(No Model.)

# W. C. BRYANT.

## INCANDESCENT LAMP SOCKET.

No. 457,072. Patented Aug. 4, 1891.

Fig. 1.

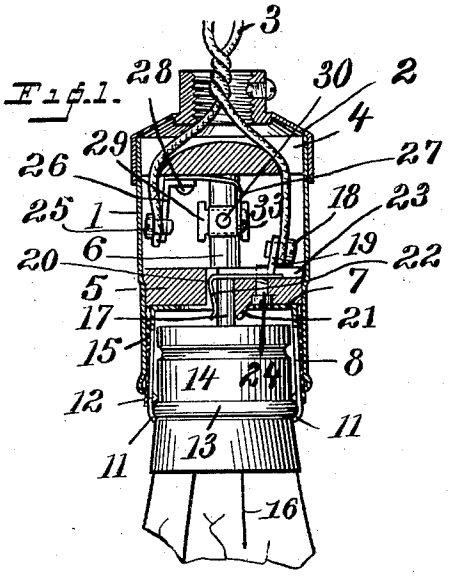



Fig. 5.

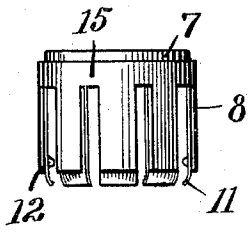



Fig. 7.

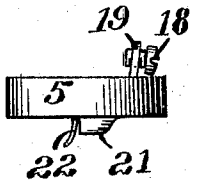



Fig. 6.

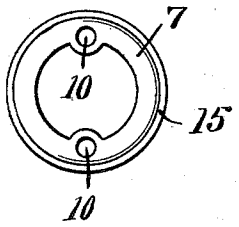



Fig. 9.

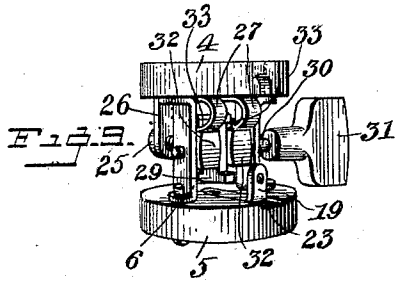



Fig. 8.

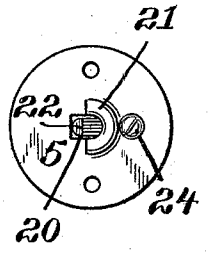



Fig. 3.

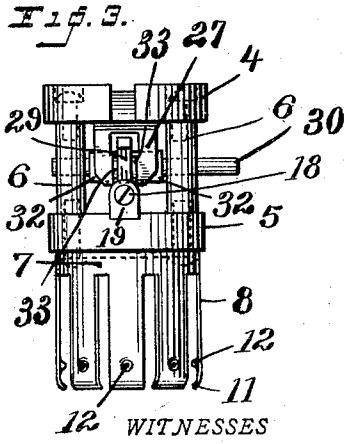



Fig. 2.

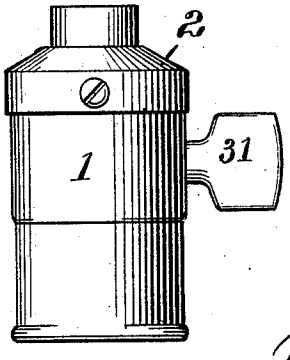
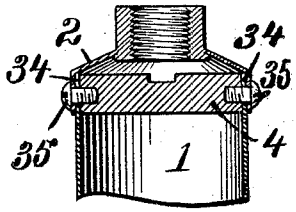



Fig. 4.




WITNESSES

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# UNITED STATES PATENT OFFICE.

WALDO C. BRYANT, OF BRIDGEPORT, CONNECTICUT.

## INCANDESCENT-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 457,072, dated August 4, 1891.

Application filed March 9, 1891. Serial No. 384,202. (No model.)

*To all whom it may concern:*

Be it known that I, WALDO C. BRYANT, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Incandescent-Lamp Sockets; and I do hereby 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.

My invention has for its object to simplify, cheapen, and to generally improve the construction and operation of incandescent-lamp sockets.

With these ends in view, I have devised the simple and novel construction which I will now describe, referring by numerals to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of my novel socket, showing the manner in which a lamp is engaged thereby, the switch being in the closed position; Fig. 2, an elevation of a socket ready for use; Fig. 3, an elevation of the operative parts, the shell and cap being removed, the point of view at right angles to that in Fig. 1, and the switch being in the open position; Fig. 4, a detail sectional view showing the manner in which the shell and cap are connected together. Figs. 5 and 6 are respectively an elevation and plan view of the clamping-sleeve. Figs. 7 and 8 are respectively an elevation and inverted plan view of the lower insulating-plate, and Fig. 9 is a perspective of the switch.

1 denotes the shell; 2, the cap; 3, the wires; 4, the upper insulating-plate; 5, the lower insulating-plate; 6, standards by which the insulating-plates are connected, and 7 a sleeve having clamping-arms 8, which is secured to the lower insulating-plate by screws 9, (see dotted lines, Fig. 3,) which pass through holes 10 in an inwardly-turned flange at the upper end of the sleeve. The lower ends of the clamping-arms are provided with inwardly-turned ends 11, and just above said inwardly-turned ends with lugs 12, formed by striking in the metal of the arms, said inwardly-turned ends and lugs being adapted to engage the opposite sides of a rib 13 upon the neck 14 of a lamp, as is clearly shown in Fig. 1. When the neck of a lamp is inserted into the socket the clamping-arms spring outward, the inwardly-turned ends slipping over the rib, which is thus clamped firmly between said inwardly-turned ends and the lugs, so that movement of the lamp in the socket is impossible unless sufficient power is applied to withdraw it therefrom. The sleeve and clamping-arms are insulated from the shell by means of an insulating-piece 15, which is preferably made substantially as shown in Fig. 5—that is, so as to partially cover both the sleeve and the arms, the material being cut away so that the insulating-piece, when placed in position over the sleeve and arms, will register therewith.

16 denotes the carbon filament, one end of which is connected with neck 14, the other with a pin 17, which extends upward from the top of the lamp, said pin being of course insulated from the neck. One of the wires is connected to a binding-screw 18, which engages a plate 19. At the center of the lower insulating-plate is an elongated opening 20, one side of which is semicircular and is surrounded on the outer side by a rounded rib 21, which serves as a guide for pin 17 in engaging the lamp with the socket. In the other side of the opening and opposite to the rib is a contact-spring 22, the upper end of which is bent at a right angle and secured in a slot 23 in the lower insulating-plate by means of a screw 24, which passes through said spring and engages plate 19, thereby retaining both spring and plate in position. When the neck of the lamp is pushed up into the socket, the pin 17 enters opening 20 and is clamped between the rounded side of the opening and the contact-spring, thus establishing the connection between the wire held by binding-screw 18 and the carbon filament. The other wire is connected to a binding-screw 25, which engages a plate 26.

27 denotes a two-armed contact-spring which is secured to the upper insulating-plate by means of one or more screws 28, which pass through plate 26 and through the double contact-spring and engage said upper insulating-

plate. The construction of this contact-spring and of the contact-bar 29 will be clearly understood from Fig. 3 in connection with Fig. 1.

30 denotes the shaft, which is mounted in the standards in the usual manner.

31 is a thumb-key which is secured to the shaft in such a manner as to permit an eighth-turn (more or less) of either thumb-key or shaft independently of the other. The contact-bar is made T-shaped at both ends, as clearly shown, and on opposite sides thereof, and rigidly secured to the shaft are angular insulating-blocks 32.

Contact-spring 27 consists of two independent arms, each arm bearing upon one of the insulating-blocks 32, and being provided with an outwardly-turned lip 33. The contact-bar is so shaped that when turned to the closed position one of the T-shaped ends thereof will lie between the outwardly-turned lips 33 upon the two arms of the contact-spring, said T-shaped end being in contact with both lips. The bar is made long enough, however, so that when turned to the closed position one of the T-shaped ends will be at considerable distance above lips 33, the other T-shaped end being at an equal distance below said lips, the arms of the double spring being in contact with the angular sides of blocks 32, but wholly out of contact with the contact-bar which lies between said blocks. As already stated, one end of the carbon filament is connected with neck 14. The circuit is therefore completed by the neck, clamping-arms, sleeves 7, screws 9, the standards, shaft, contact-bar, contact-spring, plate 26, and binding-screw 25. The manner in which the shell is attached to the cap is clearly shown in Fig. 4.

34 denotes slots on opposite sides of the shell at its upper end. Screws 35 pass through holes in the cap and through these slots and engage the upper insulating-plate 4, as clearly shown. When these screws are tightened up, the shell is firmly clamped between the flange of the cap and said upper insulating-plate. When it is desired to disconnect the shell from the cap, it is simply necessary to turn the screws backward, which permits the shell to be readily removed.

Having thus described my invention, I claim—

1. In combination, an incandescent lamp having a rib 13 and a socket provided with clamping-arms having inwardly-turned ends and lugs 12, formed by striking in the metal of the arms, between which and the inwardly-turned ends said rib is engaged in use.

2. In a lamp-socket, a series of clamping-arms having inwardly-turned ends 11 and above said inwardly-turned ends lugs 12, formed by striking in the metal of the arms.

3. The combination, with a lamp having a pin 17, of a socket having an insulating-plate 5, said insulating-plate having an elongated opening 20, rounded at one side and lying in said opening, and a contact-spring 22, between which and the rounded side of the opening the pin is clamped.

4. In a lamp, an insulating-plate 5, having an elongated opening rounded at one side and having a rib 21 on the rounded side serving as a guide, and contact-spring 22, lying in said opening, in combination with a lamp having a pin 17, adapted to enter the opening in plate 5 and engage the contact-spring.

5. The shell, insulating-plate 5, having an opening 20, and a contact-spring 22 in said opening, and sleeve 7, secured to the insulating-plate and provided with clamping-arms, in combination with a lamp having a rib 13, engaged by the clamping-arms, and a pin 17, which is engaged by the contact-spring.

6. The shaft and the contact-bar and insulating-blocks 32, rigidly secured thereto, in combination with contact-spring 27, having independent arms which bear, respectively, upon the insulating-blocks and the contact-bar lying between said arms.

7. The shaft and the contact-bar and insulating-blocks 32, rigidly secured thereto, in combination with contact-spring 27, having independent arms, each of which is provided with a lip 33, the arms of the spring bearing upon the insulating-blocks and the contact-bar lying between said arms.

8. The shaft having a contact-bar made T-shaped at its ends and having on opposite sides insulating-blocks 32, in combination with a contact-spring having independent arms, each of which is provided with an outwardly-turned lip, said contact-bar lying between said arms which engage the insulating-blocks, respectively, and said T-shaped ends of the contact-bar engaging the lips when in the closed position.

In testimony whereof I affix my signature in presence of two witnesses.

WALDO C. BRYANT.

Witnesses:
A. M. WOOSTER,
LAURA M. SANFORD.