L. C. F. METZGER.

PUSH BUTTON OR CIRCUIT CLOSER.

APPLICATION FILED MAR. 4, 1914.

1,130,994. Patented Mar. 9, 1915.

Fig. 1.

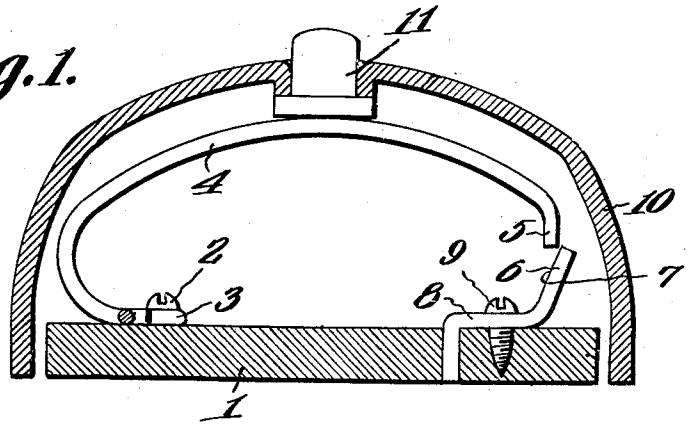


Fig. 2.

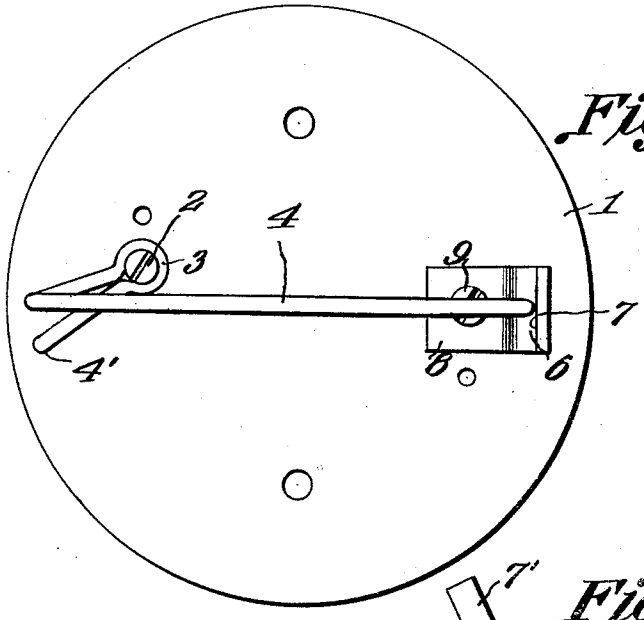


Fig. 3.

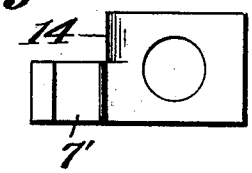
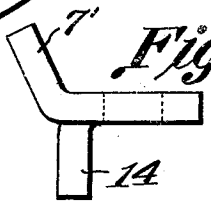


Fig. 4.



Witnesses

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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PUSH-BUTTON OR CIRCUIT-CLOSER.

1,130,994. Specification of Letters Patent. Patented Mar. 9, 1915.

Application filed March 4, 1914. Serial No. 822,408.

To all whom it may concern:

Be it known that I, LOUIS C. F. METZGER, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have invented a new and useful Push-Button or Circuit-Closer, of which the following is a specification.

The present invention relates to improvements in contact points for push buttons, one object of the invention being the provision of a normally opened push button switch by means of which the contact points during the operation thereof will have a rubbing action imparted thereto so that the contacting surfaces thereof will at all times be clean to insure a perfect electric circuit connection at such points.

A further object of the present invention is the provision of contact points for push buttons, that are exceedingly simple and durable in construction and which are cheap to manufacture.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a central sectional view through a complete push button with an outer casing showing the contact points and other parts in the normal open circuit position. Fig. 2 is a top plan view of the contact points on the base with the outer casing removed. Figs. 3 and 4 are detail views of a modified form of contact plate carried by the base.

Referring to the drawings, the numeral 1 designates the base which is composed of an insulating material and has attached thereto, as further described, the resilient switch member 4 and the fixed member 6. The resilient member 4 of any material, preferably of wire, has its fixed end 4′ bent to engage in a hole in the base and also at the fixed end, there is an eye 3 to receive the binding screw 2 which is a terminal connection as well. This switch member 4 is so bent as to provide the terminal contact end 5 normally held out of contact with the inclined face 7 of the contact plate 6. This contact member 6 is secured and held, in a fixed position, to the base 1 by the terminal screw 9 and the prong or tang 8 which fits in a proper opening in the base 1. The terminal screw 9 is also a terminal connection. It will thus be seen that when the resilient switch member 4 is depressed, that the end 5 will make a rubbing contact with the inclined face of the stationary contact 6 and that thus the two coacting faces will clean one another so that a perfect connection will be made at this point. It will further be seen that with the bent end or prong on each of the members 4 and 6, only one screw in each is required to secure each member to the base and the screw at the same time serves to bind the conductor wires to the contact points.

The member 4 will be of any material, preferably wire, and of sufficient strength to readily extend to hold the contact end 5 out of engagement with the stationary member 6 and normally holds in place and presses the button 11 in and against the outer casing 10 which may be of any desired form or shape.

The above described push button contact points are clearly shown in Figs. 1 and 2.

As shown in Figs. 3 and 4, the member 7′ is split to provide a prong or tang 14, which is adapted to enter the base 1 and thus, instead of the bent end, with a screw, as 9, hold the member against turning.

It is evident that the terminal contact 5 of the resilient member 4 may be rounded or in fact shaped in any desired manner to coöperate with the contacting member 6, it being essential that one or the other be slightly inclined relative to the other, so that a wiping action is had between the two during the engaging or separating thereof, so that any matter, such for instance, as dust or the products of corrosion will be wiped from the respective faces to produce a clean contact therebetween.

What is claimed is:

A circuit closer, including a base of insulating material, a resilient contact member made from a single strand of wire, one end being provided with a base entering terminal and an eye, a screw insertible through the eye for holding the contact member to the base, said screw forming one terminal connection for an electrical circuit, the other end of the contact member being straight, and a stationary contact member having a prong entering the base and provided with

an aperture, a screw entering the aperture of the stationary contact member for securing the same to the base and forming the other terminal of the electrical circuit, said stationary contact member being provided with an upwardly inclined plate bent outwardly relatively to the free straight terminal or end of the resilient contact member, whereby when the resilient contact member is depressed, the end of the straight terminal thereof will slidably engage and wipe the inner inclined face of said plate.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

LOUIS C. F. METZGER.

Witnesses:
P. J. LEE,
A. J. JOHNSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."