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1,487,682

H. E. LEPPERT

ELECTRIC CIRCUIT TERMINAL

Filed July 3, 1922

Fig. 1.

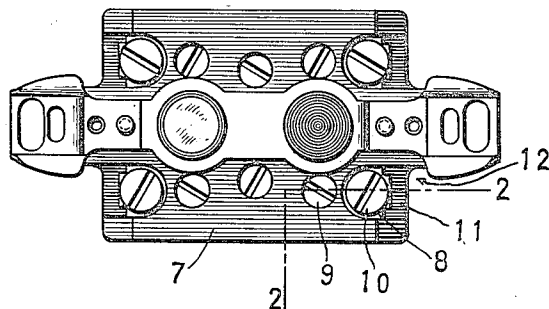


Fig. 2.

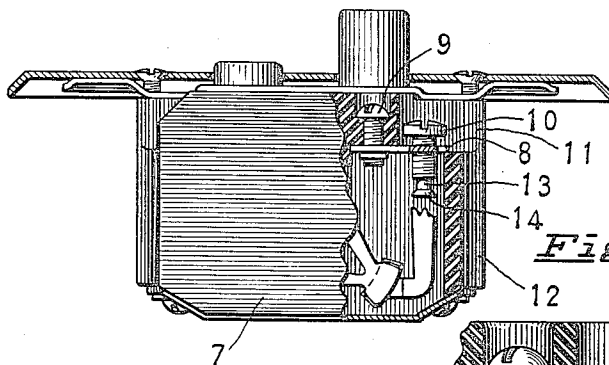


Fig. 3.

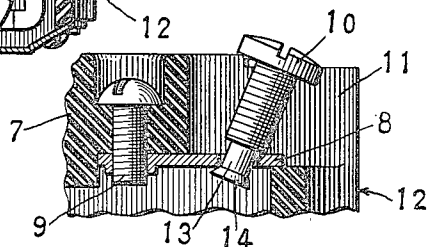


Fig. 4.

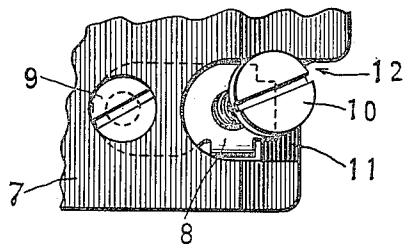


Fig. 5.

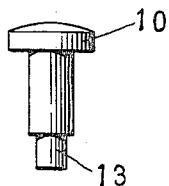
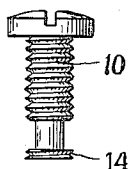


Fig. 6.



INVENTOR

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UNITED STATES PATENT OFFICE.

HENRY E. LEPPERT, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, OF PLAINVILLE, CONNECTICUT, A CORPORATION OF CONNECTICUT.

ELECTRIC-CIRCUIT TERMINAL.

Application filed July 3, 1922. Serial No. 572,534.

To all whom it may concern:

Be it known that I, HENRY E. LEPPERT, a citizen of the United States of America, residing at New Britain, Connecticut, have invented a new and useful Electric-Circuit Terminal, of which the following is a specification.

My invention relates particularly to what are commonly termed binding posts or connectors for electric switches. The main object is to provide a construction which can be economically made and which may be readily wired.

Another object is to facilitate the wiring of a terminal of the type in which the end of the conductor is surrounded by insulation.

The invention is shown as applied to a switch in which it is generally considered desirable to have the binding post or screws located in recesses, the walls of which insure the protection of the ends of the conductors so that accidental grounding is avoided. Such constructions are ordinarily difficult to wire and as a result the wiremen spends an unwarranted amount of time and frequently fails to properly connect the wire.

My invention employs a terminal plate of any suitable character and provides for mounting the binding screw in such a way as to permit it to be tilted to one side or another to facilitate the placing of the conductor wire beneath the head of the screw without disengaging the screw from the terminal plate.

Fig. 1 is a front view of one form of switch with a plurality of terminals embodying the improvement of my invention.

Fig. 2 is a side view and partial section on the plane of the line 2—2 of Fig. 1 showing one of the terminals or binding screws.

Fig. 3 is an enlarged fragmentary sectional view showing the binding screw partially withdrawn and tilted to one side to facilitate the introduction of the end of a wire.

Fig. 4 is a fragmentary plan view of the same.

Fig. 5 is a detail view of the blank from which the screw is adapted to be formed.

Fig. 6 shows a finished screw.

I have shown the invention as applied to an ordinary push button switch having an insulating body 7 which carries the various

parts. It should be understood, however, that the invention is applicable to any form of switch or other electrical device having any number of terminals.

A terminal plate 8 may be secured to the switch body or other support, for instance by means of a screw 9 in any suitable manner.

A binding screw 10 has a threaded engagement with the terminal plate 8 as is customary in constructions of this character so that when the end of the conductor (not shown) is wound around the shank of the screw beneath the head of the screw 10, the screw may be tightened to securely bind the conductor and so that by turning the screw in the reverse direction it may be backed off to release the conductor.

In the form in which the present invention is shown the terminal 8 and screw 10 are located in a recess 11 in one corner of the switch block so as to house the end of the conductor and prevent it from coming into contact with other parts of the switch or its cover plate or housing. A groove or passage 12 is usually provided for the conductor.

In a construction of this character, it will be seen that where the recess 11 is sufficiently small to properly gather together and hold the end of the conductor, it is difficult to insert the end of the conductor beneath the head of the screw unless the screw is made long enough to permit it to be backed out far enough for the head to extend outside of the recess. This not only requires considerable time but also means if the screw is to be long enough to prevent its falling out when thus retracted that the screw will be so long as to in some cases extend too close to the tip of the movable contact member. I have therefore provided the screw with an extension 13 smaller in diameter than the opening in the plate 8 so that when the screw is partially withdrawn as indicated in Figs. 3 and 4, it may be tilted to one side or another and thus afford a substantial opening around the edges of the head of the screw to permit the conductor to be readily twisted or wound around the shank of the screw. The end of this extension may be provided with a flange or upset portion 14 to prevent the screw from falling out when unscrewed.

This flange 14 may be threaded if desired as shown in Fig. 6 so as to permit the screw to be entirely withdrawn from the plate when necessary. Such a screw will not however come out when unscrewed in the usual manner since it will tilt or deflect to one side just as soon as the main thread is disengaged.

I claim:

1. In an electric switch, an insulating housing having a recess, a terminal plate secured in said recess and having a threaded opening, a binding screw engaging in said threaded opening and having a head on its outer end and an extension on its inner end of smaller diameter than the diameter of the opening in the terminal plate permitting said screw to be unseated and tilted to one side in said recess without entirely disengaging said screw from said terminal plate.

2. In a device of the character described, an insulating support having a recess, a terminal secured in said recess and having a screw seat, a screw having a threaded engagement in said seat and having an extension of smaller diameter than the screw seat but longer than the thickness of said terminal permitting the screw to be tilted when partially disengaged from the terminal.

3. In a device of the character described, an insulating support having a recess, a terminal plate in said recess and a screw seated in said terminal plate and having an extension of reduced diameter of greater length than the thickness of said plate permitting said screw to be tilted in said recess.

4. In a device of the character described,

a terminal plate having a threaded seat, a binding screw having a threaded portion engaging in said seat and having a head adapted to hold a conductor against said plate and having an extension of smaller diameter than the threaded portion but longer than the thickness of said plate and adapted to permit said screw to be tilted to one side without disengaging it from said plate.

5. In a device of the character described, a terminal plate having a threaded seat, a binding screw having a threaded portion engaging in said seat and having a head at one end adapted to hold a conductor against said plate and having an extension at the other end of smaller diameter than the threaded portion and longer than the thickness of said plate adapted to permit said screw to be tilted to one side when partially disengaged from said plate, and having means at the end of said extension to prevent the complete accidental withdrawal of said screw from said plate.

6. In a device of the character described, a terminal plate having a threaded seat, a binding screw having a threaded portion engaging in said seat and having a head adapted to hold a conductor against said plate and having an extension of smaller diameter than the threaded portion adapted to permit said screw to be tilted to one side when partially disengaged from said plate, and having a threaded projection at the end of said extension.

HENRY E. LEPPERT.