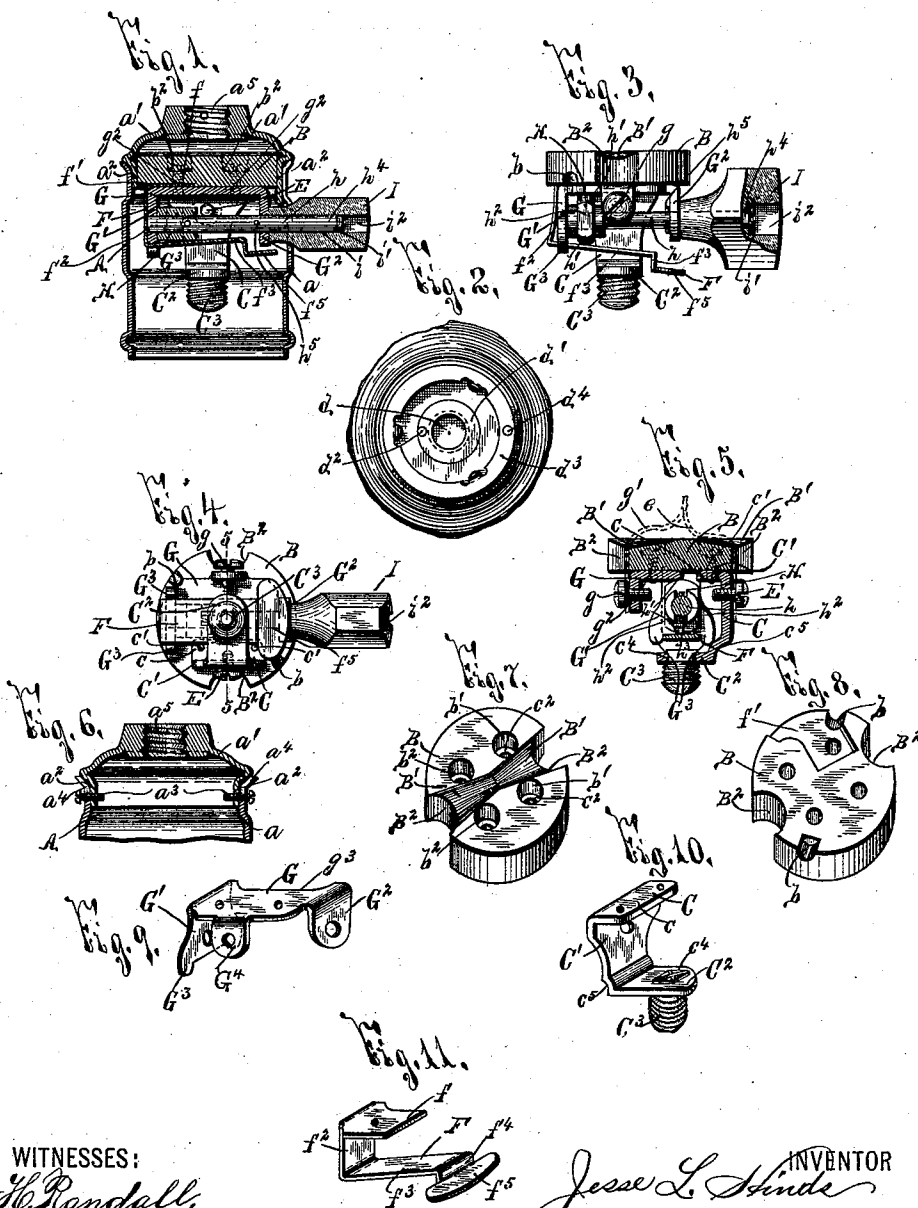


(No Model.)

J. L. HINDS.
LAMP SOCKET.

No. 466,290.

Patented Dec. 29, 1891.



WITNESSES:

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JESSE L. HINDS, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE ELECTRIC ENGINEERING AND SUPPLY COMPANY, OF SAME PLACE.

LAMP-SOCKET.

SPECIFICATION forming part of Letters Patent No. 466,290, dated December 29, 1891.

Application filed July 23, 1891. Serial No. 400,500. (No model.)

To all whom it may concern:

Be it known that I, JESSE L. HINDS, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful
5 Improvements in Lamp-Sockets, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in sockets for incandescent lamps of the same
10 general class as shown in my pending applications, Serial Nos. 400,498 and 400,499, filed conjointly herewith, and has for its object the production of a strong and durable device
15 which is economical in manufacture and durable and efficient in use.

To this end the invention consists, essentially, in an insulator base-plate, a bracket secured to the base-plate and formed with a
20 lateral extension or arm having an angular opening therein, a nipple having one end formed of angular cross-section and adapted to enter said opening in the lateral arm of the bracket, with its other end adapted to be se-
25 cured to the lamp for supporting the same, and to make contact with the inner lamp-collar connected to one of the lamp-terminals, a second bracket arranged at substantially right angles to the former bracket, a spring-
30 arm supported on the insulator-plate and formed with a free end adapted to make contact with the outer lamp-collar connected to the other lamp-terminal, a cam for forcing said spring-arm into contact with said collar,
35 and a spindle connected to said cam with a lost motion.

The invention furthermore consists in the detail construction and arrangement of the parts, all as hereinafter more particularly de-
40 scribed, and pointed out in the claims.

In describing my invention reference is had to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

45 Figure 1 is a vertical sectional view of my improved invention. Fig. 2 is a top plan view of a portion of the adjacent extremity of the lamp adapted to be secured to said socket. Fig. 3 is an elevation of the detached inner
50 parts of the lamp-socket, the spring-arm being shown as in its position assumed when

opening the circuit. Fig. 4 is an inverted plan view of the parts as shown at Fig. 3. Fig. 5 is a vertical sectional view taken on
line 5-5, Fig. 4. Fig. 6 is a longitudinal sectional view of the top wall and the upper por-
55 tion of the side wall of the outer frame of the lamp-socket. Figs. 7 and 8 are respectively isometric perspectives of the top and bottom sides of the insulator base-plate; and Figs. 9
60 10, and 11 are isometric perspectives of the bracket for supporting the cam, the bracket for supporting the lamp and making contact with one of its terminals, and the spring for making contact with the other lamp-terminal. 65

A represents the outer shell of the lamp-socket, consisting of the vertical or peripheral wall a and the top wall a' , formed with a depending flange a^2 , adapted to enter the upper
extremity of the side wall a and be se-
70 cured thereto by screws a^3 , having their shank secured to the flange a^2 and their head passed through slots a^4 in the wall a .

B is the insulator-plate, composed, preferably, of porcelain, as the same is extremely
75 durable and not liable to become burned or charred by continued use. As best seen at Fig. 8, the under face of the insulator-base is formed with recesses b , adapted to receive the inner ends of the screws a^3 for supporting
80 said plate in position.

The lamp-supporting bracket C consists of the vertical and lateral arms C' C^2 , is secured at one extremity C' to the insulator-base B, and is provided at its opposite extremity with
85 a nipple C^3 , preferably screw-threaded at its outward extremity for entering the screw-threaded socket d in the upper face of the lamp and making contact with the inner collar or ring d' of the lamp, connected at d^2 to
90 one of the lamp-terminals.

The arm C' of the lamp-supporting bracket C is adapted to support a screw E, to which is attached one extremity of a wire e , (shown by dotted lines at Fig. 5,) which passes
95 through the central opening a^5 of the socket top wall, along a groove B' in the top face of the insulator-plate B, and through a groove B^3 , extending upwardly from the outward extremity of said groove. 100

As preferably constructed, the bracket C is of its greatest width at the point where the

screw is attached, thus forming a broad bearing for the coiled end of the wire.

The upper end of the arm C' of the bracket C is formed with a foot c , turned inwardly and secured to the base-plate by suitable clamps, as screws c' , having their shank engaged with said foot and their head with a depressed shoulder c^2 , Fig. 5, of a socket b' , formed in the top face of the insulator-plate B, as shown at Fig. 7.

The upper end C^4 of the nipple C^3 , which is preferably produced of a separate piece of metal from that composing the bracket C, is formed angular in cross-section, as best seen at Figs. 5 and 10, and is inserted in a corresponding opening c^4 in the laterally-extending and substantially-horizontal arm C^2 of the bracket C, being secured in position by swaging said upper extremity C^4 upon the top face of the bracket-arm C^2 . The outer collar d^3 of the type of lamps adapted to be secured to this improved socket is connected at d^4 to the other lamp-terminal, and, as presently described, is engaged by a spring F. In order to prevent contact of the bracket with said collar, which in some styles of lamps is very close to the inner collar, the point of union of the bracket-arms C' and C^2 is formed with a corrugation or depression c^5 . This style of bracket is particularly applicable and practical for use in sockets of this description, as the broad base carrying the wire-supporting screw prevents contact of the extremity of said wire with adjacent parts of the socket charged by the opposite wire. The corrugation c^5 prevents contact of the bracket with the outer lamp-collar, and the square or angular extremity of the nipple C^3 enables the same to be readily secured to the bracket, and when properly swaged entirely prevents said nipple from revolution, which would be permitted if said extremity were screwed into position. It is evident, however, that, if desired, the bracket C may be formed with two vertical arms C' instead of one, as illustrated.

G represents a second bracket disposed at substantially right angles to the frame C, and its arm G^4 is adapted to support the retaining-screw g for the second or return wire g' , adapted to pass through the central opening a^5 of the top wall of the outer case and the grooves B' and B^2 , corresponding to the like grooves through which the wire e passes. This bracket G is secured in position by means of screws g^2 , having their shank engaged with the bracket and their head with the lower wall of a socket b^2 in the top face of the insulator-base.

The side of the bracket G adjacent to the bracket C is cut away at g^3 in order that there may be no liability of the adjacent faces of said brackets engaging each other, since the socket would thus become short-circuited.

G' and G^2 represent depending arms formed upon the bracket G and adapted to support the opposite extremities of the spindle h for carrying the cam H, adapted to force the

spring F into contact with the ring d^3 upon the lamp. The spring F is preferably formed U-shaped, with one arm f mounted in a slot f' in the bottom face of the insulator-base and interposed between the adjacent faces of the bracket G and the insulator-base in order that one of the screws which secures the bracket G to the base may also retain the spring in position.

The depending arm f^2 of the spring F extends on the outside of the bracket-arm G' and between lugs G^3 on said arm, adapted to prevent the spring from lateral movement. The opposite lug f^3 of the U-shaped spring is disposed in substantially a horizontal plane, being normally forced by its spring-tension into engagement with the cam H, and is formed with the depending arm f^4 and the enlarged and substantially-horizontal engaging face f^5 , adapted to make contact with the ring d^3 upon operation of the cam, and thus open the circuit from the socket through the lamp. This particular construction of spring is readily produced from suitable sheet metal, as phosphor-bronze, at a minimum expense, and, as previously stated, the same screw which holds the cam-supporting bracket in position also serves to hold the spring in position.

The cam H is preferably formed with oppositely-arranged teeth h' , adapted to encounter the base of the spring-arm f^3 , and with flat sides h^2 for registering with said spring-arm when the circuit is broken. On the outer face of the cam H is a slot h^3 , within which is movable a pin or lug projecting from the spindle h and formed of less diameter than the width of the slot, in order that the spindle and cam may be connected together with a lost motion for effecting quick breaking of the circuit. The outer extremity of the cam-spindle is formed with a lug h^5 , adapted to bear against the inner wall of the bracket-arm G^2 , and with the projecting end h^4 , which enters an aperture i in a hand-piece I and slightly projects beyond the depressed shoulder i' of a socket i^2 , formed in said hand-piece, of greater width than the aperture i . The extreme end of the shaft h is then upset upon this shoulder, and the hand-piece, which is formed of porcelain, is firmly held in position.

My improved switch will be readily perceived from the foregoing description and upon reference to the drawings, and it is evident that the same is simple, durable, and practical.

In my aforesaid applications, Serial Nos. 400,498 and 400,499, I have shown a similar construction of spring F, bracket G, spindle h , and hand-piece I to the one herein described; but it will be understood that I do not herein claim the specific construction of said parts.

As the detail construction and arrangement of the parts of my invention may be somewhat changed from that shown in the draw-

ings, I do not herein limit myself to their specific construction and arrangement; neither do I herein claim the means for securing the hand-piece to the spindle.

5 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with an insulator-base, of a bracket G, having the depending end arms 10 G' G² and the central arm or lug G⁴, a terminal carried by the arm G⁴, a spindle journaled in the arms G' and G², a cam on the spindle, a spring F, having one extremity disposed on the outside of the bracket-arm G' and formed 15 with a foot engaged with said bracket, a laterally-extending arm f³ on said spring, having a projecting bearing-face adapted to be forced by said cam into engagement with one of the lamp-terminals, a bracket C, having 20 one extremity secured to the insulator-base and the other provided with a nipple adapted to engage the other lamp-terminal, and a terminal on the bracket C, substantially as and for the purpose set forth.

25 2. In combination, an insulator-base, a lamp-supporting bracket C, carrying the wire-retaining screw E, a second bracket G, separated from the former bracket and adapted to carry

the screw g, depending arms G' and G² on the bracket G, a spring F, having the vertical arm 30 f² disposed on the outside of the bracket-arm G' and formed with an inwardly-extending arm secured to the insulator-base, the yielding arm f³ on the spring, formed with a depressed engaging face f⁵, a cam adapted to 35 bear against the arm f³ and engage the face f⁵ with the lamp-terminal, and a spindle journaled in the bracket-arms G' and G² and connected to said cam with a lost motion, substantially as set forth. 40

3. The combination, with the insulator-base, of a spring F, consisting of the arms f f² and the arm f³, having the depressed engaging end f⁵, a bracket G, having lugs G³, a cam H, 45 a spindle h, and a lamp-supporting bracket C, provided with a projecting spindle, substantially as described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county 50 of Onondaga, in the State of New York, this 19th day of June, 1891.

JESSE L. HINDS.

Witnesses:

CLARK H. NORTON,
L. M. BAXTER.