No. 818,253. PATENTED APR. 17, 1906.

W. J. JONES.

INCANDESCENT LAMP SOCKET.

APPLICATION FILED DEC. 3, 1900

Fig. 1

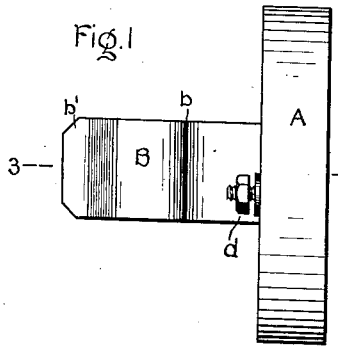


Fig. 2

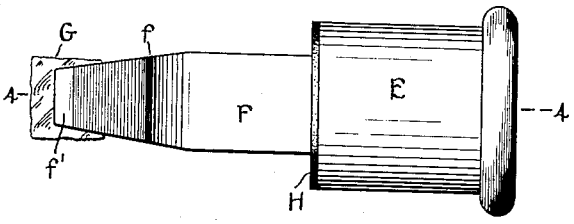


Fig. 3

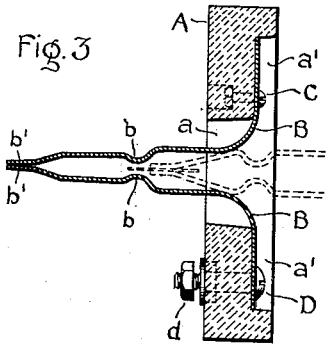


Fig. 4.

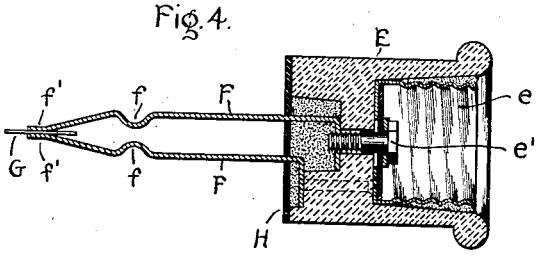


Fig. 5.

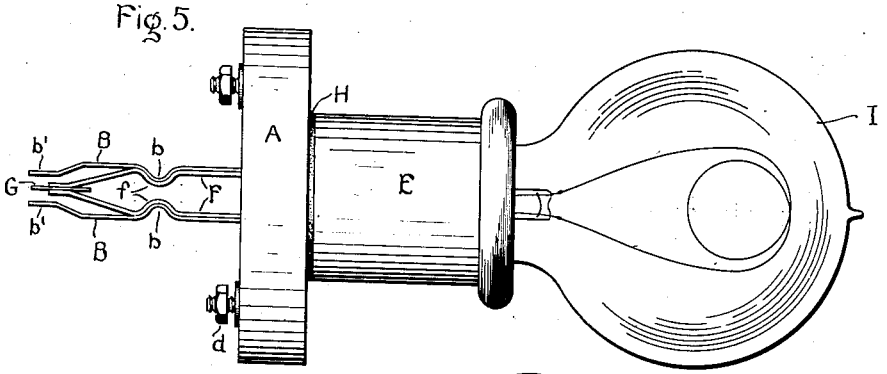


Fig 6

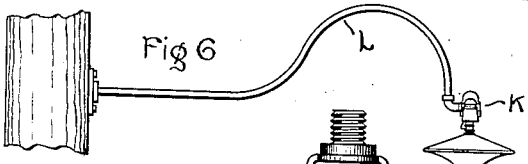
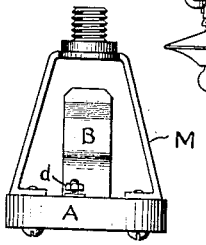


Fig. 7.



Witnesses.

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UNITED STATES PATENT OFFICE.

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INCANDESCENT-LAMP SOCKET.

No. 818,253. Specification of Letters Patent. Patented April 17, 1906.

Application filed December 3, 1900. Serial No. 38,597. REISSUED

To all whom it may concern:

Be it known that I, WALTER J. JONES, a citizen of the United States, residing at Hackensack, county of Bergen, State of New Jersey, have invented certain new and useful Improvements in Incandescent-Lamp Sockets, of which the following is a specification.

My invention relates to sockets for incandescent lamps, and especially those used in series incandescent lighting. In such a system it is necessary to provide some means for keeping the circuit closed in case a lamp burns out or is removed from its receptacle. Moreover, it is highly desirable to provide such an arrangement of contacts that there will be no danger of an arc when one removes the socket from the receptacle. These objects I accomplish by the invention which forms the subject of the present application. I provide a receptacle with spring-contacts which remain closed until the spring-contacts on a lamp-socket are thrust in between them. The lamp-contacts are normally separated by a piece of insulation of low dielectric strength, so that it will break down and shunt the lamp in case the lamp-filament breaks or burns out. The spring-contacts on the lamp-socket are so arranged that when the socket is withdrawn from the receptacle said springs remain in engagement with those on the receptacle until after the latter have closed together, thus preventing the formation of an arc.

In the drawings, Figure 1 is a side elevation of the receptacle. Fig. 2 is a side elevation of the socket. Fig. 3 is a section of the receptacle on the line 3 3, Fig. 1. Fig. 4 is a section of the socket on the line 4 4, Fig. 2. Fig. 5 shows the parts assembled, with the lamp in the socket. Fig. 6 shows a lamp and bracket such as are used in series incandescent lighting, and Fig. 7 shows the receptacle provided with a frame for mounting it in such a lamp.

The receptacle is composed of a disk A of insulating material, such as porcelain, having a central hole *a* and oppositely-arranged grooves *a'* running from said hole toward the edge of the disk. In each groove is received one end of a flat metal spring-contact B, which is fastened by a screw C and has also a screw D, provided with a nut *d* for attaching the line-wire terminals. Each spring has a bead *b* and an inclined end *b'*, said ends being normally in contact when no lamp is in circuit, as shown in Fig. 3.

The lamp-socket E, of porcelain or the like, contains the usual contacts *e e'* for the lamp-terminals, each in electrical connection with a flat metal spring F, projecting from the bottom of the socket. Each spring has a bead *f* and an inclined end *f'*, said ends clamping between them a flat piece of insulation G, such as paper, silk, or the like. The bottom of the socket has a protecting-washer H, of rubber or the like, to keep the socket from chipping when it is pushed against the receptacle.

When the lamp-socket is out of the receptacle, the spring-contacts B automatically keep the circuit closed. When a lamp I is to be cut into the circuit, it is inserted into the socket E, whose springs F are then thrust in between the springs B, making firm contact therewith before the ends *b'* of the spring are separated. When the socket has been pushed home, the beads *b* lie in the beads *f*, and not only securely retain the socket in place, but make a good electrical connection between the line-terminals and the lamp-terminals, the ends *b'* of the spring B being widely separated, as shown in Fig. 5. The insulation G prevents any short-circuiting of the lamp.

If a lamp-filament breaks or burns out, the current breaks down the insulation G and closes the circuit between the springs F. When the lineman removes the socket to replace the insulation cut-out, the springs B come together before the springs F have separated from them, as indicated by the dotted lines in Fig. 3, so that no dangerous arc can form, nor is the lineman in danger of getting a shock from the line. A further protection is afforded by the fact that the contacts are entirely hidden when the socket is in place. Moreover, since the socket must be completely removed before the cut-out G can be renewed, all liability of a short-circuit through the lineman is avoided.

Fig. 6 shows a series incandescent lamp-fixture K hung on a bracket L. In such a lamp the receptacle is provided with a frame or bridge M, by which it is attached to the support at the end of the bracket.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In series incandescent lighting, a recep-

tacle having automatic line-closing contacts, and a lamp-socket adapted to receive an ordinary incandescent lamp therein and carrying coöperating contacts normally separated by insulation of low dielectric value.

2. In series incandescent lighting, a receptacle having two spring-contacts adapted to close against each other, a lamp-socket adapted to receive an ordinary incandescent lamp therein and carrying two spring-contacts adapted to close against each other, and a piece of insulation between said socket-contacts.

3. In series incandescent lighting, a receptacle provided with two spring-contacts having beads and inclined ends, a lamp-socket adapted to receive an ordinary incandescent lamp therein and provided with two coöperating spring-contacts having beads and inclined ends, and a piece of insulation between the ends of the socket-contacts.

4. The combination with a receptacle A having spring-contacts B, of a socket E adapted to receive an ordinary incandescent lamp therein and having spring-contacts F and a piece G of paper, silk or the like between the contacts F.

5. The combination with a receptacle having spring-contacts normally in contact with each other, of a socket adapted to receive an ordinary incandescent lamp therein and carrying spring-contacts adapted to enter between the receptacle-contacts and to force them apart only after making contact with them.

6. The combination with a receptacle A, having spring-contacts B each provided with an inclined end b', and an intermediate bead b, of a socket E adapted to receive an ordidary incandescent lamp therein and having spring-contacts F each provided with an inclined end f', and an intermediate bead f.

7. A socket for incandescent lamps comprising an insulating socket-piece, a side contact and a center contact within said piece, and two flat metal springs projecting from one end of said socket-piece and each provided with an angular attaching-lug directly connected by a rod or screw to the respective contacts.

8. In an electric-lamp fixture, the combination with threaded supporting means, of a yoke comprising a body part with a central threaded seat into which the said threaded supporting means are screwed and having at its periphery depending arms with inwardly-turned feet, a plate of insulation rigidly bolted to said feet, and circuit-terminals and lamp-supporting means on said plate of insulation.

In witness whereof I have hereunto set my hand this 21st day of November, 1900.

WALTER J. JONES.

Witnesses:
F. N. LAWTON,
ROBT. N. HEATH.