

J. LE MOYNE.
ELECTRIC FIXTURE.
APPLICATION FILED SEPT. 27, 1911.

1,051,505.

Patented Jan. 28, 1913.

Fig. 1.

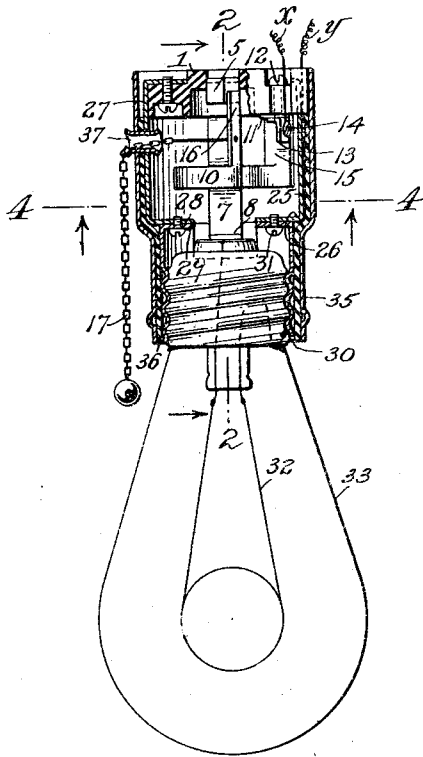


Fig. 2.

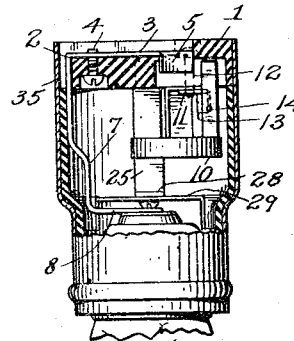


Fig. 3.

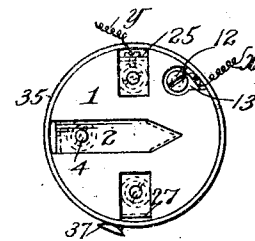
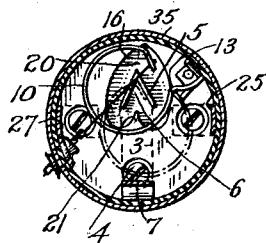


Fig. 4.



Attest:

P. F. Mehoe
P. M. Tilden

Inventor:

by *James Le Moyne*
Philip Lawrence Riehlman Attys.

UNITED STATES PATENT OFFICE.

JAMES LE MOYNE, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO ASHTON C. HUGILL, OF NEW YORK, N. Y.

ELECTRIC FIXTURE.

1,051,505.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES LE MOYNE, a citizen of the United States, residing at New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Electric Fixtures, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in fixtures for electrical purposes and has been designed particularly to provide an improved socket for use with electric lamps, especially glow or incandescent lamps, of the type known in the art as "pull" sockets, in which the electric connection for lighting and putting out the lamp is effected by moving a contact into or out of contact position by means of a suitable cord or chain, the pulls of the cord or chain for making or breaking contact being preferably in the same general direction.

It is a further object of the invention to provide a socket the construction of which shall embody fewer parts than are employed in the constructions of sockets now in use, whereby the socket is less liable to get out of order, is more durable, and cheaper to make. Generally speaking, there is provided by the invention a construction embodying a spring member preferably arranged so as to be normally free from tension which is in fixed electrical connection with one of the terminals of an electric circuit, the spring member coöperating with a stationary contact piece in electrical connection with an electric lamp or the like to which current is to be supplied, the lamp, when the invention is used with a lamp, being in electrical connection through its socket with the other terminal of the circuit. The stationary contact piece is preferably recessed or is provided with a recessed member, and the spring member is movable into and out of contact relation with the recessed portion of the contact piece, and is of such form as to spring into contact position with the contact piece when it is moved to make contact, and when pulled out of contact position to spring away from the contact piece and resume its original position, these movements being preferably substantially parallel and effect-

ed by separate pulls in the same general direction.

For a more complete understanding of the invention, reference may be had to a detailed description of a construction embodying the same, taken in connection with the accompanying drawing, in which—

Figure 1 is a central vertical section of the improved socket with the parts assembled and an electric light bulb positioned therein; Fig. 2 is a view partly in section and partly broken away taken on line 2—2 of Fig. 1, looking in the direction of arrow *a* in said figure. Fig. 3 is a top view of the socket; Fig. 4 is a section taken on line 4—4 of Fig. 1, showing in detail the stationary contact piece, the spring member, and the preferred means for preventing the spring from jumping past the stationary contact when pulled to contact therewith.

Referring now to the drawings, there is shown in the figures one construction of socket which is a preferred construction where ordinary voltages are employed, such as those for electric lights, fans, etc. As shown in these figures, the socket includes a member 1 to which are secured certain of the parts of the socket. In the particular construction illustrated, this member 1 is in the form of a disk located at and forming the top of the socket and acts as a support for the parts secured thereto. This support 1 may be made of various non-conducting refractory materials, but preferably for cheapness in manufacture will be made of porcelain.

Mounted in the support 1 is the stationary contact piece with which the movable spring member is adapted to be pulled into and out of contact position to alternately make and break an electric circuit, as hereinafter described. The construction of this contact piece may be somewhat varied, but as shown it comprises a thin strip of suitable conducting material, such as copper. This strip, marked 2, at its upper end is bent at right angles to form a leg 3 secured to the support 1 by a suitable screw 4, the leg 3 lying in a suitable groove in the top of the member. The end of the leg 3 is provided with a downwardly projecting part 5, either integrally formed therewith or connected electrically thereto, as by soldering. The part 5

projects downwardly a sufficient distance and is of sufficient dimension to afford a suitable contact surface, and forms the stationary contact with which the movable member cooperates to make the circuit. In the preferred construction, this contact piece or member 5 will be notched or recessed so that it will hold securely in contact the movable member when the same is sprung into contact position. As illustrated, the piece 5 (see Fig. 4) is inverted V-shaped, thus forming what may be termed a "knife contact" into the recess 6 of which the movable member may be sprung, and in which it is held.

The strip 2 has a downwardly projecting leg or portion 7 which is bent as at 8 (see Fig. 2), to provide a suitable contact with one of the terminals of an electric lamp. Likewise secured to the support 1 is the movable contact member which cooperates with the stationary contact piece just described to form an electric circuit, the construction of which will now be described. This movable contact member, in the best constructions, comprises a spring 10 which is in the form of a strip of suitable conducting material preferably resilient throughout and bent to the shape of an open-ended loop, this form in practice having been found very efficient for the purposes intended. This spring is provided with a turned end 11 by which it is secured to the support 1 by a suitable screw 12. Preferably the spring is provided with a threaded lug or foot 13 to which is connected by a screw 14 the positive leading in wire X of an electric circuit. The spring member 10, when thus formed will so act that when pulled and the pull released it is flexed and its free end will spring into the recess of the stationary contact piece 5 before referred to, and be held in contact position with that piece by its resiliency, and when the free end of the spring is pulled out of the recess of the contact piece, the resiliency of the spring will tend to force it beyond the contact piece and return it to its original position, these movements being of a quick or jump character, desirable in constructions of this class to afford a quick make and break.

In the best constructions, in order to save space and permit the production of a socket of small size, the main body of the spring is so arranged as to depend somewhat below the lower side of the support 1. As shown the strip forming the spring is bent at right angles at the top, forming a leg 15 which is of sufficient length to extend far enough below the lower face of the member 1 to allow the spring free movement in the socket. The spring is again bent circularly as before referred to, and the free end of the spring is provided with a section 16 transverse to the main body

of the spring which engages with the notched or recessed contact 5. The spring is normally free from tension and is manually operated by means of a suitable pull chain or cord 17 secured on the free end thereof and insulated therefrom.

To insure the free end of the spring positively entering the recess of contact 5 when it is pulled to bring it into such contact position, and to avoid its jumping by the contact piece and thus failing to make contact therewith suitable means are provided, the specific form and arrangement of which may be somewhat varied. As illustrated, the lower or bottom face of the disk 1 is cut away to form a heart-shaped recess 20, into which recess projects the recessed portion of contact 5, this arrangement being convenient because of the space saved and a more compact structure obtained. The walls of this recess are so arranged that a projection 21 at the bottom of the heart is provided opposite the recessed portion of contact 5. This projection 21 forms a stop for the spring and is so arranged relatively to the fixed contact as to project into the path of movement of the transverse section of the spring and prevent it from springing past the fixed contact when the spring is moved to contact therewith. When the spring is again pulled to break the contact the pull on the spring throws it clear of the projection 21, and the spring is permitted to return to its initial position.

The spring 10 connects with the positive leading in wire and the contact piece 5 arranged to contact with one of the terminals of the electric light which in the present instance forms one terminal of the circuit. The other terminal of the circuit comprises a strip of suitable conducting material 25, preferably copper, secured at its upper end to the support 1 by a suitable screw, and has connected to it the negative leading out wire Y of the circuit. This strip, at its lower end, is bent at right angles to form a leg or extension 26. On the other side of the socket opposite strip 25 is a second strip 27 suitably secured to the support 1 and acting with the strip 25 to support the same. Strip 27 like strip 25 is bent at its lower portion to form a leg or extension 28. The legs 26 and 28 are suitably secured to an inturned flange 29 formed on an open base or socket 30 by screws 31. The base 30 is of conducting material and is in electrical connection with one of the wires as 32 of the lamp 33, the walls of this base 30 and the strip 25 forming the negative terminal of the circuit.

The socket as thus far described is inserted in a casing 35 of suitable material such as brass, and between the socket and the base 30 and the casing 35 is secured suitable insulating material 36, the casing 35

being provided at one side with an opening in which is fitted an eyelet 37 through which the pull chain 17, before referred to, may be passed into the socket to connect with the spring member as before described.

When the fixed contact piece is set in a recess such as the recess 20, provided with the projection 21 before referred to, the base of the projection will act as a stop for preventing the spring being pulled too far when it is pulled away from the fixed contact to return it to its initial position. In constructions, however, where no recess such as the recess 20 is employed, or if it is employed, means may be provided for forming a stop for preventing the spring being pulled too far. Such means may, if desired, be provided by the insulation which connects the chain and the transverse section 16 of the spring as before referred to, this insulation being preferably in the form of a strip and so positioned that when the spring has been moved far enough to clear the contact 5 and be returned to its initial position, the strip will contact with the edge of the eyelet and prevent the spring being pulled too far.

It will be seen by this construction, that there is provided a very simple and withal efficient device, which is exceedingly cheap to manufacture, and which is very efficient and durable in use. While the invention has been described as applied to a socket for electric lamps of the glow or incandescent type, it is obvious that a construction embodying the invention may be employed for other electrical purposes in which light or heat or power may be desired. The invention, therefore, is not limited to the exact construction shown and illustrated, but various changes and variations may be made without departing therefrom.

What I claim is:—

1. In an electric fixture, the combination of a supporting disk forming the top of the fixture, a recess in the disk, a fixed contact projecting into the recess, a spring secured at one end to the disk and extending below the same and having at its free end a section at right angles to the body of the spring projecting into the recess, means for flexing the spring to move it into and out of contact with the fixed contact, and a stop located in the recess for preventing the spring from jumping past the fixed contact when moved to contact therewith.

2. In an electric fixture, the combination of a supporting disk forming the top of the fixture, a fixed contact secured to the disk and projecting downwardly therefrom, a

curved spring secured at one end to the disk lying in a plane parallel with the lower face thereof and having at its free end a section angularly disposed to the main body of the spring, means for flexing the spring to move it into and out of contact with the fixed contact and a stop located in the path of movement of the spring for preventing the spring from jumping past the fixed contact when moved to contact therewith.

3. In an electric fixture, the combination of a supporting disk, a fixed contact secured to the disk and projecting therefrom, a curved spring secured at one end to the disk and lying in a plane substantially parallel with the face thereof and having at its free end a section angularly disposed to the main body of the spring, means for flexing the spring to move it into and out of contact with the fixed contact, and a stop located in the path of movement of the spring for preventing the spring from jumping past the fixed contact when moved to contact therewith.

4. In an electric fixture, the combination of a supporting disk forming the top of the fixture, a recess in the disk, a fixed contact located in the recess, a curved strip of resilient metal secured at one end to the disk and extending below the same and having at its free end a section angularly disposed to the main body of the strip and projecting into the recess, means for flexing the strip to move it into and out of contact with the fixed contact, and a stop for preventing the angularly disposed section of the strip from jumping past the fixed contact when passed to contact therewith.

5. In an electric fixture, the combination of a supporting disk, a curved spring secured at one end to the disk and lying in a plane substantially parallel with the face thereof and having at its free end a section angularly disposed to the main body of the spring, a fixed contact secured to the disk around which the free end of the spring is adapted to travel, means for flexing the spring to move it into and out of contact with the fixed contact, and a stop located in the path of movement of the spring for preventing the spring from jumping past the fixed contact when moved to contact therewith.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

JAMES LE MOYNE

Witnesses:

P. B. PHILIPP,
T. F. KEHOE.