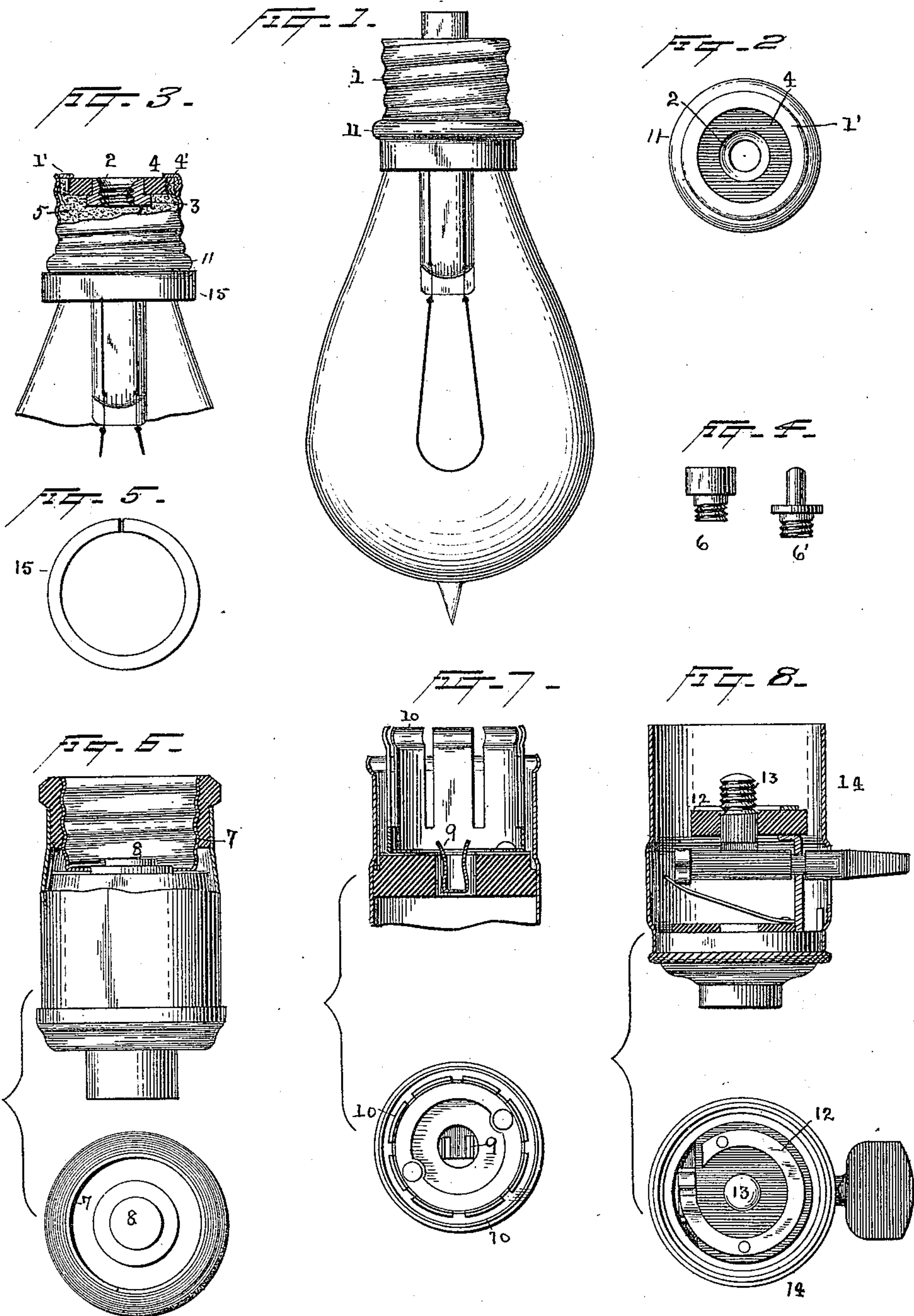


(No Model.)

T. A. EDISON.  
LAMP BASE.

No. 438,310.

Patented Oct. 14, 1890.



Witnesses  
Morris A. Clark,  
Charles M. Catlin.

Inventor  
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# UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF ORANGE, NEW JERSEY.

## LAMP-BASE.

SPECIFICATION forming part of Letters Patent No. 438,310, dated October 14, 1890.

Application filed May 5, 1890. Serial No. 350,611. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS A. EDISON, of Orange, in the county of Essex and State of New Jersey, a citizen of the United States, have invented a new and Improved Lamp-Base, (Case No. 856,) of which the following is a specification.

My object is to adapt my incandescent electric lamps for use not only with the socket ordinarily employed in my systems of electric lighting, but also with sockets employed in other electric-lighting systems. This interchangeable feature is frequently of great value—for example, when a building has been wired and equipped by one lighting company and for some reason it is desired to substitute my lamps. In this case with the interchangeable terminals the ordinary sockets may be left in place and used in connection with the substituted lamps.

My invention consists in the construction and arrangement of devices for accomplishing the above-named object, hereinafter described and claimed.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side view of one of my incandescent lamps with the improved terminal attached. Fig. 2 is a plan view of the same with the plug removed. Fig. 3 is a central cross-section through the base of the lamp. Fig. 4 shows two terminals of different forms detached from the lamps. Fig. 5 is an insulating-ring, which will be hereinafter described. Fig. 6 gives two views, a central section and a plan, respectively, of an Edison socket of the simplest form. Fig. 7 shows two similar views of the essential features of a Westinghouse socket, and Fig. 8 two similar views of the essential features of a Thomson-Houston socket.

In my lamp, as is well known, the base consists of a metal sleeve or ring 1, connected to one end of the incandescing filament, and a central terminal insulated from the sleeve and connected to the other end of the filament. At the outer end the sleeve is bent over, as indicated at 1'. In the present invention the second terminal consists of a metal ring or filament terminal 2, preferably constructed with an internal screw-thread and having a flange 3. The ring is forced into an insulating-washer 4, and said washer and

ring are supported and held in place in the completed lamp by plaster-of-paris or other suitable material, as indicated at 5. In the outer periphery of the washer are made one or more notches 4'. When the plaster-of-paris is placed as shown, it enters these notches and prevents the washer from turning. 6 and 6' indicate two plugs or extension terminals adapted to fit into the central ring 2. The form of plug indicated at 6 is shown inserted in the ring in Fig. 1. This adapts the lamp for use with the ordinary Edison socket.

Referring to Fig. 6, it will be seen that if the base of the lamp be screwed into the socket the sleeve 1 would form electrical contact with the socket-sleeve 7, connected to one wire of the circuit, while the plug or terminal 6 would make end contact with the screw 8, connected to the other wire of the circuit.

Suppose now it were desired to use the lamp illustrated in Fig. 1 in a building which had been wired and equipped with the Westinghouse system. The sockets would be of substantially the construction shown in Fig. 7, one terminal of the circuit being connected to the central spring-arms 9 and the other terminal of the circuit to the spring-arms 10. The terminal 6 should be removed and the terminal 6' put in its place. Then the lamp could be pushed directly into the socket instead of being screwed in, as in the case of the socket illustrated in Fig. 6, the central pin or terminal passing between the spring-arms 9, and the curved ends of the springs 10 snapping over the bead 11 on the lamp-base, thus completing the circuit-connection through the lamp.

Suppose now it were desired to use the lamp in connection with the Thomson-Houston socket, such as illustrated in Fig. 8. The socket would be provided with a ring terminal 12, connected to one wire of the circuit, and a central screw-threaded terminal 13, connected to the other wire of the circuit, and the shell 14 would be of sufficient size to allow the base of the lamp to be easily inserted. In this case it would be necessary to remove the central plug from the ring 2 of the lamp. When the lamp is then put in place, the overturned flange 1' rests on the ring terminal 12 and the ring 2 screws onto the terminal 13,



thus completing the circuit. When the lamp is used with this form of socket, it is found desirable to place an insulating-ring around the neck of the lamp—for example, just above the bead 11, as indicated at 15. This insulating-ring is preferably broken at one point, as indicated in Fig. 5, so that it can be readily sprung over the bead on the lamp-base. This insulating-ring serves to prevent electrical contact between the sleeve of the socket and the ring terminal 1 of the lamp, and thus prevents danger of a short circuit, which would occur if the shank of the switch-handle on the socket should electrically connect the sleeve of the socket when it was in contact with ring 1 with the circuit-wire, which is connected to the central terminal of the lamp.

By the simple device described, consisting of a screw-threaded terminal 2 and the two plugs of slightly differing shape, I am thus enabled at a trifling expense to construct lamps which may be used at will with either of the three leading forms of electric-lamp sockets, and it is evident that this is a very useful and desirable feature.

I am aware that lamps which are adapted to be used with two sockets of different make by means of an intermediate connecting-sleeve have been proposed heretofore.

Having thus described my invention, what I claim is—

1. An incandescent-electric-lamp base having, in combination, an externally-screw-threaded sleeve permanently connected to one end of an incandescing filament and an inner terminal with a central bore insulated from the first and connected to the other end of the filament, substantially as described.

2. An incandescent-electric-lamp base having, in combination, an externally-screw-threaded sleeve permanently connected to one end of an incandescing filament, an inner terminal with a central bore insulated from the first and connected to the other end of the filament, and a removable plug or extension terminal in said central terminal, substantially as described.

3. The combination, with a socket consisting of a sleeve with internal screw-thread connected to one wire of a circuit and in the base of said socket a terminal connected to the other wire of the same circuit, of a lamp the base of which is provided with an externally-screw-threaded sleeve connected to one end of the filament, a terminal with a central bore permanently connected to the other end of the filament, and a removable plug therein co-operating with said socket-terminal, substantially as described.

4. An incandescent-lamp base forming an integral part of the lamp adapted for use in different sockets, consisting of a circumferential terminal co-operative with the corresponding terminal in the socket, a centrally-bored terminal, and a removable plug for said bore corresponding to the shape of the second socket terminal and co-operative therewith, substantially as described.

5. An incandescent-lamp base consisting of a ring terminal co-operative with a corresponding terminal in a socket, an insulator around the ring terminal, a centrally-bored terminal, and a removable plug for said bore corresponding to the shape of the second socket terminal and co-operative therewith, substantially as described.

6. The combination, in an incandescent-lamp base, of a ring terminal 1, permanently connected to one end of the filament, insulating-washer 4, and ring terminal 2, held therein and permanently connected to the other end of the filament, substantially as described.

7. In an incandescent-lamp base, the combination of the ring terminal 1, connected to one end of the filament, insulating-washer 4, provided with notches, the ring terminal being connected to the other end of the filament, and the binding material 5, substantially as described.

This specification signed and witnessed this 25th day of April, 1890.

THOS. A. EDISON.

Witnesses:

HARRY F. MILLER,  
A. RAE.