M. H. SHOENBERG & F. TALCOTT.

INSULATED TESTING PLUG TERMINAL.

APPLICATION FILED AUG. 13, 1917.

1,255,824.

Patented Feb. 5, 1918.

Fig. 1.

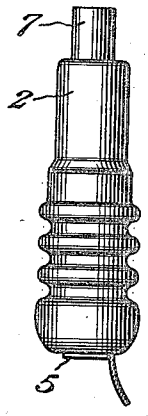


Fig. 2.

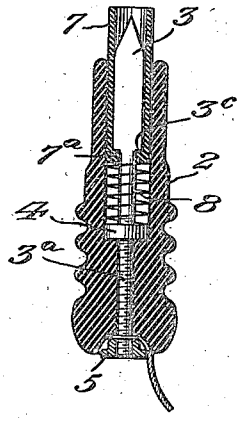
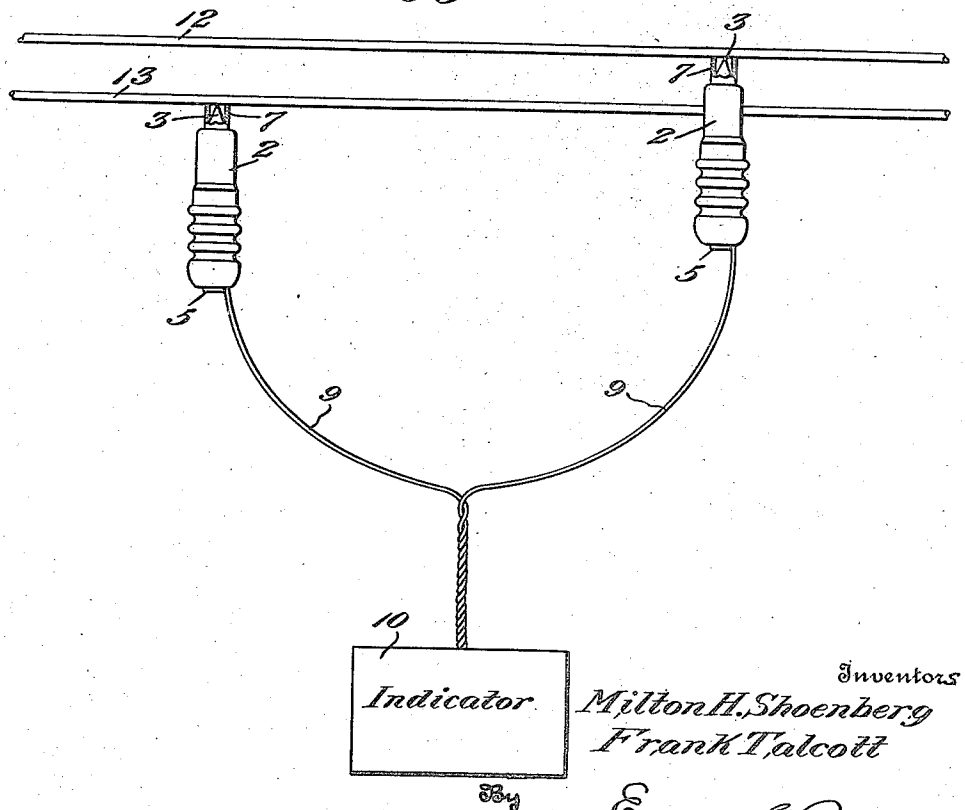


Fig. 3.



Inventors

Milton H. Shoenberg

Frank Talcott

By Eugene C. Brown

Attorney

UNITED STATES PATENT OFFICE.

MILTON H. SHOENBERG, OF SAN FRANCISCO, AND FRANK TALCOTT, OF BURLINGAME, CALIFORNIA, ASSIGNORS TO MAJESTIC ELECTRIC DEVELOPMENT COMPANY, A CORPORATION OF CALIFORNIA.

INSULATED TESTING-PLUG TERMINAL.

1,255,824. Specification of Letters Patent. Patented Feb. 5, 1918.

Application filed August 13, 1917. Serial No. 186,071.

To all whom it may concern:

Be it known that we, MILTON H. SHOENBERG and FRANK TALCOTT, citizens of the United States, residing at San Francisco and Burlingame, in the counties of San Francisco and San Mateo and State of California, respectively, have invented certain new and useful Improvements in Insulated Testing-Plug Terminals, of which the following is a specification.

This invention relates to plug terminals which are adapted to be attached to the conducting cords connected to indicating or testing instruments.

The main purpose of our invention is to provide a plug terminal which may be safely used in making connections with the contacts or conductors on a crowded switchboard or in a dark basement or in other places where there is danger of having the terminal come in contact with a conductor or metal substance of opposite polarity.

In the accompanying drawings, Figure 1 is a side elevation and Fig. 2 a longitudinal sectional view of an insulating plug embodying our invention; and Fig. 3 is a diagrammatic view illustrating the manner of using the plug.

The main portion or body of the plug 2 is made of a good insulating material such as porcelain and is provided with a recess in the forward portion terminating in a smaller aperture which extends to the rear end of the plug.

The contact member consists of a metal pin which is preferably flattened and pointed at the forward end 3 and provided with a round threaded shank 3^a which passes through the aperture in the rear end of the plug, being locked in position by means of the nuts 4 and 5. The outer portion of the contact member is surrounded by a tubular sheath or sleeve 7 made of hard rubber or other insulating material and which is provided with an inwardly directed flange 7^a adapted to bear against the shoulder 3^c on the contact bar. A coiled spring surrounding the stem of the contact member and interposed between the nut 4 and the inner end of the sheath 7 normally presses the latter outwardly so that it completely covers the contact member 3. The insulating sheath is adapted to slide freely within the recess in the plug and will readily move inwardly against the pressure of the spring 8 when pressure is brought upon the outer end of the sheath, thereby exposing the contact member 3.

The plug may be attached to the cable or conducting cord of an instrument by loosening the nut 5 until the conductor can be inserted thereunder and held in position by tightening the nut. The manner of using this plug is illustrated in Fig. 3 in which 10 indicates any instrument such as a testing device or indicator to which the plug terminals are connected. If it is desired to connect the instrument 10 with the conductors 12, 13, to test the voltage or for other purpose, the plugs are pressed against the conductor wires and this will cause the insulating sleeves 7 to move inwardly within the recess in the plug housing until the contact members 3 come into engagement with the conductors. As soon as the plugs are removed the insulating sheaths or sleeves will be instantly moved outwardly by the springs 8 into the position shown in Figs. 1 and 2 thereby completely inclosing the contact members 3.

The advantages of our insulating plug terminal will be perfectly apparent and will be especially appreciated by electrical engineers and those who are accustomed to testing electrical circuits where there is danger or liability of coming into contact with the metal surfaces of different contacts through accident or inadvertence and where numerous contacts are crowded closely together. If the contact member in this plug is completely inclosed by insulating medium so that it is impossible to accidentally bring the contact into engagement before the operator is ready and when the contact is made, the contact point is surrounded with an insulating sheath outside of the plane contact. It will be understood that various changes and modifications may be made in the constructions within the scope of our invention.

We claim:—

1. A plug terminal, comprising a main body portion of insulating material provided with a longitudinal bore enlarged at one end to form a recess, a contact member extending through said bore and projecting at the recess end beyond the body portion and provided at the opposite end with

means for attaching a conductor thereto, and an insulating sheath or sleeve slidably mounted within said recess and surrounding said contact member.

2. A plug terminal, comprising a main body portion of insulating material provided with a longitudinal bore enlarged at one end to form a recess, a contact member extending through said bore and projecting at the recess end beyond the body portion and provided at the opposite end with means for attaching a conductor thereto, an insulating sheath or sleeve slidably mounted within said recess and surrounding said contact member, and a spring within the recess normally pressing the sheath outwardly so that its outer end projects beyond the end of the contact member.

3. A plug terminal as set forth in claim 2, in which the outer end of said contact member is provided with a shoulder, and the sheath is provided at its inner end with an inwardly extending flange adapted to bear against said shoulder when in normal extended position.

In testimony whereof we affix our signatures.

MILTON H. SHOENBERG.
FRANK TALCOTT.