C. D. MEEKER.

LAMP SOCKET.

APPLICATION FILED FEB. 3, 1909.

1,067,482.

Patented July 15, 1913.

2 SHEETS—SHEET 1.

Fig. 3.

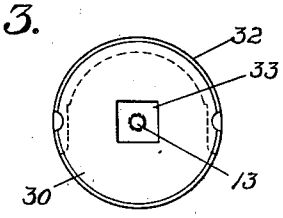


Fig. 1.

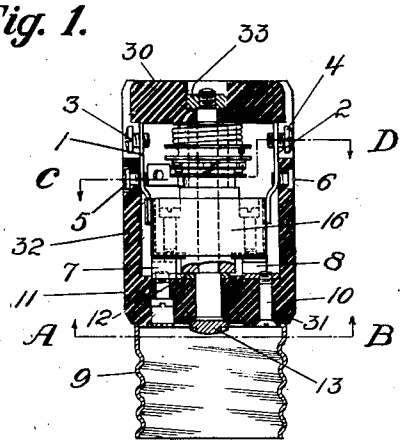


Fig. 2.

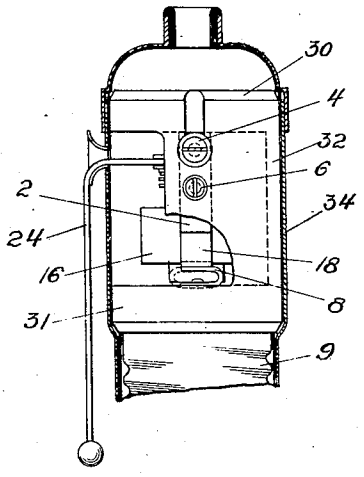


Fig. 4.

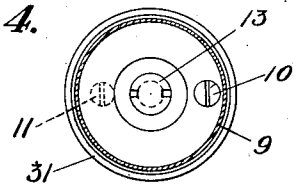


Fig. 5.

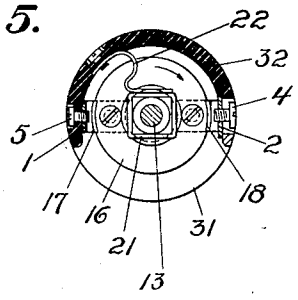
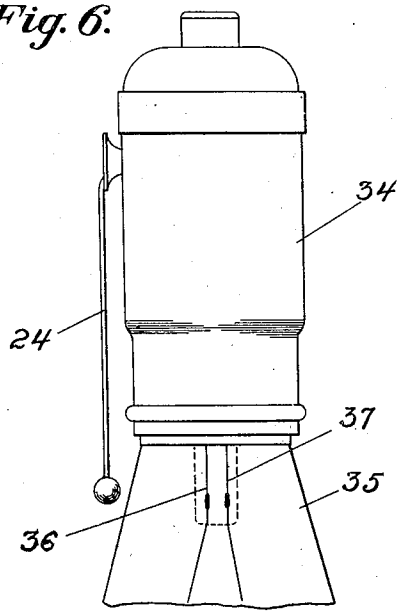


Fig. 6.



Witnesses:
John Darby
Katharine Sexton

C. D. Meeker Inventor
By his Attorney John D. Morgan

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2 SHEETS—SHEET 2.

Fig. 7.

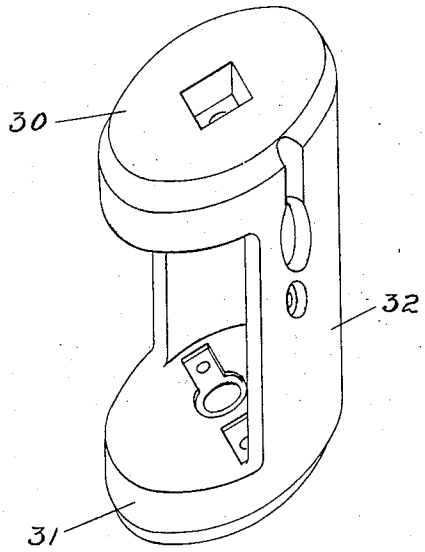


Fig. 9.

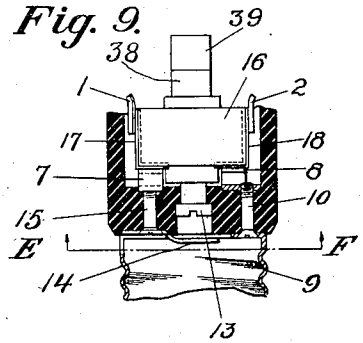


Fig. 11.

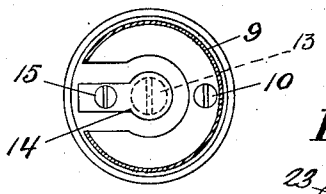


Fig. 13.

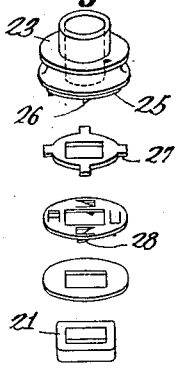


Fig. 8.

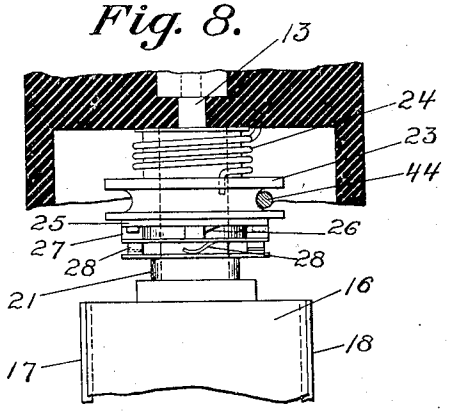


Fig 10.

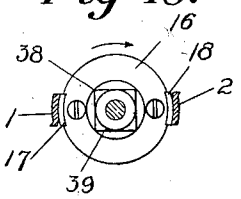
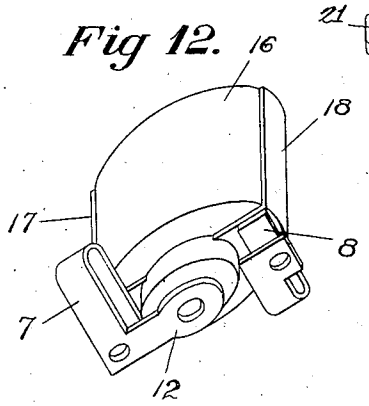


Fig 12.



Witnesses:
John Darby
Katharine Sexton

C. D. Meeker Inventor
By his Attorney John D Morgan

UNITED STATES PATENT OFFICE.

CLIFFORD D. MEEKER, OF EAST ORANGE, NEW JERSEY.

LAMP-SOCKET.

1,067,482. Specification of Letters Patent. Patented July 15, 1913.

Application filed February 3, 1909. Serial No. 475,892.

To all whom it may concern:

Be it known that I, CLIFFORD D. MEEKER, a citizen of the United States, and residing at East Orange, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Lamp-Sockets, of which the following is a specification.

The invention relates to controlling devices for electrical circuits and in certain of its features more especially to lamp sockets, but in some of its features the invention is useful in other relations as well.

Objects of the invention are to provide a controlling mechanism of simple and inexpensive construction, which is likewise substantial, reliable and which is also easily assembled; to provide a make and a break for each branch of the circuit, that is, both terminals of the lamp or other load, as well as the lamp itself, is dead when the current is off; to provide a large clearance between the conducting parts when the circuit is broken so as to be able to carry high wattage on a controller of relatively small size; to provide a socket having a double pole and double break; that is a double break in each branch of the circuit; to provide for effecting the make and break by the same movement of the actuating mechanism and in the same direction; to provide a mechanism in which none of the actuating parts for the current controller are alive or current bearing at any time. These and other advantages and objects of the invention will be disclosed elsewhere herein or will be obvious to those skilled in the art.

Of the drawings: Figure 1 is a substantially central vertical section of the shell of an electrical lamp socket, with the contained mechanism in elevation embodying the principles of the invention; Fig. 2 is an elevation looking to the left at Fig. 1, showing the supporting structure and portions of the contained mechanism and showing also the outer shell in central section; Fig. 3 is a full top plan of Fig. 1; Fig. 4 is a section substantially on the line A—B of Fig. 1, but showing the full circumference; Fig. 5 is a section on the line C—D of Fig. 1; Fig. 6 is a full elevation corresponding to Fig. 2; Fig. 7 is a perspective view of the support on a larger scale; Fig. 8 is an enlarged detail of the actuating mechanism; Fig. 9 is a detail of the circuit controlling devices; Fig. 10 is a partial top plan view referred to Fig. 9; Fig. 11 is a view on the line E—F of Fig. 9 but showing the full circumference; and Fig. 12 is a bottom perspective view of a part of the current controlling devices. Fig. 13 is a detail showing the actuating parts separated.

Referring to the accompanying drawings, illustrating by way of example one embodiment of the invention, 1 indicates a contact arranged for connection with one branch of the line circuit, while 2 indicates a contact arranged for connection with the other branch of the line circuit. Suitable means for connecting these to the line circuit are provided, and the form thereof herein shown comprises binding screws 3 and 4 threaded into the said contacts, respectively. The said contacts are supported in a suitable manner, as by screws 5 and 6, respectively, which engage also the supporting structure. A suitable pair of contacts 7 and 8 is also provided, connected to the two terminals, respectively, of the lamp or other load. In the present embodiment they are shown arranged for connection to the two terminals of an ordinary incandescent lamp wherein contact is made with one terminal through the threaded portion 9 of the shell and the other contact is made centrally of the lamp shank. In the present embodiment the contact 8 is connected to the flat or angled portion of the threaded shell 9 by means of the screw 10. The contact 7 is shown in Fig. 1 held to position by a screw 11, and having a portion 12 extending around and in connection with the supporting shaft or column 13, the end of said shaft or column being shown in position to make contact with the central lamp terminal. In Fig. 9 of the drawings the contact 7 is shown connected to the piece 14 by the screw 15.

A controlling device for controlling both branches of the circuit, and operating as a double contact, or pole, and double break controller is provided. In the present embodiment the illustrated form of such controller is rotatable, and for this purpose is shown as a member 16 of insulating mate-

rial rotatably mounted upon the shaft 13. The member 16 is shown provided with conducting pieces 17 and 18 insulated from each other. In the illustrated form, said strips are shown angled and extending along or across the periphery and likewise upon one face of the member 16.

Suitable means for actuating the member 16 so as to make and break the circuit are provided, and in the illustrated form said means are adapted to give successive partial rotations to the member 16 in the same direction. One actuation will serve to make the circuit in both branches and the succeeding one to break it in both branches. In the illustrated example the contacts 17 and 18 are located a semi-circumference apart, and the actuating means is arranged to give a quarter turn to the member 16 at each actuation. Fixed to the member 16 is shown a four-faced detent piece 21, and bearing thereon a detent spring 22. As shown herein, the detent piece takes over a squared part 38 of the projecting portion or column of the member 16. There is also shown a loose pulley 23 and connected thereto a cord 44. The pulley is shown mounted upon a cylindrical portion 39 of said projecting column of the member 16. This extension of the member 16 serves to insulate the actuating devices and connections from the shaft 13, when it is utilized for one of the current carrying elements. A coiled spring 24 is shown fixed to the pulley 23 and to the supporting structure, to return the pulley after actuation. A suitable one-way clutch is shown connecting the pulley 23 and the member 16. One member 25 thereof is shown provided with teeth 26 beveled in one direction, the other member 27 having correspondingly beveled teeth or recesses. The member 27 is constructed fixed for rotation with respect to the detent 21 and the member 16, but being movable along the shaft 13 longitudinally. As a suitable way of effecting this, it may be mounted upon a squared extension of the member 16, with the detent 21, and is yieldingly held to the part 25 by springs 28. It will be understood, therefore, that when the pulley rotates in one direction it will carry the member 16 with it for a quarter turn, but owing to the shape of the teeth 26 and the corresponding teeth or recesses in the member 27, the pulley will return alone, the springs 28 yielding to permit the teeth 26 to pass in the opposite direction.

The support for the operating parts is shown herein of one piece and consisting of suitable insulating material. The supporting structure is shown comprising opposed heads 30 and 31 and a connecting wall 32, which may, if desired, be cylindrical. The side wall is cut away, as shown in Figs. 5 and 7, to permit of the assembling of the parts. The shaft 13 is shown fixed in position by having a threaded end onto which a lock nut 33 is threaded.

In Fig. 2 of the drawings the inclosing shell 34 is shown with the cord or pull 24 extending therefrom. In Fig. 6 a lamp 35 is shown in place with its terminals 36 and 37, respectively, in operative relation to one pair of the lamp contacts.

From the foregoing it will be understood that a mechanism has been provided which realizes the objects of invention and the advantages herein set forth, together with other objects and advantages.

The manner of operation of the device will be clearly understood from the foregoing description.

The invention, in its broader aspects, is not limited to the particular constructions shown, nor to any particular constructions by which it has been or may be carried into effect, as many changes may be made in the construction without departing from the main principles of the invention and without sacrificing its chief advantages.

What I do claim as my invention and desire to secure by Letters Patent, is:

1. A lamp socket including in combination a unitary socket structure comprising two opposed heads and the connecting portion of insulating material, a line contact and a corresponding load contact in one branch of the circuit with a gap therebetween, a line contact and a corresponding load contact in the other branch of the circuit with a gap therebetween, all said contacts being supported upon said unitary socket structure, a shaft arranged longitudinally of said socket and carried by said heads, a commutator upon said shaft, said commutator carrying a plurality of conducting pieces for alternately closing and opening the gap between each line contact and its load contact on alternate actuations of the controller, and means for giving a partial rotation to said commutator said means comprising a movable member adapted to engage the commutator and a reciprocable member extending out through the casing.

2. A lamp socket including in combination a unitary socket structure comprising two opposed heads, and the connecting portion of insulating material, a line contact and a corresponding load contact in one branch of the circuit with a gap therebetween, a line contact and a corresponding load contact in the other branch of the circuit with a gap therebetween, all said contacts being supported upon said unitary socket structure, a commutator having a shaft arranged longitudinally of said socket and mounted in each of said socket heads, said commutator carrying a plurality of conducting pieces for alternately closing and opening the gap between each line con-

tact and its load contact on alternate actuations of the controller, and means for giving a partial rotation to said commutator, said means comprising a movable member adapted to engage the commutator and a reciprocable member extending out through the casing.

3. A lamp socket including in combination a unitary socket structure comprising two opposed heads and the connecting portion of insulating material, a line contact and a corresponding load contact in one branch of the circuit with a gap therebetween, a line contact and a corresponding load contact in the other branch of the circuit with a gap therebetween, one contact of each line and corresponding load contact being mounted upon the connecting portion of the socket structure and the other of said contacts being mounted upon a socket head, and a commutator rotatably mounted in said unitary socket structure, said commutator carrying a plurality of conducting pieces for alternately closing and opening the gap between each line contact and its load contact on alternate actuations of the controller.

4. A lamp socket including in combination two opposed socket heads, a line contact and a corresponding load contact in one branch of the circuit, with a gap therebetween, a line contact and a corresponding load contact in the other branch of the circuit, with a gap therebetween, a cylindrical commutator mounted between said socket heads, and having a plurality of conducting strips each carried upon both the cylindrical surface and upon a head of the commutator, one contact in each branch of the circuit engaging the conducting strips on the cylindrical surface and the corresponding contact in each branch engaging said conducting strips on the head of the commutator, said conducting strips serving to alternately open and close said gaps on successive actuations of said commutator.

5. A lamp socket including in combination a unitary socket structure comprising two opposed heads and a connecting side wall of cylindrical form, a cylindrical commutator of insulating material having a shaft rotatably mounted in said socket heads, and a line contact and a corresponding load contact in one branch of the circuit with a gap therebetween, one of said contacts being mounted on a socket head and the other on said cylindrical side wall, a line contact and a corresponding load contact in the other branch of said circuit with a gap therebetween, one of said contacts being mounted on a socket head and the other on said cylindrical side wall, and a plurality of conducting pieces carried on said commutator to alternately open and close said gaps on successive actuations of the commutator.

6. A lamp socket including in combination two opposed socket heads, a cylindrical commutator of insulating material and having a shaft mounted in said heads, a conducting piece mounted upon the cylindrical side and also upon a head, of said commutator, a contact coöperating with said conducting piece on the cylindrical side of the commutator and a contact coöperating with said conducting piece upon the head of the commutator, the conducting piece serving to alternately open and close the gap between the contacts on alternate actuations of the controller.

7. A lamp socket including in combination two opposed socket heads, a screw shell and a central contact for a lamp mounted upon one of said socket heads, a commutator having its axis arranged longitudinally between said socket heads, a pair of conducting pieces arranged perpendicularly to said axis, and a pair of contacts connected, respectively, to said screw shell and to said central contact and mounted upon said socket head to cooperate with said conducting pieces, and a pair of corresponding contacts connected to each branch of the line, and also coöperating with said conducting pieces.

8. A lamp socket including in combination two opposed socket heads, a cylindrical commutator having a shaft mounted in said heads, a screw shell and a central lamp contact mounted upon one of said socket heads, two contact pieces on the opposite side of said socket head, one connected to said screw shell and the other to said central contact, and two conducting pieces carried both upon the head and the cylindrical side of said commutator, the portions of said conducting pieces carried upon the heads of the commutator coöperating with the hereinbefore mentioned contact pieces, and contact pieces connected, respectively, to the two branches of the line and coöperating with said conducting pieces on the cylindrical sides of the commutator.

9. A lamp socket including in combination two opposed heads of insulating material, a shaft arranged between said heads and longitudinally of the socket, a controller carried by said shaft, two conducting strips upon said controller, two contact pieces mounted on one of said heads, each contact being connected to one branch of the line, two contact pieces mounted on the other of said heads, each contact being connected to one terminal of the load, and means for actuating said controller to cause the contact pieces to alternately make and break connection between each line contact piece and its corresponding load contact piece.

10. A lamp socket including in combination two opposed heads of insulating material, a supporting and connecting member between, and integral with, said heads, a

shaft arranged between said heads and longitudinally of the socket, a controller carried by said shaft, two conducting strips upon said controller, two contact pieces mounted on one of said heads, each contact being connected to one branch of the line, two contact pieces mounted on the other of said heads, each contact being connected to one terminal of the load, and means for actuating said controller to cause the contact pieces to alternately make and break connection between each line contact piece and its corresponding load contact piece.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CLIFFORD D. MEEKER.

Witnesses:
JOHN D. MORGAN,
JOHN DARBY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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