

No. 716,578.

Patented Dec. 23, 1902.

C. D. PLATT.
ELECTRIC LAMP SOCKET.

(Application filed Aug. 20, 1901.)

(No Model.)

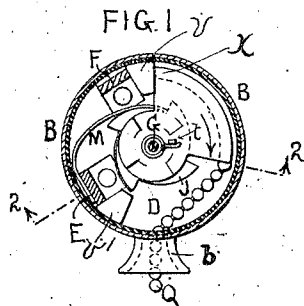


FIG. 2

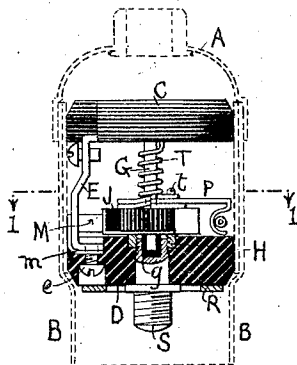


FIG. 4

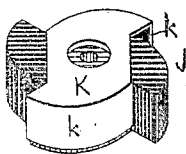


FIG. 3

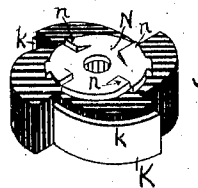


FIG. 6

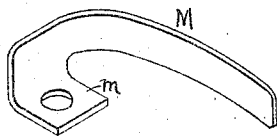
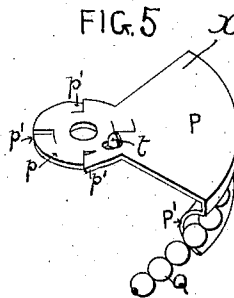


FIG. 5



WITNESSES:

Walter Abbe

L. C. Connor

INVENTOR

Clarence D. Platt

BY

Horizon and Horizon
ATTORNEYS

UNITED STATES PATENT OFFICE.

CLARENCE D. PLATT, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE
BRYANT ELECTRIC COMPANY, OF BRIDGEPORT, CONNECTICUT, A COR-
PORATION OF CONNECTICUT.

ELECTRIC-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 716,578, dated December 23, 1902.

Application filed August 20, 1901. Serial No. 72,694. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE D. PLATT, a citizen of the United States of America, residing in Bridgeport, in the county of Fairfield, State of Connecticut, have invented Improvements in Electric-Lamp Sockets, of which the following is a specification.

My invention relates more particularly to that class of electric-lamp sockets which are commonly known as "pull-sockets," because the circuit-breaker or switch in the socket for throwing the lamp into and out of circuit is operated by the pull of a cord or chain instead of by means of a rotating key-piece.

The main object of my invention is to construct an efficient and economically-manufactured switch mechanism for a socket of this character.

In the accompanying drawings, Figure 1 is a sectional plan view on the line 1 1, Fig. 2. Fig. 2 is a view, partly in section, taken on the line 2 2, Fig. 1; and Figs. 3, 4, 5, and 6 are perspective views of details of the switch.

The socket may, as usual, comprise a metal cap A and sheet-metal shell B and two insulating-diaphragms C and D, which are spaced apart and secured together by two metal brackets E and F. The switch mechanism, hereinafter described, is carried by and between these two insulating-diaphragms, and the whole may be maintained in place in the outer metal casing by means of the same screws which secure the cap A to the shell B in any usual and well-known manner, as by the inner ends of the screws taking into recesses in the upper insulating-diaphragm C.

The contacts for the terminals of the incandescent lamp are carried by the lower diaphragm D. In the present instance I have shown these contacts adapted for what is known as the "T-H" lamp and comprising a central screw-stud S and an annular ring R, as usual.

A central spindle G, on which the main moving parts of the switch are to turn, is mounted in a recess in the upper insulating-diaphragm C and at its lower end in an insulating-bushing G, set into the upper end of the central contact-stud S, Fig. 2. This stud S is se-

cured centrally in the lower insulating-diaphragm D by means of a screw-nut H, fitting in a recess in the upper face of the diaphragm D, Fig. 2.

A ratchet-commutator J (more fully illustrated in Figs. 3 and 4) is mounted to turn freely upon the spindle G. I have shown this ratchet as provided with four teeth, the outer faces of two of which are of conducting material, while the others are non-conducting. In the present instance the body of the commutator is made of suitable insulating material, and a plate K, of conducting material, is passed around the underside of the ratchet, as shown in the inverted perspective view, Fig. 4, the outer ends of the plate being bent up, as at k, over the outer curved faces of two opposite ratchet-teeth. When this commutator is in place, as shown in Fig. 2, this plate K is in electrical contact with the nut H, and therefore with the terminal stud S.

A spring contact-pawl M, Fig. 6, has its free end to bear against the outer faces of the teeth of the ratchet-commutator, Figs. 1 and 2, the other end of the pawl being secured to the bracket E, to which one of the leading-in wires may be connected, as usual. In the present instance I have shown this spring contact-pawl M as provided with a foot-piece *m* to go under the foot of the bracket E, so as to be clamped between the foot of the bracket and the diaphragm D by the screw *e*, which secures the bracket, as illustrated in Fig. 2. It will thus be seen that when the ratchet-commutator is turned so as to bring the free end of the contact-pawl M to bear against one of the ends of the plate K of the commutator J, the circuit will thereby be closed from the bracket E (to which one of the leading-in wires is connected) to the stud S and its lamp terminal. A quarter-turn of the ratchet-commutator will then sever this connection, however, leaving the pawl on one of the non-conducting teeth of the ratchet.

To give the ratchet-commutator the necessary quarter-turns to make and break the circuit, as described, I prefer to use the form of clutch devices illustrated more fully in Figs. 3 and 5 and which I will now describe. On the upper face of the insulating-body of

the commutator J is fixed a clutch-disk N, which has stamped up from it a suitable number of inclined teeth *n*, Fig. 3. The operating part of the clutch is shown more fully in Fig. 5 and consists of a sheet-metal plate P, having a disk part *p*, which has stamped up on it a number of teeth *p'* to mesh with the teeth *n* on the clutch-plate N of the commutator J. The rest of the plate P is of segmental form, as illustrated in Figs. 1 and 5, and at its curved periphery is formed a grooved flange P' for the reception of the cord or chain Q, the end of which is secured to the flange at X, Figs. 1 and 5. The body of the cord or chain passes thence along this grooved flange and out through an open funnel *b*, Fig. 1, formed in the shell B, as is common. By pulling on this chain Q the clutch-plate P can be turned on the spindle G from the position shown in Fig. 1 in the direction of the arrow until the segmental plate strikes the stop *v'* on the diaphragm D. This quarter-turn carries with it the ratchet-commutator, owing to the engagement of the clutch-plates with each other. When the cord is released, the operating clutch-plate P is returned to its initial position against the back-stop *v*, Fig. 1, by means of a helical spring T, Figs. 1 and 2, which is coiled around the spindle and has its upper end secured in the diaphragm C, while its lower end bears against a finger *t*, Fig. 5, on the clutch-plate P. This spring T, while thus acting as a return-spring for the clutch-plate P, also by its end pressure tends to force the clutch-faces into engagement with each other. The contact M acts as a stop-pawl to prevent return movement of the ratchet-commutator with the return movement of the clutch-plate P.

I claim as my invention—

1. In a pull-socket for electric lamps, the combination of two insulating-diaphragms, supporting-brackets therefor, and lamp-terminals carried by one of the diaphragms, with a rotary ratchet-commutator having conduct-

ing and non-conducting teeth on its periphery, the conducting-teeth having electrical connection with the central lamp-terminal, a contact-pawl to bear against said teeth and means for rotating the commutator.

2. In a pull-socket for electric lamps, insulating parts, a spindle supported thereby and a rotary ratchet-commutator composed of an insulating-body and a plate with its ends flanged over the alternate teeth of the ratchet, a lamp-terminal stud making contact with said plate, in combination with a contact-pawl in the circuit and means for turning the ratchet-commutator.

3. In a pull-socket for an electric lamp, the combination of two insulating-diaphragms, supporting-brackets therefor and lamp-terminals on one of the diaphragms with a spindle supported by, but insulated from, the central lamp-terminal stud, a rotary ratchet-commutator, means for turning the same and a contact-pawl for the commutator, substantially as described.

4. In a pull-socket for electric lamps, the combination of the movable part of a pawl-and-ratchet circuit-breaker with an operating part consisting of a segmental plate with a grooved flange on its curved margin for the reception of the pull-cord.

5. In a pull-socket for electric lamps, the combination of insulating parts and a spindle supported thereby with a rotary ratchet-commutator having conducting and non-conducting teeth on its periphery and a clutch-disk on one face, a segmental toothed plate to gear with the said disk, and a contact-pawl in the circuit to bear against the peripheral teeth.

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

CLARENCE D. PLATT.

Witnesses:

C. A. STOKES,
L. F. BEARD.