W. PFEIFER, Jr.

ELECTRIC PULL SOCKET SWITCH.

APPLICATION FILED JAN. 22, 1912.

1,036,326.

Patented Aug. 20, 1912.

Fig. 1.

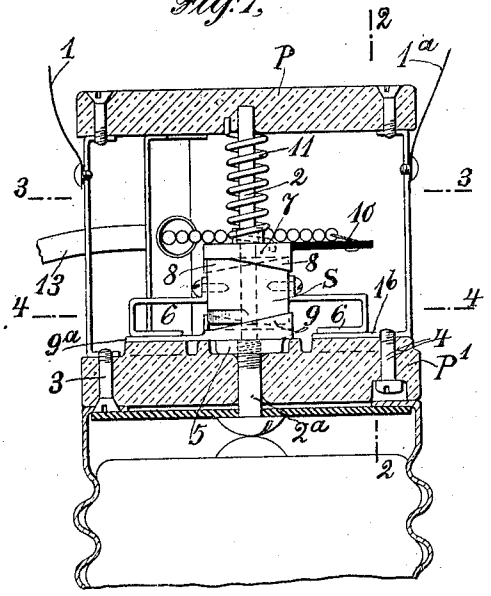


Fig. 2.

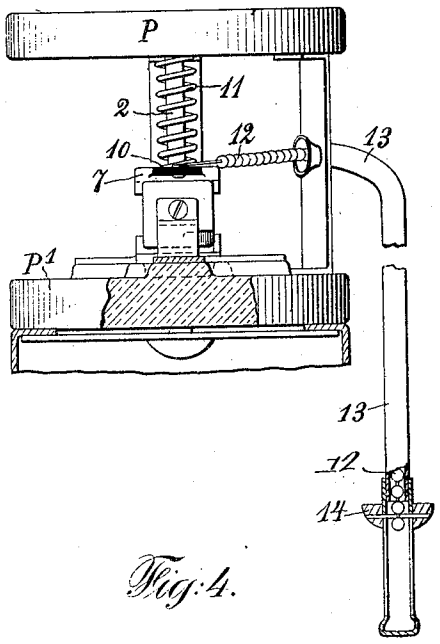


Fig. 3.

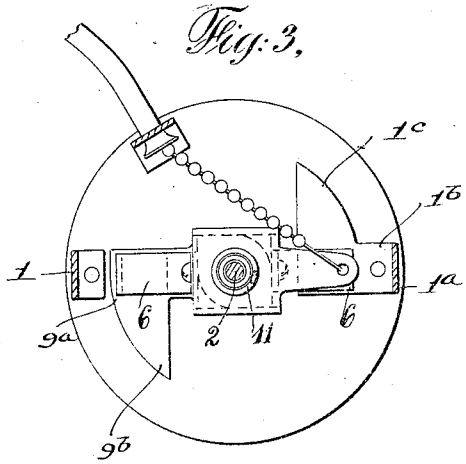
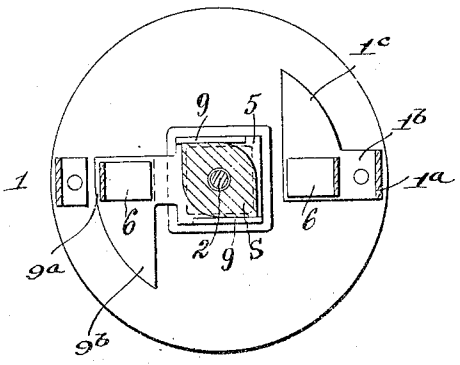


Fig. 4.



Witnesses:
Max B. A. Doring
Emma A. McCarrick

Inventor
William Pfeifer Jr.
By his Attorney
L. K. Böhm.

UNITED STATES PATENT OFFICE.

WILLIAM PFEIFER, JR., OF JERSEY CITY, NEW JERSEY.

ELECTRIC PULL-SOCKET SWITCH.

1,036,326. Specification of Letters Patent. Patented Aug. 20, 1912.

Application filed January 22, 1912. Serial No. 672,695.

To all whom it may concern:

Be it known that I, WILLIAM PFEIFER, JR., a citizen of the United States of America, and a resident of Jersey City, county of Hudson, State of New Jersey, have invented certain new and useful Improvements in Electric Pull-Socket Switches, of which the following is a specification.

This invention has reference to a novel electric-pull socket switch.

It pertains particularly to a switch of a type which is used for preventing the pulling of incandescent lamps sidewise. Accordingly these switches are applied to lamps which are operated by a chain mechanism. The movable contacts of the device are actuated so that they describe one quarter circle during each operation. It has been so arranged that by one operation of the chain mechanism contact is established and by the succeeding operation the circuit is broken. Thus there is twice electric contact and twice a broken circuit when said movable contacts have traveled once around the circle.

The novel pull socket switch is of compact but simple construction and works reliably. By virtue of this simplicity of construction the cost of production has been kept relatively low.

In addition to this main object it has been sought to produce a neat and desirable article all as will be fully described hereinafter with reference to the accompanying drawing in which:

Figure 1 represents in vertical section an electric pull socket switch embodying in desirable form the present improvements. Fig. 2 is a side elevation of Fig. 1 partly broken away, on line 2—2 of Fig. 1. Fig. 3 is a section on line 3—3 of Fig. 1 and Fig. 4 is a section on line 4—4 of Fig. 1.

Similar characters of reference denote like parts in all the figures.

Referring to the drawing P—P^1 are supports of porcelain or other insulating material which are mounted in the shell of the socket (not shown).

1—1^a represent the wires secured to the terminals 1^d, 1^e which connect said supports on the outside. A stationary vertical rod or screw 2 connects the insulating supports P—P^1 centrally. A contact screw 3 passes through the support P^1 and connects with the continuation of the terminal 1 shown to the left in Fig. 1. Opposite the contact screw 3 there is a screw 4 in said support. This screw 4 represents merely a mechanical securing means and no current passes through the same. The stationary rod or screw 2 is partly threaded in its lower portion 2^a and a securing nut 5 is on said threaded portion. The central screw or rod 2 establishes contact with one wire in the lamp. As shown in Fig. 2 the terminal 1^e, shown to the right in Fig. 1, connects electrically with said rod.

The operative mechanism of the device comprises two movable contacts. These contacts 6—6 are secured to a square block or support S which is loosely mounted on the central screw 2. The contacts 6—6 accordingly are movable with said support S on the screw 2. It is evident however that the screw 2 may be screwed up and down in the nut 5 without affecting the support S and the contacts 6 secured thereto. On the central screw 2 and on top of the support S there is a square plate 7. This plate has two slanting shifting portions 8 on opposite sides, arranged reversely to each other and at a right angle to said plate as shown in Fig. 1.

On the top surface of the nut 5 there is a plate 9 preferably integral therewith. This plate 9 has slanting opposite side flanges reversely arranged which are permanently fixed like the nut. A lateral extension 9^a on said plate 9 is adapted to establish connection with the contacts 6. In order to prevent the contact from being suddenly broken, the said extension 9^a has a semi-crescent lateral extension 9^b on which the contacts 6 slide during the operation of the device and snap off only when the point of said extension 9^b has been passed. Opposite said extension 9^a electric contact may be established with the contacts 6 by the horizontal portion 1^b of the terminal 1^e. A like semi-crescent extension 1^c is formed on the terminal portion 1^b for the purpose above stated. The stationary slanting plate 9 presses the contacts into the right location during the operation of the switch.

It is plainly seen that the current passing through the terminal 1^e and its horizontal portion 1^b flows through one contact 6 when same is thereon, the square conductive block or support S, the second contact 6, the lateral extension 9^a of the plate 9, through same, and the nut 5 into the lower portion 2^a of the screw, from there into the lamp.

The screw 2 is loosely within the conductive block S, therefore contact is not securely established between same and the lower screw portion 2^a, but contact is always securely established by means of the contacts 6 of the block S when said contacts are, one on the extension 1^b, and the other on the extension 9^a. A coiled spring 11 is provided on the top portion of the screw 2 between the insulating support P and the square plate 7 for the purpose of pressing the entire mechanism, moving on the screw, normally in a downward direction.

To the square plate 7 there is connected an insulated arm 10 on one side between its slanting portions 8. This arm connects with a chain 12 that passes into the flexible tube 13. The chain has on its free end portion a ring 14 to which it is attached. When the ring is pushed downwardly along the tube the chain moves the plate 7 and establishes contact. As previously stated one contact 6 slides onto the extension 9^a of the slanting plate 9 which is permanently secured to the nut 5 and located immediately below the square support S. Thus said square support is gradually raised with the contacts thereon and after same has made a quarter revolution the contacts 6 on the support S which also has been raised will again descend with same after reaching the end of the extension 9^a and the portion 1^b of the second terminal. The spring 11 having the tendency to press the mechanism on the screw 2 in a downward direction now acts and the contact is thus broken through a second operation of the device. Upon the third operation of the device contact is again established and so on. In order to facilitate the movements of the square block S the alternate lower corners of same are rounded off as shown in Fig. 4, while two other corners are square to effect the keeping of the block in a fixed position when said block has been moved one quarter of a circle.

I claim as my invention:

1. An electric pull socket switch comprising two insulating supports, terminals connecting same on the outside, a lateral extension on one of said terminals forming one stationary contact, a partially threaded screw connecting the supports centrally, a stationary nut on the lower insulating support with lateral extension forming a second contact, spring pressed rotatable means on said screw to establish alternately electric connection with the stationary contacts, and means for actuating the rotatable means for 90° at a time.

2. An electric pull socket switch comprising two insulating supports, terminals connecting same on the outside, a lateral extension on one of said terminals forming one stationary contact, a partially threaded screw connecting the supports centrally, a stationary nut on the lower insulating support with lateral extension forming a second contact, a spring pressed square support on the screw with two oppositely rounded corners, a sliding contact on each side of said support, and means for rotating same.

3. An electric pull socket switch comprising two insulating supports, terminals connecting same on the outside, a lateral extension on one of said terminals forming one stationary contact, a partially threaded screw connecting the supports centrally, a stationary nut on the lower insulating support with lateral extension forming a second contact, two slanting side flanges on said nut reversely arranged, a spring pressed square support on the screw with two oppositely rounded corners, a sliding contact on each side of said support, and means for rotating same.

4. An electric pull socket switch comprising two insulating supports, terminals connecting same on the outside, a lateral extension on one of said terminals forming one stationary contact, a partially threaded screw connecting the supports centrally, a stationary nut on the lower insulating support with lateral extension forming a second contact, two slanting side flanges on said nut reversely arranged, a spring pressed square support on the screw with two oppositely rounded corners, a sliding contact on each side of said support, means for rotating same, a movable square plate on the square support, a chain in connection therewith, a flexible tube for housing the chain, and a ring connecting with the chain adapted to slide on the tube.

5. In an electric pull socket switch stationary contacts, a partially threaded screw with nut integrally connected with one contact, two slanting side flanges thereon reversely arranged, a rotatable square support on said screw having two oppositely rounded corners, two lateral contacts on said support oppositely arranged, a square plate on the top portion of said support having two slanting side flanges oppositely arranged, a coiled spring above pressing the mechanism normally in a downward direction, and means in connection with said square plate for operating the device.

Signed at New York, N. Y., this 20th day of January, 1912.

WILLIAM PFEIFER, JR.

Witnesses:
EMMA A. MCCARRICK,
MARIE H. BRAUN.