

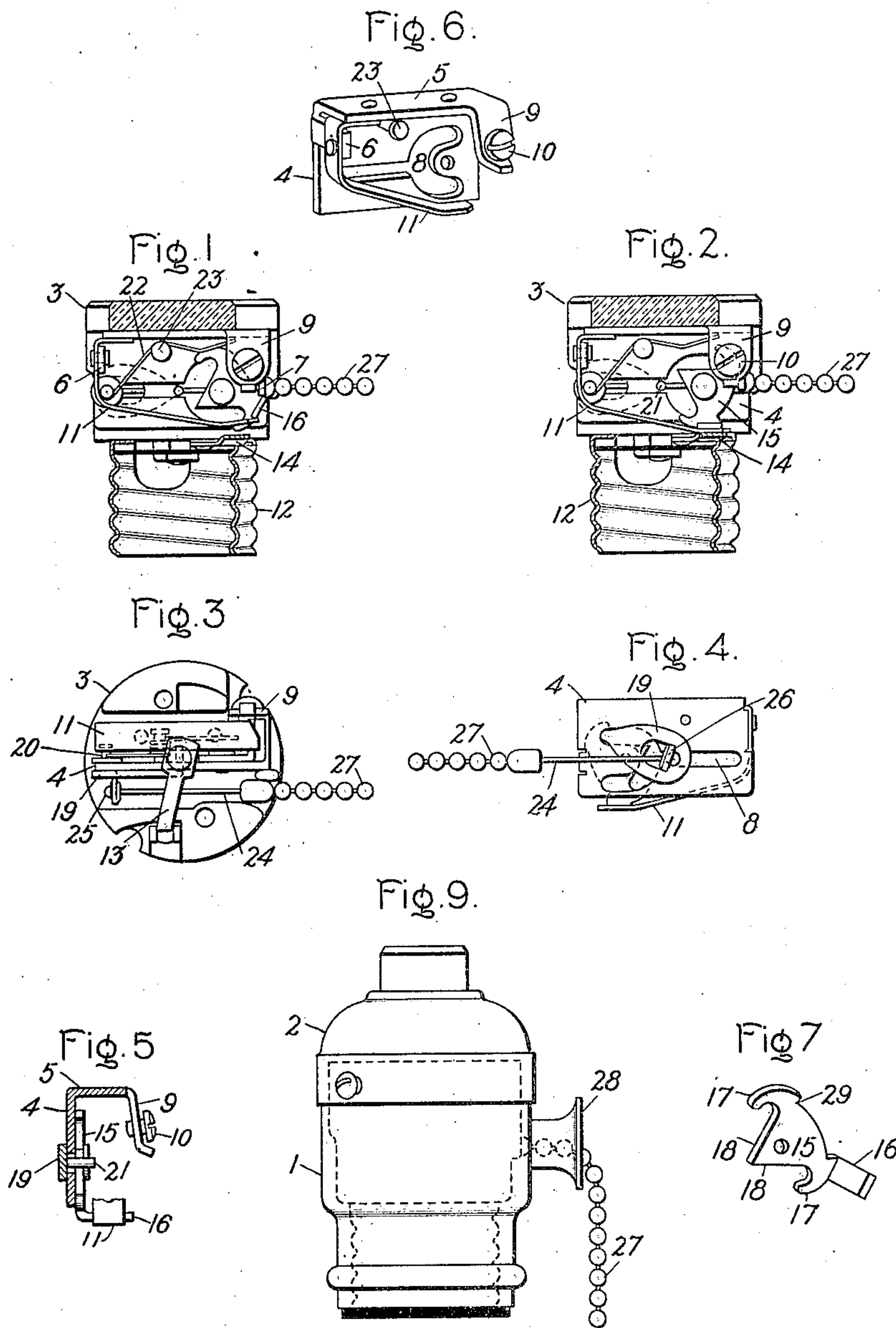
J. R. BYRNE.

PULL SOCKET.

APPLICATION FILED AUG. 1, 1905.

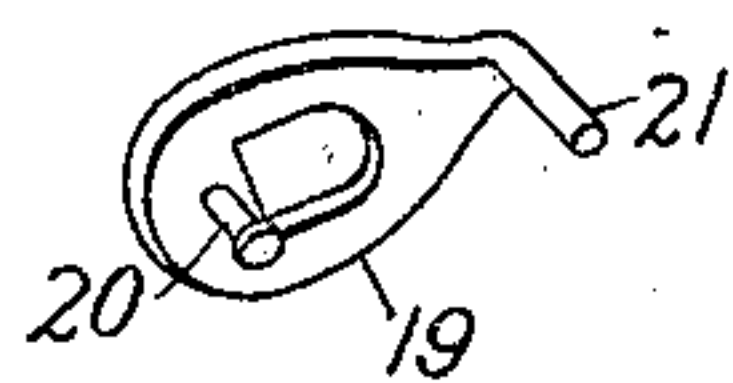
916,975.

Patented Apr. 6, 1909.



Witnesses.

*Harry H. Tilden*  
*Benjamin B. Hume*



Inventor.

John R. Byrne.

by *Albert G. Davis*  
Att'y.



# UNITED STATES PATENT OFFICE.

JOHN R. BYRNE, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY,  
A CORPORATION OF NEW YORK.

## PULL-SOCKET.

No. 916,975.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed August 1, 1905. Serial No. 272,216.

*To all whom it may concern:*

Be it known that I, JOHN R. BYRNE, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Pull - Sockets, of which the following is a specification.

This invention relates to sockets for incandescent electric lamps, and its object is to provide mechanism whereby the circuit can be opened and closed successively by a series of pulls on a cord or chain; one pull turning on the lamp and the next pull turning it off.

The invention resides in certain details of construction hereinafter set forth and particularly pointed out in the claims.

In the accompanying drawing, Figure 1 is a sectional elevation of a lamp socket mechanism embodying my invention, and showing the circuit open; Fig. 2 is a similar view showing the circuit closed; Fig. 3 is an end view with the screw-threaded lamp receptacle removed; Fig. 4 is a side view of part of the mechanism; Fig. 5 is a cross section; Fig. 6 is a perspective view of the frame and spring contact; Fig. 7 is a perspective view of the tumbler; Fig. 8 is a similar view of the actuator; and Fig. 9 is a side elevation of the entire socket.

The shell 1 and cap 2 inclose a base 3 of insulating material provided with certain recesses to receive the metal parts. These comprise first, a frame which is preferably a piece 4 of sheet metal having a flange 5 along one edge, a lug 6 at one end, a smaller lug 7 at the other end, and a Y-shaped slot 8, the arms of the Y being preferably curved, as shown. At one end of the flange 5 is a depending lug 9 into which is tapped a binding-screw 10 for one line-terminal. A flat spring 11 is secured to the lug 6, its free end being adjacent to one end of the screw-threaded lamp receptacle 12, which is suitably supported on the base 3. The other lamp contact is a spring 13 secured to said base and provided with a binding-screw for the other line-terminal.

The device for forcing the spring 11 into contact with the receptacle 12 or with a contact strip 14 secured thereto, and thereby closing the circuit through the lamp, is a tumbler 15 pivoted to the frame between the arms of the Y-shaped slot 8 and having a lug 16 which bears on the spring 11 and

moves it when the tumbler is rocked on its pivot. The tumbler has two oppositely-arranged arms 17, each preferably hook-shaped, and adjacent to each hook is a cam 18, the two cams intersecting and forming a V-shaped body for the tumbler.

An actuator is mounted on the frame and arranged to engage with the cams. It is preferably a plate 19 having near one end a laterally-projecting pivot 20 passing through the stem of the Y-shaped slot 8 so that the actuator can slide along said slot. At the other end the plate has a laterally-projecting pin 21 extending through said slot and adapted to engage with the cams 18. The actuator is normally held retracted by means of a spring 22 attached to a stud 23 on the frame and bearing against the pivot. In order to move the actuator, there is provided a rod 24 having a head 25 engaging with a lug 26 on said actuator, preferably by a joint adapted to give freedom of movement. A chain or cord 27 is attached to the rod and is let out through a funnel 28 on one side of the shell 1.

The operation is as follows: Suppose the parts to stand as shown in Fig. 1. Then when the chain is pulled, the pin 21 on the actuator will engage the upper cam 18 and ride along until it strikes the upper hooked arm 17. Continued movement of the actuator will rock the tumbler into the position shown in Fig. 2, the lug 16 on the tumbler forcing the spring contact 11 down upon the contact strip 14. In this position, the parts lock themselves as the line of pressure of the spring against the lug is radial to the pivot of the tumbler. The tumbler is prevented from passing this point by a shoulder 29 which abuts against the stop lug 7. When the chain is let go, the spring 22 retracts the actuator to the position shown in Fig. 2, with its pin 21 in the stem of the Y-shaped slot 8. In this position it is ready, when the chain is again pulled, to engage the lower cam and hook on the tumbler and return the parts to the position shown in Fig. 1. In this movement, the spring contact assists by its pressure against the lug 16 so that after a slight movement of the actuator the spring throws it open quickly, and snaps out any arc at the contacts. The oscillation of the tumbler in that direction is checked by the lug 16 coming in contact with the stop 7. It is thus ap-



parent that with the mechanism above set forth, one pull on the chain will close the circuit and light the lamp, and the next pull will open the circuit and extinguish the lamp. As the chain can be led to any desired point, the lamp can be readily controlled even if it is located in some high and inaccessible place.

What I claim as new and desire to secure by Letters Patent of the United States, is,—

10 1. In a lamp socket, the combination with a lamp contact, of a spring having circuit connection and arranged to make and break contact with said lamp contact, a tumbler operatively engaging said spring, and a  
15 sliding actuator for said tumbler.

2. In a lamp socket, the combination with a lamp contact, of a frame, a flat spring secured to said frame and arranged to make and break contact at one end with said lamp  
20 contact, a rocking tumbler pivoted on said frame and operatively engaging said spring, and a reciprocating actuator for rocking said tumbler.

3. In a lamp socket, the combination with  
25 the screw-shell contact, of a frame, a spring contact secured thereto, a tumbler pivoted on said frame and operating upon said spring to move it into and out of contact with the shell, and an actuator sliding on  
30 said frame and engaging with said tumbler.

4. In a lamp socket, the combination with

a lamp contact, of a frame, a tumbler pivoted on said frame and having two intersecting cams, an actuator arranged to engage said cams alternately, and a spring secured  
35 to said frame and arranged to make and break contact with said lamp contact and to hold the tumbler in extreme positions.

5. In a lamp socket, the combination with a frame having a Y-shaped slot, of a tumbler  
40 pivoted between the arms of the Y and having two intersecting cams and hooked arms, an actuator sliding in the stem of said slot and adapted to engage said cams, and a  
45 spring contact controlled by said tumbler and operating to hold the latter in extreme positions.

6. In a lamp socket, the combination with a frame having a Y-shaped slot, of a tumbler  
50 pivoted between the arms of the Y and having two intersecting cams, hooked arms and a lug, an actuator having a pivot sliding in said slot and a pin also engaging said slot and adapted to engage said cams, and a spring  
55 contact bearing against said lug.

In witness whereof, I have hereunto set my hand this 31st day of July, 1905.

JOHN R. BYRNE.

Witnesses:

BENJAMIN B. HULL,  
HELENA SHIELDS.