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ELECTRIC WIRE ATTACHMENT

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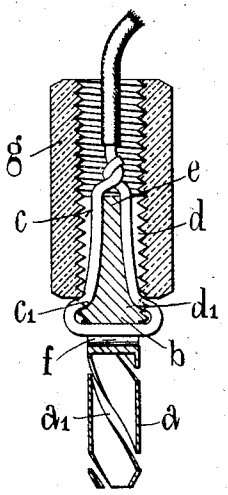



Fig. 1.

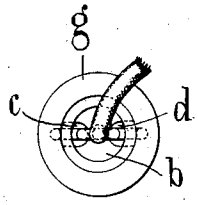



Fig. 2.

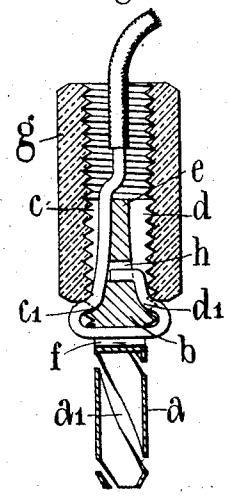



Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## ELECTRIC-WIRE ATTACHMENT.

Application filed January 17, 1927, Serial No. 161,680, and in Great Britain January 12, 1926.

This invention relates to an improved electric wire attachment, for use in or with electrical terminals, plugs, sockets, binding posts and other parts of electrical apparatus wherein electrical connections have to be effected.

The electric wire attachment according to the present invention comprises a wire receiving member provided on its side with a longitudinal groove or grooves, slot or slots or the like, and in addition thereto with a transverse recess or recesses extending from one side to the other in combination with a hollow clamping member adapted to engage with the outer surface of the said wire receiving member and to clamp the wire with its end surface at or near the point the wire enters and/or leaves the longitudinal side groove or grooves or the like, or the transverse recess or recesses, the latter lying outside the said hollow clamping member when the wire is clamped in position.

A further feature of the invention consists in providing the wire receiving member with two diametrically opposite slots or grooves and in making the bridge piece left between the slots of increasing width or depth from its free end towards its other end in the plane containing the slots.

The invention also consists in embodying the features above referred to in interchangeable and other contact terminals, for instance such as described in specification No. 220,731.

The invention further consists in the construction of electric wire attachments hereinafter more particularly described.

The invention is illustrated by way of example in the accompanying drawings in which:

Figures 1 and 2 represent in elevation and plan view respectively one form of construction, whilst

Figure 3 is a sectional elevation of another form of construction.

Referring to Figures 1 and 2, a cylindrical (or tapered) metal shank $a$ adapted to be inserted into a correspondingly shaped metal socket for effecting an electric contact and preferably made hollow and with helical cuts $a_1$ is provided with a screw-threaded end $b$ which is grooved longitudinally at two diametrically opposite sides as shown at $c$ and $d$ in such a manner as to leave a short bridge piece $e$ the cross section of which in the plane of the grooves is increased from a narrow ridge at the free end to the diameter of the shank into which it merges. The narrow width is preferably maintained over a certain length before it starts to increase along concave surfaces. It is, however to be understood that the increase in the width of the bridge may be effected in any other manner for instance gradually along a straight or curved line. A transverse hole $f$ is bored or slotted through at the base of the bridge, said hole or slot lying in the plane of the grooves $c$ and $d$ and serving for the insertion of the end of the wire prior to or after having been passed through one groove $c$ and over the ridge of the bridge $e$ into the other groove $d$. The wire is clamped in position at or near the points $c_1$, $d_1$ where the wire enters or leaves the transverse hole $f$ or the grooves $c$ and $d$ by the end surface of an internally screw-threaded insulating or metal bush $g$.

The clamping may also be effected by the end surface of an extended metal member adapted to constitute a socket for the reception of a tapered or cylindrical shank of a similar contact terminal.

According to a further modification two concave grooves are cut into the surface of the wire receiving member along two diametrically opposite lines, an additional transverse hole being bored at approximately the middle of the said grooves to receive the end of the wire after it has been inserted through the other transverse hole $f$. This arrangement is illustrated in Figure 3 in which $h$ is the additional transverse hole.

Instead of forming the wire receiving member with an externally screw-threaded surface, it may be made with a smooth surface of equal diameter from end to end or tapering towards the free end, the clamping member in that case being provided with an internal smooth annular surface of cylindrical or conical shape.

The various forms of wire receiving member hereinbefore described may be so constructed that the edges adjacent to the groove or grooves are slightly resilient so that when he wire is clamped in position as above referred to it is also clamped along a smaller or greater portion within the groove or grooves.

We wish it to be understood that the details for carrying the invention into effect

may be modified in various respects without in any way departing from the spirit of the invention. Thus for instance the transverse hole *f* formed below the bridge piece may be formed at the base of and in the bridge piece itself, and in such a manner as to open into the longitudinal groove or grooves; or it may be replaced by a transverse notch or notches or by a transverse annular groove. Further, the bridge piece need not extend to the upper end of the screw-threaded portion *b*.

What we claim is:—

1. An electric wire attachment comprising a wire receiving member provided with two diametrically opposite longitudinal side grooves of sufficient depth to receive the wire except at one end of the member and with a transverse opening extending from one side to the other, in combination with a hollow clamping member which engages with the outer surface of the said wire receiving member to clamp the wire with its end surface at the point where the wire protrudes from the receiving member, the said point lying outside the said hollow clamping member when the wire is clamped in position and the transverse opening located outside said point.

2. An electric wire attachment as claimed in claim 2 and having a bridge piece between the two diametrically opposite longitudinal side grooves, the width of which bridge piece increases from its free end towards its other end in the plane containing the longitudinal grooves.

3. An electric wire attachment comprising a wire receiving member in the form of a socket having longitudinal side grooves of sufficient depth to receive the wire except at one end of the member and a transverse opening extending from one side to the other, in combination with a hollow clamping member which engages with the outer surface of the said wire receiving member to clamp the wire with its end surface at the point where the wire protrudes from the receiving member, the said point lying outside the said hollow clamping member when the wire is clamped in position and the transverse opening located outside said point.

4. An electric wire attachment as claimed in claim 1, and in which the edges of the wire receiving member adjacent to the grooves are slightly resilient for the purpose set forth.

In testimony whereof we have signed our names to this specification.

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