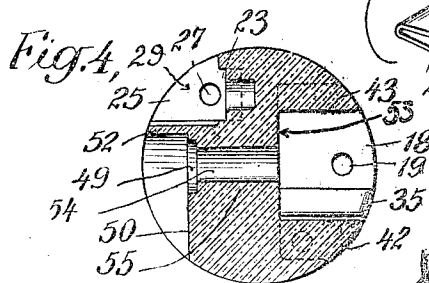
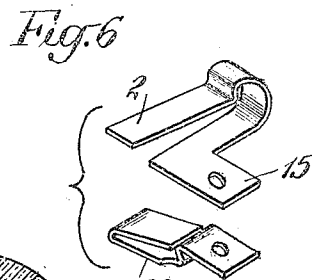
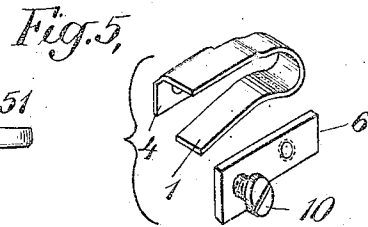
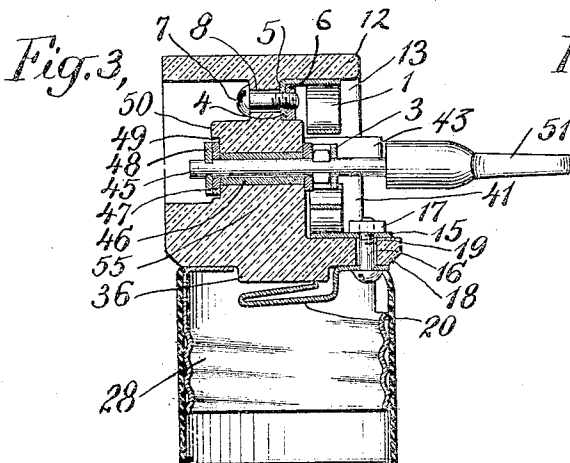
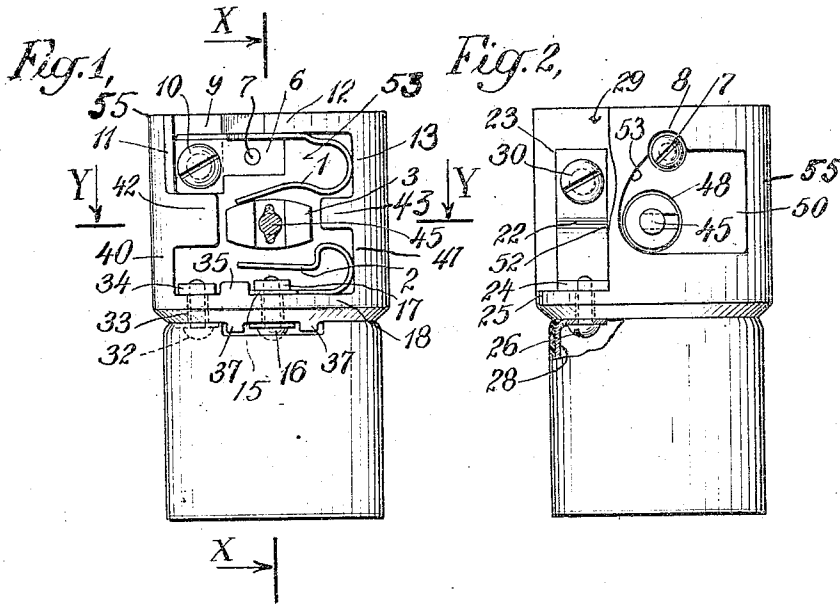


F. BARR.
ELECTRIC SWITCH.
APPLICATION FILED JULY 1, 1912.

1,049,977.

Patented Jan. 7, 1913.

2 SHEETS—SHEET 1.



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2 SHEETS-SHEET 2.

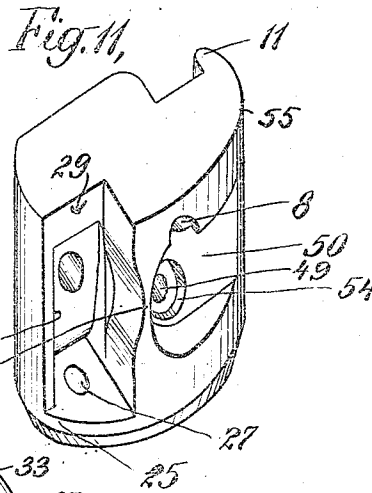
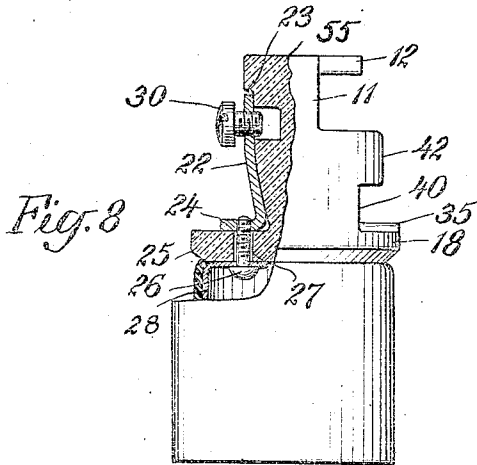
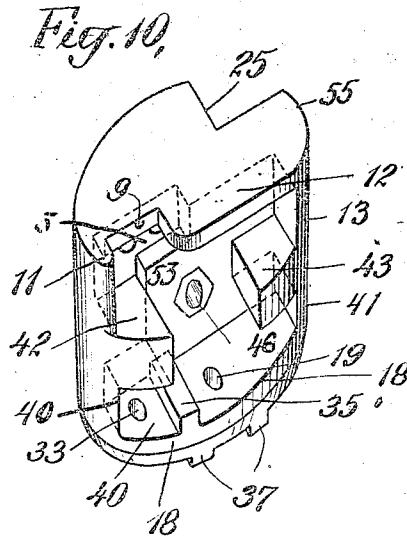
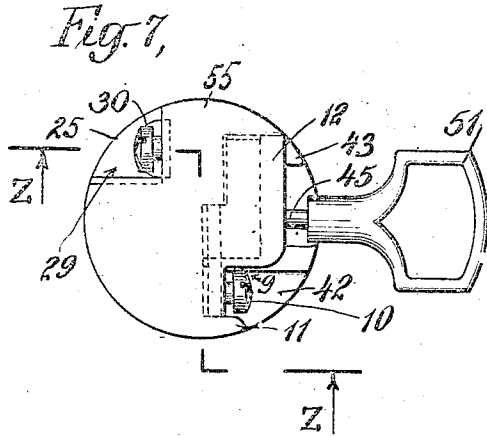
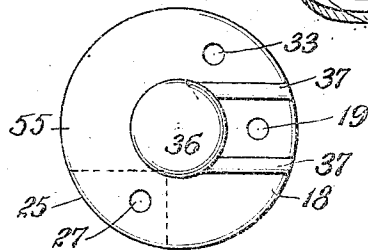


Fig. 9,



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UNITED STATES PATENT OFFICE.

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ELECTRIC SWITCH.

1,049,977.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed July 1, 1912. Serial No. 706,856.

To all whom it may concern:

Be it known that I, FREDERIC BARR, a citizen of the United States of America, and residing at New York, in the county of Kings and State of New York, have invented new and useful Improvements in Electric Switches, of which the following is a specification.

My invention relates particularly to rotary snap switches for an incandescent lamp socket.

The main object is to provide a simple and reliable construction which can be made economically.

The invention in its preferred form consists of an insulating base formed from a single piece of suitable material such as porcelain and having spring switch contacts and a rotating switch cam on one side together with circuit terminals all constructed, supported and spaced apart from each other so as to require a minimum number of parts which can be readily assembled and which are properly insulated from each other. The block and the parts are so designed that the block can be made from the simplest form of dies and therefore at small expense without sacrificing features of strength and insulation necessary to devices of this character.

Figure 1, is a front view of a lamp socket switch embodying the improvements of my invention and showing the switch contacts and the rotary snap switch cam, Fig. 2 is a rear view. Fig. 3, is a vertical sectional view on the plane of the line X X of Fig. 1. Fig. 4, is a horizontal sectional view of the insulating block on the plane of the line Y Y of Fig. 1. Fig. 5, is a perspective view of the upper switch contact and circuit terminal. Fig. 6, is a perspective view of the lower contact and the center lamp contact. Fig. 7, is a plan view of the socket. Fig. 8, is a side view and partial section on the plane of the line Z Z of Fig. 7. Fig. 9, is a view of the under side or lamp end of the insulating block. Fig. 10, is a front perspective view of the insulating block. Fig. 11 is a rear perspective view of the insulating block.

The two switch contacts 1 and 2 are formed of resilient sheet metal and are adapted to be connected by the rotatable metallic cam 3. Each of the switch contacts is in the form of a U-shaped arm. The contact arm 1 has a base 4 formed at right

angles to the immediately connected part and the switch block has a recess F shaped to receive and position it. The circuit terminal plate 6 fits in one end of the recess 5 and overlaps the base 4. The clamping screw 7 passes through the hole 8 in the insulating block and screws into the terminal plate 6 so as to hold the terminal plate and the contact arm 1 securely in position. A passage 9 is left leading to the binding screw 10 for convenience in securing one of the circuit wires. The upper switch contact and the circuit terminal are surrounded on three sides by the insulating walls or flanges 11, 12 and 13 for the purpose of protection. The lower switch contact 2 is formed from resilient sheet metal and has a base 15 extending laterally and adapted to be secured to the insulating block by means of a screw 16 and nut 17, the flange 18 of the insulating block having a hole 19 for the screw shank. The center lamp contact 20 is secured to the insulating block by the same screw 16. The circuit terminal 22 is located in the recess 23 in the back of the insulating base and has a foot 24 bent over at right angles and secured to the flange 25 of the insulating block by a screw 26 which passes through a hole 27. This same screw also secures the screw-threaded lamp socket 28 to the insulating block. A passage 29 leads to the circuit terminal 22 for convenience for securing one of the circuit wires by means of the binding screw 30.

For more securely fastening the screw-threaded lamp socket 28 to the insulating block I prefer to provide a screw 32 passing through a hole 33 in the flange 18 and a nut 34. A projecting rib 35 integral with the flange 18 serves not only to assist in positioning the nut 34, the base 15 of the lower switch contact and the nut 17 but it also insulates the metallic parts connected to the lamp terminals. The bottom of the switch block is also preferably provided with an integral raised boss 36 and ribs 37, 37 for positioning and insulating the two lamp terminals. The flanges or walls 40 and 41 laterally protect the lower switch contact and adjacent parts and prevent short circuiting. The wall or flange 42 spaces apart the circuit terminal 6 and the screw 32 which is connected to the outer lamp terminal and which are of different polarity. The wall or flange 43 spaces apart the U-shaped portions of the resilient switch contacts. The

space between the walls 42 and 43 is sufficient to permit rotation of the switch contact cam 3. The switch contact cam 3 is mounted on the spindle 45 so that the two can have a limited rotative movement to permit proper snap action. The spindle is supported by a tubular bushing 46 in the insulating block and held in place for instance by two washers 47 and 48. The washer 47 is slipped on over the end of the spindle while the spindle is slotted to receive the forked washer 48. To assist in assembling and holding the parts in their proper position a recess 49 is provided for the washer 47 and the outer surface of the washer 47 is substantially flush with the wall 50 so that the forked washer 48 may be slipped into place from one side. The spindle is provided with a suitable thumb-piece 51 for rotating it and the cam 3 in either direction. The spindle and attached part is spaced apart from the circuit terminal 22 by means of the insulating flange 52. The wall 53 being flat makes it easy to assemble and position the spring contact. The hole 54 for the spindle bushing extends through the main body 55 of the insulating block. All the flanges it will be noted are at right angles to the main body so that the block is easy to make. The shape of the parts of the insulating block including the various flanges and walls previously described is such that the block can be readily and properly positioned and held within any ordinary lamp socket shell.

What I claim is:—

1. A socket switch construction comprising a one-piece insulating block having a recess in one side, a spring switch contact having a base portion formed at right angles and located in said recess, a circuit terminal plate located in said recess outside of said base, a screw passing through said block and holding said plate and said switch contact in place, a second spring switch contact having a base extending laterally, said block having a flange extending from its front face, a screw for securing said latter base to said flange, a lamp contact secured by said latter screw, a second circuit terminal secured in recess in the opposite face of said insulating block and having a foot substantially at right angles, a second lamp terminal and a screw for securing said second lamp terminal and said foot to said insulating block, a spindle rotatably supported in said block and a switch cam carried thereby between said spring switch contacts.

2. A socket switch construction comprising a one-piece insulating block, two spring switch contacts having bearing faces at substantially right angles to the front face of said block, a spindle passing through said block between said switch contacts, a switch

cam carried by said spindle and rotatable between resilient ends of said switch contacts, circuit terminals located in recesses in said block, lamp contacts mounted on one end of said block, one of said circuit terminals being connected to one of said switch contacts and one of said lamp contacts being connected to the other switch contact, the other circuit terminal being connected to the other lamp contact, said insulating block having integral flanges projecting laterally from the faces thereof and serving to laterally surround the switch contacts and the terminals respectively and serving to afford positioning means for the insulating block in an ordinary socket shell.

3. A socket switch construction comprising an insulating block having flanges projecting substantially at right angles from one face thereof and forming a chamber open at one side, spring switch contact members secured therein, a spindle supported in a transverse hole in said insulating block and a switch cam carried by said spindle and adapted to be rotated between said switch contact arms, one of said arms serving to hold the switch cam loosely in the open circuit position.

4. A socket switch construction comprising an insulating block having flanges projecting substantially at right angles from one face thereof and forming a chamber open at one side, spring switch contact members secured therein, a spindle supported in a transverse hole in said insulating block and a switch cam carried by said spindle and adapted to be rotated between said switch contact arms, one of said arms serving to hold the switch cam loosely in the open circuit position, said insulating block having a flange projecting between portions of said spring contact arms.

5. A socket switch construction comprising an insulating block having top, bottom and side flanges and intermediate flanges all projecting from one face of the block, a spring switch contact located between the outer flanges and the intermediate flanges and a second spring switch contact located between the lower flange and the intermediate flanges and a rotatable switch cam mounted between said intermediate flanges for connecting said switch contacts.

6. A socket switch construction comprising an insulating block having top, bottom and side flanges and intermediate flanges all projecting from one face of the block, a spring switch contact located between the outer flanges and the intermediate flanges and a second spring switch contact located between the lower flange and the intermediate flanges and a rotatable switch cam mounted between said intermediate flanges for connecting said switch contacts, a circuit terminal connected to one of said switch

contacts, a lamp terminal connected to the other switch contact, a second circuit terminal and a second lamp terminal electrically connected thereto.

5 7. A socket switch construction comprising an insulating block having upper and lower flanges, side flanges and an intermediate flange all projecting from one face of said block, U-shaped spring switch con-
10 tacts secured to said block and having portions spaced apart by said intermediate flange, a spindle extending transversely through said block and a switch cam carried by said spindle for connecting said
15 switch contacts.

8. A socket switch construction comprising an insulating block having upper and lower flanges, side flanges and an intermediate flange all projecting from one face
20 of said block, U-shaped spring switch contacts secured to said block and having portions spaced apart by said intermediate flange, a spindle extending transversely through said block, a switch cam carried by
25 said spindle for connecting said switch contacts, a circuit terminal mounted in a recess in the face of said block and a screw passing through said block from the opposite side and securing said circuit terminal and
30 one of said switch contacts to said block.

9. In a switch socket construction, an insulating block having a base flange projecting from one side thereof, a spring switch member having a laterally extending base,
35 a central insulating boss and projecting ribs carried by the outer face of the insulating block, an outer lamp terminal positioned by said boss and said ribs, a center lamp terminal positioned by said ribs, screws passing
40 through said lamp terminals and through the base flange of said insulating block and nuts for said screws, said insulating block having an insulating rib on its upper face spacing said nuts apart.

45 10. A switch socket construction comprising an insulating block having recesses facing in opposite directions, circuit terminals located in said recesses, a switch contact secured beneath one of said circuit terminals,
50 a lamp terminal at the end of said block secured to the other circuit terminal, a screw and nut affording additional means for securing said lamp terminal to said insulating

block, said insulating block having an insulated flange projecting between said screw 55 and nut and that circuit terminal which is connected to the switch contact.

11. As an article of manufacture, an insulating block for an electric switch having upper and lower flanges, side flanges and intermediate flanges all projecting from one
60 face of said block and leaving recesses for switch contacts and a switch cam.

12. As an article of manufacture, an insulating block for an electric switch having 65 upper and lower flanges, side flanges and intermediate flanges all projecting from one face of said block and leaving recesses for switch contacts and a switch cam, said block having a recess on its opposite face for a
70 circuit terminal and a projecting flange for spacing the circuit terminal from the switch spindle.

13. As an article of manufacture, an insulating block for an electric switch hav- 75 ing upper and lower flanges, side flanges and intermediate flanges all projecting from one face of said block and leaving recesses for switch contacts and a switch cam, the lower flange of said insulating block having 80 a rib projecting toward one of the intermediate flanges and serving to position a switch contact.

14. As an article of manufacture, an insulating block for an electric switch having 85 upper and lower flanges, side flanges and intermediate flanges all projecting from one face of said block and leaving recesses for switch contacts and a switch cam, said base flange having a central boss and ribs pro- 90 jecting from its outer face, all of said ribs and flanges being substantially parallel.

15. A socket switch construction comprising an insulating block having a transverse passage, a bushing secured in said passage, 95 a spindle supported in said bushing and having a grooved end, a split washer on the end of said spindle, said block having a wall in the plane of said groove, switch contacts mounted at the opposite side of said block 100 and a cam carried by said spindle for connecting said contacts.

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Witnesses:

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