an insulated disk 7 which is engaged with the inner side of the outer contact plate 4 and preferably projects laterally therebeyond.

Arranged on and secured to the inner end of the socket 1 is a bearing plate 8 having on one edge an upwardly curved guard flange 9 and having secured to said upper surface a ratchet stop lug 10. Arranged on the projecting insulated portion of the stem 2 is a sleeve 11 formed of a wire rod which is coiled into close engagement with the outer portion of the insulating sleeve 5 and has its outer end turned back and bent into the form of a spring coil which is of greater diameter than the inner coiled portion of the rod and which forms a head 12 adapted to be screwed into engagement with the lamp receptacle of an ordinary socket see Fig. 4. The coils of the wire forming the head provide threads which closely engage the threads of the lamp receptacle of the socket whereby when the attachment is screwed into engagement with the lamp receptacle said coils will bind against the threaded sides of the receptacle and thus hold the attachment in tight engagement with the socket.

The sleeve 11 formed by the inner coils of the wire rod loosely engages and is adapted to turn on the insulated sleeve 5 of the stem 2 and the lower or inner end of the coiled wire sleeve 11 increases gradually in diameter and the terminal of said inner end is turned slightly downwardly and beveled to form a stop pawl 13 which, when the attachment is turned in the proper direction for screwing the coiled wire head 12 into engagement with the lamp receptacle of the socket will engage the stop lug 10 on the bearing plate 7 thereby holding the stem 2 and its insulating sleeve 5 against revolving in the coiled wire sleeve 11 and causing the latter and the coiled wire head 12 to turn or revolve with the movement of the attachment thus screwing said coiled wire head 12 into engagement with the lamp receptacle of the socket until the contact plate 4 on the outer end of the stem comes into engagement with the contact terminal in the lamp receptacle. When the parts are thus engaged any attempt to unscrew the coiled wire head 12 from the lamp receptacle of the socket will result in the stem 2 and insulated sleeve 5 revolving loosely in the coiled wire sleeve 11 and causing the stop

pawl 13 to play loosely over the stop lug 10 which, owing to the tight engagement of the coiled wire head 12 with the threads of the lamp receptacle will prevent said head from being unscrewed from the lamp receptacle of the socket. When the lamp receptacle or socket 1 of the attachment and the stem 2 and insulating sleeve 5 are revolved the pawl 13 will engage and slide around on the bearing plate 8 and the lower coils of the enlarged portion of the sleeve 11 will engage the flange 9 which will hold this end of the coiled wire sleeve in position and prevent the same from expanding or spreading outwardly.

In addition to the means for locking the attachment to the lamp receptacle of an ordinary socket, I also provide means for locking the lamp into engagement with the lamp receptacle or socket 1 of the attachment. The locking means for the lamp comprises a coil 14 of stiff spring wire, one end of which is bent inwardly and beveled to form a pawl 15 which projects through an aperture 16 formed in the side of the socket or receptacle 1. The inwardly projecting end of the pawl 15 is adapted to frictionally engage the threaded plug on the end of the lamp when said plug is screwed into the socket thereby preventing the unscrewing and removal of the lamp after the same has been screwed into operative engagement with the socket. When the lamp has been screwed into operative engagement with the socket the central terminal of the lamp plug will be brought into electrical contact or engagement with the contact plate 3 on the inner end of the stem 2 thereby connecting one terminal of the lamp, the circuit to the other terminal being completed through the threaded surface of the plug of the lamp, the receptacle or socket 1 and the coiled wire sleeve 11 which is in electrical connection with the lamp receptacle of the ordinary lamp socket as hereinbefore described.

The attachment is inclosed in a suitable shell or casing 17 which is constructed and arranged similarly to the casing of the ordinary lamp socket. An attachment constructed in accordance with my invention will be automatically locked or fastened into engagement with an ordinary lamp socket when screwed into the lamp receptacle thereof and a lamp when screwed into engagement with the attachment will be automatically locked thereby against casual removal. When thus engaged with the ordinary lamp socket the lamp will be under the control of the usual switch arranged in the socket.

This lamp can not be removed from the socket 1 after it is once applied thereto without breaking the glass bulb to permit the insertion of a suitable implement between the casing 17 and the socket 1 to disengage the pawl 15 from the lamp plug as the free end of the casing fits closely over the bulb when in operative position.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

Having thus described my invention, what I claim is:

1. A locking attachment for incandescent lamps comprising a lamp receptacle or socket, an insulated stem secured to said socket, a sleeve arranged on said insulated stem, a spring head formed on the outer end of said sleeve and adapted to be screwed into frictional engagement with the lamp receptacle of an ordinary lamp socket, a pawl and ratchet connection between the inner end of said sleeve and said socket whereby said spring head may be screwed into engagement with said receptacle but cannot be unscrewed therefrom, and means to lock a lamp in operative engagement with the receptacle or socket of the attachment.

2. A locking attachment for incandescent lamps comprising a lamp receptacle or socket, an insulated stem secured to the inner end of said socket, a coiled wire sleeve arranged on said stem, a coiled wire head formed on the upper end of said sleeve and adapted to be screwed into engagement with the lamp receptacle of an ordinary lamp socket, contact plates arranged on the opposite ends of said stem whereby an electrical connection is made between the central contact of the lamp socket and the central contact of the lamp, a pawl and ratchet connection between the inner end of said sleeve and the adjacent end of the lamp receptacle of the attachment whereby the coiled wire sleeve and head on said stem may be turned in one direction to screw said head into the lamp receptacle of the socket but cannot be turned in the opposite direction, and means to lock a lamp in engagement with the socket in said attachment.

3. A locking attachment for incandescent lamps comprising a lamp receptacle or socket, an insulated stem secured to said socket, a sleeve loosely mounted on said stem and having means for engagement with an ordinary lamp socket, connecting means for said sleeve and said first-mentioned socket operable to lock said sleeve against turning on said stem when the socket is turned in one direction and to permit it to turn when the socket is turned in the other direction, and means to lock a lamp in operative engagement with the socket in said attachment.

4. In an attachment of the character described a lamp receiving socket, an insulated current conducting stem secured to said socket, a coiled wire sleeve loosely mounted on said insulated stem, a coiled wire head formed on the end of said sleeve, the coils of said head forming spring threads adapted to tightly engage the threaded lamp receptacle of an ordinary incandescent lamp socket, a pawl and ratchet connection between the inner end of the said sleeve and the lamp socket of the attachment, and means to engage and lock the threaded end of the lamp when screwed into the socket.

5. A locking attachment for incandescent lamps comprising a threaded socket, a tubular current conducting stem secured to said socket, contact plates arranged on the opposite ends of said stem, an insulating sleeve and disk arranged on said stem whereby the latter and said contact plates are insulated from said sockets, a bearing plate secured to the inner end of the socket, a stop flange formed on one edge of said plate, a ratchet lug arranged on said plate, a coiled wire sleeve arranged on said insulated stem, a spring pawl formed on the inner end of said sleeve and adapted to engage the pawl on said plate, a coiled wire head formed on the opposite end of said sleeve and adapted to be screwed into engagement with the lamp receptacle of an ordinary lamp socket and a casing adapted to inclose the lamp receptacle or socket of the attachment and the parts connected therewith.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALVIE OSCAR MACKIN.

Witnesses:
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KATE DAILEY.