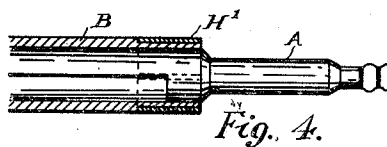
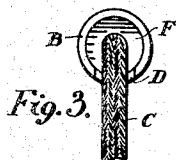
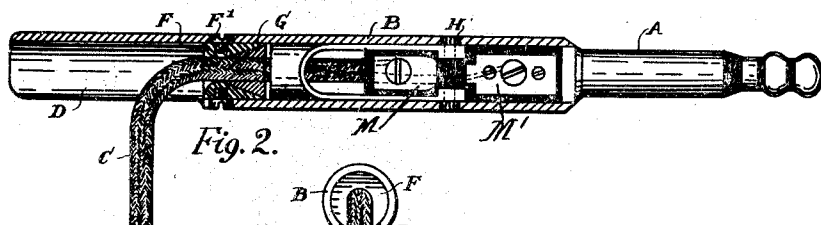
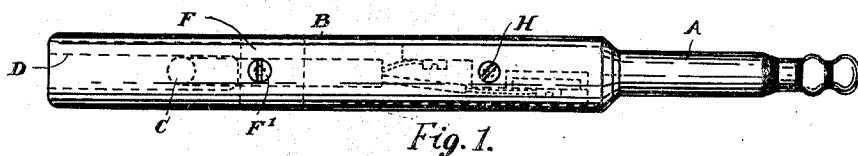


A. MARR.  
TELEPHONE EXCHANGE PLUG.  
APPLICATION FILED AUG. 12, 1915.

1,237,358.

Patented Aug. 21, 1917.



Inventor:  
Alexander Marr  
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# UNITED STATES PATENT OFFICE.

ALEXANDER MARR, OF MANCHESTER, ENGLAND.

## TELEPHONE-EXCHANGE PLUG.

1,237,358.

Specification of Letters Patent.

Patented Aug. 21, 1917.

Application filed August 12, 1915. Serial No. 45,165.

*To all whom it may concern:*

Be it known that I, ALEXANDER MARR, a subject of the King of Great Britain and Ireland, and a resident of Manchester, in the county of Lancaster, England, have invented a new and useful Telephone-Exchange Plug, of which the following is a specification.

This invention relates to telephone plugs.

In the telephone exchange plug most commonly used the flexible cord containing the conductors leaves the extreme rear end of the plug and the conductors are frequently broken at the point where the cord leaves the plug owing to the sharp bending (practically at right angles) of the cord to the plug when the latter is inserted in the switchboard, and the operator pressing the palm of the hand against the rear end of the plug when inserting the latter and thereby nipping or crushing the cord and contained conductors between the hand and the end of the plug. The principal object of the present invention is to provide a plug capable of being inserted by pressing the palm of the hand against its rear end without nipping or crushing the flexible cord, and which can, when withdrawn and not in use, turn into line with the cord. A further object of the invention is to protect the metal plug itself against damage on hasty insertion into or withdrawal from the switchboard.

According to this invention the tubular body of the plug is extended rearwardly to form an elongated handle which is open at its rear end and has provided in its wall a longitudinal slot which communicates with the open end and out through which the cord passes laterally in advance of said end when the plug is held horizontally.

I will more fully describe my invention with reference to the accompanying drawing wherein—

Figure 1 is a plan of one form of improved telephone exchange plug,

Fig. 2 a longitudinal sectional elevation, and

Fig. 3 an end elevation of the same.

Fig. 4 is a part longitudinal section of a plug having a strengthening ferrule placed around it in its weakest part.

Referring to Figs. 1 to 3, A is the telephone exchange plug and B the tubular body of non-magnetic metal, ebonite, fiber or other suitable material into which the

rear portion of the plug is inserted and which is extended rearwardly at B' to serve as an elongated handle for the plug. The extension B' has an internal diameter larger than the external diameter of the flexible cord C which carries the line wire secured to the terminal on the plug and the battery wire making contact with the plug itself. The end of the extension B' is open and in the wall of the extension there is provided a slot D of suitable length communicating with the open end and out through which the cord C can pass laterally at some distance from said end against which the palm of the hand of the switchboard operator would be pressed in inserting the plug. When the operator holds the plug in a horizontal position ready for insertion into the switchboard the flexible cord passes out through the slot D and hangs down approximately at right angles to the plug, as shown in Fig. 2, and well out of reach of the hand and the plug can be inserted by pressing the hand against the rear end of the tube B without nipping or crushing the cord C.

The metal plug A is made to fit snugly into the cover B and may be secured in position in any suitable manner. In Figs. 1 and 2 set screws H are used.

As shown in Figs. 1 and 2 the tubular body is so arranged in relation to the plug that the width of the slot D is at right angles to the surface formed by cutting away the rear end of the plug to accommodate the terminals M, M'. In consequence of the definite arrangement of the cord with regard to the plug the operator will always insert the plug in approximately the same position into the switchboard, the largest diameter of the plug will always be approximately vertical, and breakages in consequence of the plug having been inserted with the flat part in a horizontal position and having been carelessly withdrawn will be effectively avoided.

In order to strengthen the tubular body B at its front end which is its weakest part I mount thereon a metallic ferrule H. The periphery of the ferrule may project beyond the periphery of the tubular body B as shown, or may be flush therewith, and the ferrule may be screwed, forced or be otherwise suitably secured in position on the tubular body and the latter may be provided with one or more slits to give it some

elasticity which will assist in holding on the ferrule. Instead of the ferrule H<sup>1</sup> covering only the front end of the tubular body B it may be extended as a sheath to the whole or any part of the body.

For gripping the cord C within the tubular body B I may employ a device comprising an abutment F integral with or secured in the body, by screws F<sup>1</sup> or otherwise, and provided with conical bore, and a complementary conical sleeve G of india rubber on the cord C. Such gripping device is already well known and I make no claim thereto. I may employ any other suitable gripping means.

What I claim is:—

1. The improved telephone exchange plug comprising a metal plug, a tubular body in which said plug is mounted, flexible conductors passing into said tubular body and connected to the plug therein, and a rearward extension to said tubular body open at its rear end and provided with a longitudinal slot in its wall which extends to said rear end and through which said conductors pass laterally in advance of said rear end when the plug is held horizontal, said conductors passing axially into said extension when the plug is held vertical.

2. The improved telephone exchange plug comprising a metal plug, a tubular body in which said plug is fitted and provided with a rearward extension open at its rear end and provided in its wall with a slot extending to said rear end, and flexible conductors passing into said extension and body to the metal plug in the latter, said conductors

passing through said slot in advance of the rear end of said extension when the plug is held horizontal and passing axially into said extension when the plug is held vertical.

3. The improved telephone plug comprising a metal plug, a tubular body in which said plug is fitted and extended rearwardly to form a handle whereby the plug may be manipulated and provided with a longitudinal slot in its wall extending to its rear end, and flexible conductors passing into said extension and body to the metal plug in the latter, said conductors passing laterally through said slot in advance of the rear end of said extension when the plug is held horizontal and passing axially into said extension when the plug is held vertical.

4. The improved telephone exchange plug comprising a metal plug, a tubular body in which said plug is mounted, flexible conductors passing into said tubular body and connected to the plug therein, a rearward extension to said tubular body open at its rear end and provided with a longitudinal slot in its wall which extends to said rear end and through which said conductors pass laterally in advance of said rear end when the plug is held horizontal, said conductors passing axially into said extension when the plug is held vertical, and a strengthening metal ferrule on said tubular body.

In witness whereof I have hereunto set my hand.

ALEXANDER MARR.