W. M. CARTER.

LAMP SOCKET.

APPLICATION FILED FEB. 11, 1919.

1,416,607. Patented May 16, 1922.

Fig. 1.

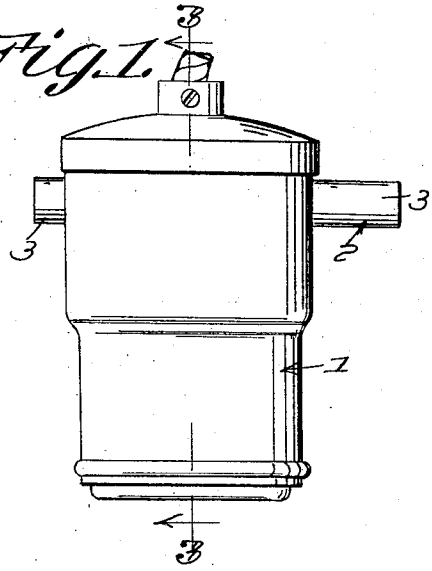


Fig. 2.

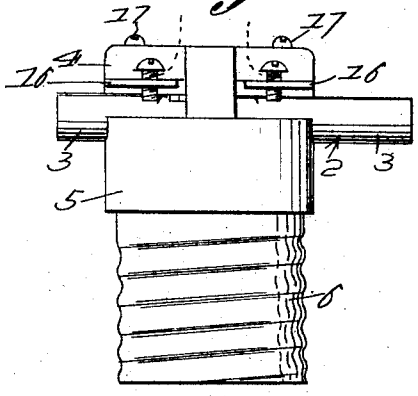


Fig. 3.

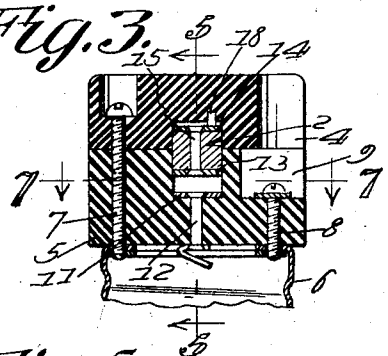


Fig. 4.

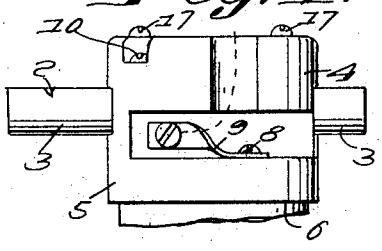


Fig. 5.

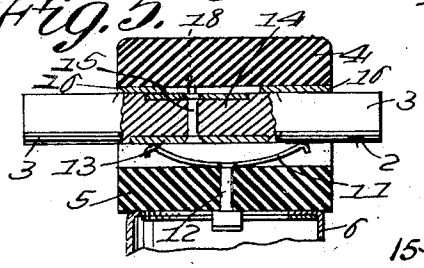


Fig. 6.

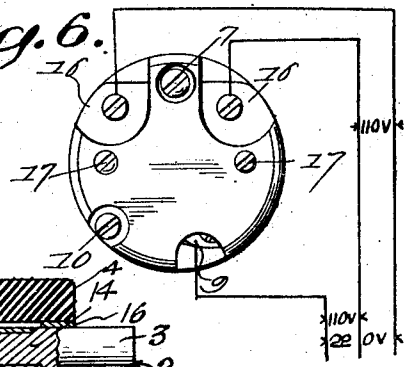


Fig. 7

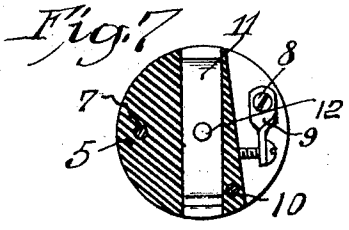
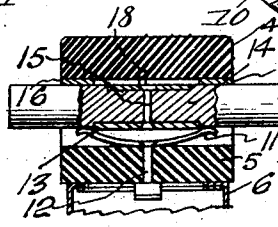


Fig. 8.



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UNITED STATES PATENT OFFICE.

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LAMP SOCKET.

1,416,607. Specification of Letters Patent. Patented May 16, 1922.

Application filed February 11, 1919. Serial No. 276,272.

To all whom it may concern:

Be it known that WALTER M. CARTER, a citizen of the United States of America, residing at Portsmouth, in the county of Norfolk and State of Virginia, has invented new and useful Improvements in Lamp Sockets, of which the following is a specification.

The purpose of the invention is to provide a new and novel form of lamp socket embodying a certain closing element performing the functions of a 3-way switch. Thus three wires may be brought to the socket carrying two different voltages, whereby a lamp carried by the socket may be made to burn at two different degrees of luminosity. A further purpose of the invention is to provide a switch of this character simplified in construction and yet durable and effective in operation and inexpensive to manufacture.

Other and further purposes appear in the following description wherein the invention is set forth in detail. While illustrated in a specific embodiment, the invention is not to be restricted to such embodiment. The right is reserved to make any changes or alterations suggested by the demands of practice, in so far as such changes or alterations are compatible in spirit with the annexed claims.

In the accompanying drawings:

Figure 1 is a view in side elevation of the improved switch.

Figure 2 is a view in side elevation but with the shell removed.

Figure 3 is a section on the line 3—3 of Figure 1.

Figure 4 is a reverse view of the structure shown in Figure 2.

Figure 5 is a section on the line 5—5 of Figure 1.

Figure 6, is a top plan view of the structure of Figure 2.

Figure 7, is a section on the plane indicated by the line 7—7 of Figure 3.

Figure 8, is a view similar to Figure 5 but showing the circuit closing element in neutral position.

As shown in the drawings, the switch is provided with the usual shell 1 from which there projects laterally on either side the circuit closing element 2 which is in the form of a bar the body portion of which is square in cross-section and the end portions 3 round. The end portions 3 are the parts of the circuit closing element which project from the shell. This circuit closing element is of course made of insulating material, preferably fibre.

The body of the switch comprises the sections 4 and 5 also of insulating material, preferably fibre. To the latter section of the body the husk 6 is attached, this husk being of the conventional variety and crimped or corrugated to provide a screw for the reception of a lamp base The husk is secured to the section 5 by means of the screws 7 and 8, the screw 8 also serving in part to attach the section 4 on top of the section 5. The screw 8 secures the binding plate 9 to the section 5, this binding plate being carried in a cutaway portion of the said section 5.

A screw 10 co-operates with the screw 7 to secure the section 4 to the section 5.

The section 5 is slotted transversely, so that the body portion of the circuit closing element may be slidably mounted therein. In this transverse slot, there is carried a bowed spring 11, the spring being attached at the center of its arch to a stud 12 which projects centrally through the section 5 to form a contact for engagement with the center contact of a lamp.

The body portion of the circuit closing element 2 carries on the bottom face a plate 13 and on the top face a plate 14, the two being inter-connected by a stud 15 passing through the said body portion. The plate 13 is of such a length that when the circuit closing element 2 is centrally disposed with reference to the section 5, the ends of the bowed spring 11 engage the ends of the plate 13 and thus hold this circuit closing element in the central position from which it may be moved only against the resistance of the spring, it being necessary for the plate to depress the free end of the spring in order to pass from one side to the other of the section 5. The section 4 is slotted transversely so that the circuit closing element may be slidably engaged by it as well as by the section 5 and the section 4 further is cut away to provide space for the plates 16 which are attached to the section 4 by the screws 17. The top plate 14 carries an upstanding stud 18 which may contact with

either one of the plates 16 as a circuit closing element is moved and this stud acts as a limiting top for either of the two extreme positions of the circuit closing elements. The plate 14 is of such a length as to preclude its contacting with either of the circuit closing plates 16 when the circuit closing element is in its central or neutral position, such position being maintained by the spring 11 engaging the ends of the plate 13. But when the circuit closing element is moved in one or the other direction to its extreme position, the plate 14 contacts with one of the plates 16 and firm electrical contact is maintained by the upward pressure exerted by the spring 11. The upper section 4 is grooved as indicated in Figure 5, to provide a clearance for pin 18.

The invention is designed primarily as a socket which may be employed in conjunction with three wire systems where 220 volt lamps are used. One of the outside lines is connected to the binding plate 9 and the other to one of the plates 16, the neutral being connected to the remaining plate 16. Obviously, with this manner of use, if the circuit closing element is moved so that its stud 18 contacts with the plate 16 to which the neutral line is connected, the lamp will burn at only half voltage, the current passing from the neutral wire to its attendant plate 16, thence to the plate 14, the stud 15, the plate 13, the spring 11, the stud 12, the lamp which it is presumed is in the socket, the husk 6, and the binding plate 9 to the line connected with the said binding plate. To cause the lamp to burn at full voltage the circuit closing element is moved to bring its stud 18 into contact with the other plate 16, when the two outside lines become the source of power for the lamp, the conducting elements being the same as before described.

When the circuit closing element is positioned so that the two ends of the bowed spring 11 engage the ends of the plate 13, the plate 14 stands where it is out of contact with either plate 16 and the circuit is thus open.

While the device has been described essentially as part of a socket it is obvious that the same construction may be embodied in a pendent switch where it can be made to serve the same useful purpose as in the socket.

The invention having been described, what is claimed as new and useful is:

1. A device of the kind described comprising a body having means for engagement with the respective terminals of a lamp base, a circuit closing element slidably mounted in the body, contact plates carried by the circuit closing element on opposite sides thereof but electrically connected, a bowed spring having electrical connection with one of the means of said body and mounted in the body for contact with one of the plates of the circuit closing element, and a pair of contact plates carried by the body above the circuit closing element for engagement with one of the plates carried by the circuit closing element, the spring tending to raise the circuit closing element toward the said pair of contact plates carried by the body in the manner and for the purpose specified.

2. A device of the kind described comprising a body formed in two sections both of which are slotted transversely to form a guide way, one of said sections having means for engagement with the terminals of a lamp base, means securing the two sections together, a circuit closing element mounted in said guide way for sliding movement therein, a bowed contact spring also mounted in the guide way and electrically connected with one of said means, a contact plate carried on the bottom of the circuit closing element for frictional engagement with one or the other of the extremities of said contact spring, a plate mounted on top of the circuit closing element and electrically connected with the other plate mounted thereon, a pair of contact plates carried by the upper section of the body for engagement alternately by the upper of the contact plates carried by the circuit closing element, and a stop carried by the plate on top of the circuit closing element and engageable with either of the contact plates carried by the body, the bowed contact spring tending to raise the circuit closing element for contact by the plate on the top of the latter with either of the plates carried by the upper section of the body.

In testimony whereof he affixes his signature.

WALTER M. CARTER.