R. A. SCHOENBERG.

ELECTRIC SWITCH.

APPLICATION FILED APR. 22, 1916.

1,409,519. Patented Mar. 14, 1922.

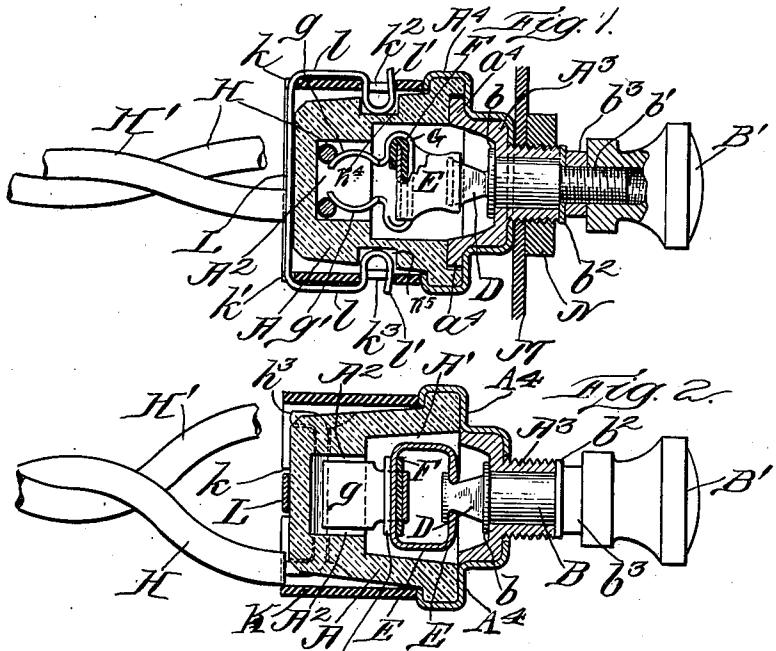


Fig. 1.



Fig. 2.

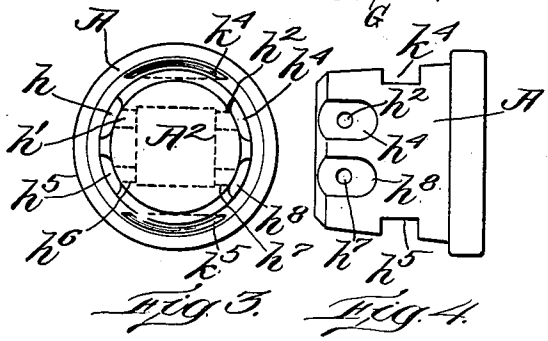


Fig. 3.



Fig. 4.

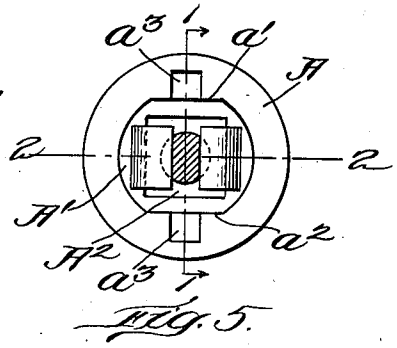


Fig. 5.

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# UNITED STATES PATENT OFFICE.

RALPH A. SCHOENBERG, (NOW BY JUDICIAL CHANGE OF NAME) RALPH A. BELMONT,) OF NEW YORK, N. Y., ASSIGNOR TO BEAVER MACHINE AND TOOL CO., INC., OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## ELECTRIC SWITCH.

1,409,519. Specification of Letters Patent. Patented Mar. 14, 1922.

Application filed April 22, 1916. Serial No. 92,981.

*To all whom it may concern:*

Be it known that I, RALPH A. SCHOENBERG, (now by judicial change of name RALPH A. BELMONT,) of New York city, in the county and State of New York, have invented a new and useful Electric Switch, of which the following is a specification.

My invention relates to electric switches and is particularly useful with switches in which there is a bare conductor exposed outside of the body member and it is especially useful with canopy switches although its use is not by any means limited to the fields above described.

One object of my invention is to provide efficient insulation for such a bared conductor or conductors.

Another object is to shorten the length of the device as a whole, space being of very great practical importance particularly with canopy switches.

Other objects will be pointed out below.

One feature of my invention consists in means for holding said insulation in place which means is at the side of the device.

Another feature is a spring to do said holding. Other features will be pointed out below.

In the drawings:

Figures 1 and 2 are longitudinal sectional views of my improved switch, Figure 1 being a section on line 1—1 of Figure 5 and Figure 2 being a section on line 2—2 of Figure 5;

Figure 3 is an elevation of the inner end of the porcelain body hereinafter described;

Figure 4 is a side elevation of the body shown in Figure 3; and

Figure 5 is an elevation of the outer end of the body shown in Figure 4.

The body member A is made of porcelain or other insulating material and has a chamber A′ with two straight walls $a'$ $a^2$ and a smaller square chamber $A^2$. Member A is also provided with recesses $a^3$ $a^3$ leading from straight walls $a'$ $a^2$ to receive tongues $a^4$ $a^4$ on member $A^3$ which is a cover for chamber A, said tongue and recesses preventing relative rotation of members A and $A^3$, which are held against relative longitudinal movement by clamping member $A^4$.

I have shown a rotary operating member having a cylindrical portion B and having a flange $b$ and being threaded at $b'$ the threaded portion being of less diameter than the bore of member $A^3$. I provide washer $b^2$ to engage the end of portion B, the washer $b^2$ being clamped against the end of member $A^3$ by means of nut $b^3$ so that longitudinal movement of the rotary operating member is prevented. It is desirable in some cases to have a removable finger piece and so I provide member B′ interiorly threaded to engage portion $b'$.

The operating member is provided with an operating portion D having a plurality of operative diversely-inclined facial portions as is well known in the art and fully described in U. S. Letters Patent No. 811,410 dated January 30, 1906. A tension member E is provided to engage portion D. Fibre or other suitable material F insulates member E from contact member G which carries spring fingers $g$ $g'$. Members E, F and G will have reciprocating motion without rotation as described in said patent, rotation being prevented by the walls of small chamber $A^2$.

Line wire H has a bared end which extends through recess $h$, passage $h'$, chamber $A^2$, passage $h^2$ and is hooked at $h^3$ in recess $h^4$ with its extreme end exposed outside of member A. Similarly recess $h^5$ passages $h^6$ and $h^7$ and recess $h^8$ are provided for the bared end (not shown) of line wire H′.

In the drawings I illustrate one form of insulation for the exposed ends of the wires and it consists in a fibre tube K notched at $k$ $k'$ and perforated at $k^2$ $k^3$. This insulation is held in place by a metal strip L which extends through notches $k$ $k'$ and has spring latch portions $l$ $l$ which are hooked at $l'$ $l'$ to extend through perforations $k^2$ $k^3$ and engage grooves $k^4$ and $k^5$ in member A. M represents a canopy to which my device is held by means of nut N which engages threading on member $A^3$.

A great advantage of my switch is that its length is shortened materially while its efficiency is preserved.

What I claim is:

1. A device of the character described comprising a body having a bare conductor on its exterior; a cover of insulating material for said conductor; and means on the cover engaging said body intermediate of the ends of the device for holding the cover in position.

2. A device of the character described comprising a body formed at each side with

a groove and carrying a bare conductor on its exterior; a cover for said conductor formed at each side with a hole; and a pair of spring latches each extending through one of the holes of the cover and engaging one of the grooves on the body to hold the cover in position.

3. A device of the character described comprising a body formed at each side with a groove and carrying a bare conductor on its exterior; a cover for said conductor formed at each side with a hole; a pair of spring latches each extending through one of the holes of the cover and engaging one of the grooves on the body to hold the cover in position; and a bar integral with said latches and extending across one end of said body.

4. A device of the character described comprising a body formed at each side with a groove and carrying a bare conductor on its exterior; a cover for said conductor formed at each side with a hole and at each side of one end formed with notches; and a pair of spring latches each extending through one of the holes of the cover and engaging one of the grooves on the body to hold the cover in position and a bar integral with said latches and engaging the notches to hold the bar in position.

5. A device of the character described comprising a body; a cover for said body; a member engaging said cover and crimped to said body to hold said body and cover together; a bare conductor on the exterior of said body; a cover for said conductor; and means at the side of the structure for holding said cover of the conductor in position.

6. A device of the character described comprising a body of insulating material; switch mechanism within said body and including an actuator projecting from one end of said body; a conductor connected with said switch mechanism and extending through said body and having its end extending to the exterior of said body; an insulating cover for said end of the conductor and being separate from said body and located at that end of the body which is opposite said actuator; and means engaging the side of the body for holding the cover in position.

7. A device of the character described comprising a body of insulating material and provided with indentations; switch mechanism within said body; wires connected with said switch mechanism and extending to the exterior of said body; an insulating cover for the ends of the wires formed at each side with a hole; and a pair of spring latches each extending through one of the indentations in the body to hold the cover in position.

8. A device of the character described comprising a body of insulating material having an external shoulder; a switch within said body; a cover for said body; a member engaging said cover and crimped around said shoulder to hold the cover and body together; and means to fasten the body and cover to a support.

RALPH A. SCHOENBERG