

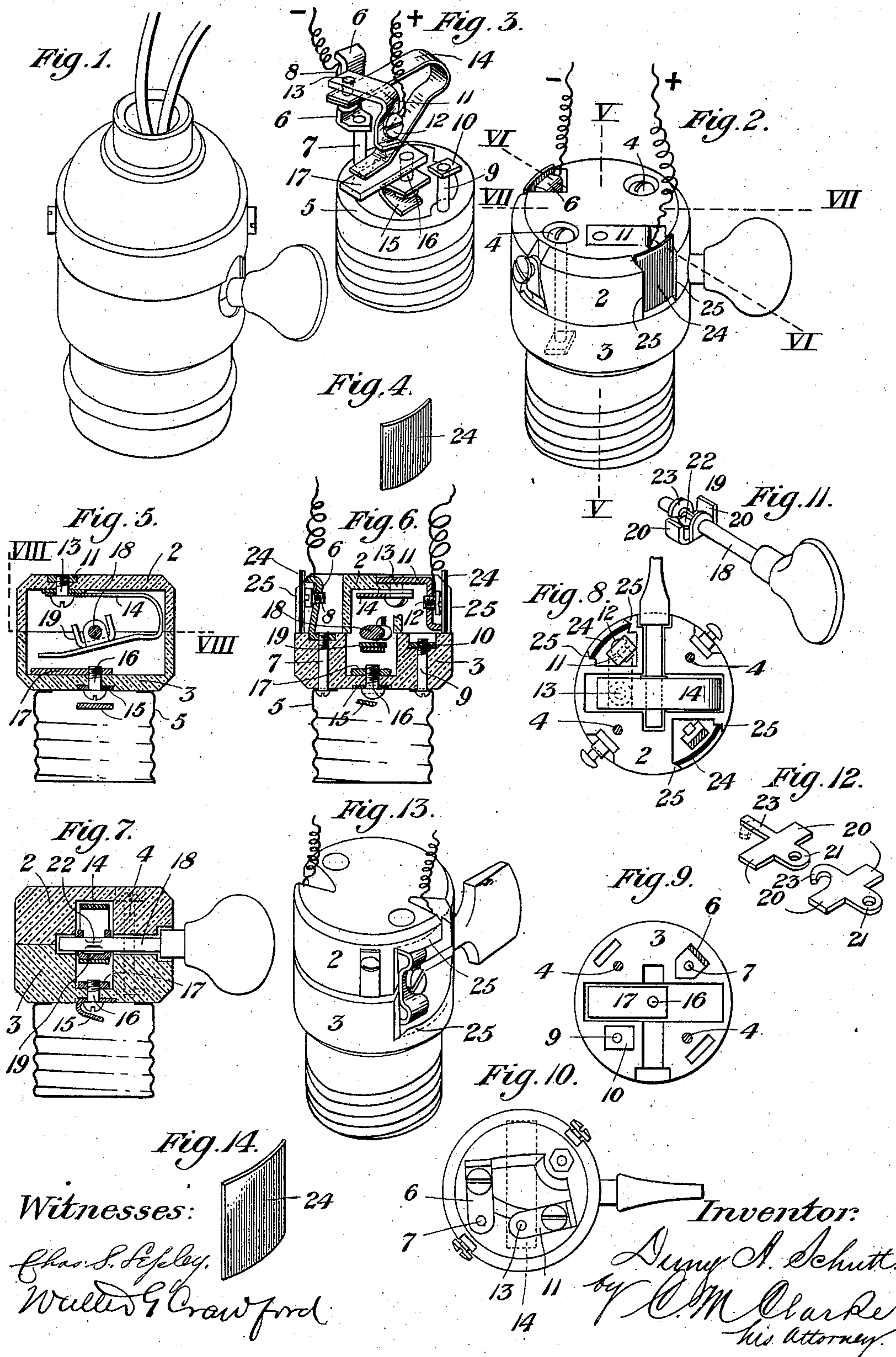
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D. A. SCHUTT.
LAMP SOCKET.

APPLICATION FILED JAN. 28, 1902.

NO MODEL.



UNITED STATES PATENT OFFICE.

DUNY A. SCHUTT, OF PERU, INDIANA.

LAMP-SOCKET.

SPECIFICATION forming part of Letters Patent No. 749,952, dated January 19, 1904.

Application filed January 28, 1902. Serial No. 91,609. (No model.)

To all whom it may concern:

Be it known that I, DUNY A. SCHUTT, a citizen of the United States, residing at Peru, in the county of Miami and State of Indiana, have invented certain new and useful Improvements in Lamp-Sockets, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to sockets for incandescent lamps, either key or keyless; and it consists of the novel construction, arrangement, and operation of the various parts, as I shall now proceed to describe.

One of the objects of the invention is to provide a socket which in itself is perfectly insulated, with all working parts so arranged that the regulation requirements as to "break-distance" are complied with and the working parts and mechanism so arranged that it will open and close circuit quickly, while still having in all parts the required metallic bodies to give the best results on high voltage.

A further object of the invention is to incorporate with the insulated base protecting shields or covers of insulating material inserted in suitable bearings in the base and adapted to protect and insulate the terminal connections or other metallic portions of the socket from the surrounding cap or shell and also to prevent short-circuiting.

A further object is to provide a turning-stem and tumbler in an efficient and economical manner.

Referring now to the drawings, Figure 1 is a perspective view of my improved socket. Fig. 2 is a similar view, the outer shell and cap having been removed. Fig. 3 is a similar view of the terminal connections and the make-and-break mechanism shown in isometric perspective. Fig. 4 is a detail view of one of the protecting insulating-shields. Fig. 5 is a vertical sectional view through the bases indicated by the line V V of Fig. 2. Fig. 6 is a similar view, indicated by the line VI VI of Fig. 2. Fig. 7 is a similar view at right angles to Fig. 5, indicated by the line VII VII of Fig. 2. Fig. 8 is an under plan view of the upper insulating-base member separated on the line VIII VIII of Fig. 5 looking upwardly. Fig. 9 is a similar view of

the lower base member looking downwardly. Fig. 10 is a plan view of the socket as arranged for the Thomson-Houston system, the terminal connections being located entirely within the body portion of the upper base member. Fig. 11 is a detail perspective view of the turning-stem and tumbler. Fig. 12 shows detail views of blanks for forming the tumbler. Fig. 13 is a perspective view of another construction of socket, illustrating the manner in which the protecting insulating-shield is applied to such design of socket. Fig. 14 is a detail view of the protecting-shield adapted to be applied to the socket of Fig. 13.

The main body portions of the socket are composed of upper and lower base members 2 3, of porcelain or other suitable material, held together by screws 4 4, passed through both members and secured by nuts embedded in one of the insulating-bases.

5 is a screw-ring, with which contact is made in the usual manner with an Edison lamp, which ring is connected with one of the terminals 6 by screw 7, passing upwardly through the lower base and tapped into the lower end of the terminal 6, to which one of the wires—the negative—may be connected by a binding-screw 8. By means of the screw 7 and of another screw 9, tapped up through the shell and lower base into a holding-nut 10, the screw-ring 5 is firmly held to the lower base. 11 is the other terminal connection, to which, by binding-screw 12, the other wire—the positive—is attached, such terminal connections being embedded in the upper base members, as shown and connected by screw 13 to the contact-spring 14, secured by and screwed into the terminal 11 and to the under side of the upper base member, as clearly shown in Fig. 5.

It will be noted that both of the terminals 6 and 11, to which the hot wires are connected, are of good size, giving full contact, and that they are located remotely from each other and embedded in the porcelain bases, thereby obviating any danger of short-circuiting from strands in lamp-cord, &c.

The center contact post or member consists of a spring 15, secured to the central portion of the lower base by screw 16, tapped up

through the base into a contact member 17, downwardly against which the spring 14 is designed to be thrown to close the circuit. The spring 15 is secured in position while
 5 straight or partially bent, being preferably soldered to the head of screw 16, and after the screw 16 is driven in and soldered the spring is then bent over, as shown in Figs. 3 and 7, leaving a slight space between it and
 10 the screw-head, thus allowing for elasticity in making the central contact with the lamp. In this manner the contacts for the filament-terminals of the lamps are provided in the shell 5 and the central contact member 15, as
 15 will be readily understood. If desired, however, the spring 15 may be dispensed with, contact being made with the head of the screw 16, which may be flattened and enlarged for such purpose.

20 The stem 18, which is of the usual construction, is mounted in bearings formed between the meeting faces of the base members 2 and 3, which bearings are made sufficiently accurate to maintain the stem in alinement independent of any auxiliary bearing, and upon
 25 the stem is non-rotatably mounted the tumbler 10, adapted in certain positions to throw the free end of spring 14 into contact with the flat member 17 to close the circuit. The tumbler in the normal position shown in Fig. 5
 30 relieves pressure from the spring and allows it to rise away from such contact, breaking the circuit. The tumbler is formed of a blank (shown in Fig. 12,) stamped out of sheet
 35 metal, having the opposite terminals 20 adapted to be folded up, as shown in Fig. 11, to provide the longitudinal extremities, while on one side of the blank is formed a bearing-lug 21, adapted to be bent up and provide a bearing
 40 for stem 18, as shown. The stem is first passed through a hole in such lug 21, after which the retaining-lips 22 are formed on the stem to prevent the rotation of the tumbler, when an oppositely-located lug or extension 23
 45 is then bent up and turned around the stem, as clearly shown in Fig. 11, on the other side of the lip 22, thus securing the tumbler in position against removal when it and the stem are ready for insertion in the socket.

50 In the main figures of the drawings the terminals 6 and 11 are located remotely from each other and extend outwardly toward opposite sides of the upper base, cavities or openings being provided therefor on correspondingly-opposite sides. By this means it
 55 will be noted that the contact members are located somewhat closely to the surrounding shell, and for the purpose of insulating such contact members from the shell I have employed shields 24, adapted to be inserted in
 60 the bases between lips or grooves 25, which may be made of dovetail or other suitable form to receive the shields 24.

In Fig. 13 I have shown another form of
 65 socket in which the metallic portions are lo-

cated at the sides of the bases closely adjacent to the surrounding shell, which construction may also be readily protected by inserting the shield 24, likewise of fiber or other
 70 suitable material, between the retaining-lips 25 in substantially the same manner as that already described, which will thus effectually protect and insulate the metallic portion of
 75 the socket from the shell or other exterior conducting elements, thus effectually preventing short-circuiting.

In Fig. 10 I have shown in plan view the upper portion of a socket wherein the contact members 6 and 11 are embedded within the
 80 main body portion of the upper base, the contact 6 being secured by screw 7 to the shell 5, while the contact 11 is secured directly to spring 14 by screw 12, and in such construction protecting-shields 24 will not be neces-
 85 sary. However, in all cases where the metallic members are necessarily closely adjacent to the shell or other elements liable to cause short-circuiting the shields will be found to be very efficient and valuable.

The advantages of my invention will be appreciated by all those skilled in the art. All
 90 danger of short-circuiting is prevented by reason of all of the metal working parts being entirely inclosed in the interior of the insulating-bases, which are hollowed out to provide
 95 for its location and operation. The terminals are so constructed as to give good contact service and are remote from each other, embedded deeply in the porcelain and perfectly
 100 insulated. Wherever the hot wire connections are located at the sides of the sockets closely adjacent to the surrounding shell, they are entirely insulated by the fiber shields, effectually preventing short-circuiting at such
 105 points. The faces of the tumbler and of the contact-spring are broad and insure good connection, while the base and the various parts are strongly and rigidly united together, so as to insure the best possible mechanical and
 110 electrical results.

Changes and variations may be made in the design, proportions, arrangement, or connections of the parts by the skilled mechanic without departing from my invention, and all
 115 such changes are to be considered as within the scope of the following claims.

Having described my invention, what I claim is—

1. In a lamp-socket, the combination of abutting base members of insulating material provided with interior cavities, a contact member
 120 and central abutting spring secured in one of the bases, a wire-terminal and screw-shell secured together and to the said base, a wire-terminal and an interior contact-spring connected
 125 together and mounted in the other base, and means for actuating the contact-spring to make and break a circuit, substantially as set forth.

2. In a lamp-socket, the combination of abutting base members of insulating material pro- 130

vided with interior cavities, a contact member and central abutting spring secured in one of the bases, a wire-terminal and screw-shell secured together and to the said base, a wire-terminal and an interior contact-spring connected together and mounted in the other base, and a turning-stem and tumbler mounted between the bases and adapted to actuate the contact-spring to close the circuit, substantially as set forth.

3. In a lamp-socket, the combination of abutting base members of insulating material provided with interior cavities, a contact member and central abutting spring secured in one of the bases, a wire-terminal and screw-shell secured together and to the said base, a wire-terminal and an interior contact-spring connected together and mounted in the other base, a turning-stem mounted between the bases, and a tumbler mounted thereon formed of a blank having lugs turned up at each end and at each side to engage the stem, substantially as set forth.

4. In a lamp-socket; a tumbler formed of a blank of sheet metal having opposite extensions adapted to be bent up to form the end bearings, an intermediate lateral perforated extension adapted to be bent up to form a stem-

bearing at one side, and an oppositely-located lug adapted to be bent up and turned over the stem to form the other stem-bearing.

5. In combination with a turning-stem provided with lateral lips, a tumbler formed of a blank of sheet metal having opposite extensions adapted to be bent up to form the end bearings, an intermediate lateral perforated extension adapted to be bent up to form a stem-bearing at one side and an oppositely-located lug adapted to be bent up and turned over the stem to form the other stem-bearing.

6. In combination with an insulating-base, a removable shield of insulating material adapted to be inserted between retaining-lips in the side of the base.

7. In combination with a lamp-socket having base members of insulating material and terminals mounted therein; a removable shield of insulating material adapted to be inserted between retaining devices in the bases, to insulate the terminals from the shell.

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

DUNY A. SCHUTT.

Witnesses:

WM. B. McCLINTIC,
DAVID IRWIN.