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W. A. RILEY
ELECTRIC COUPLING
Filed Dec. 27, 1924

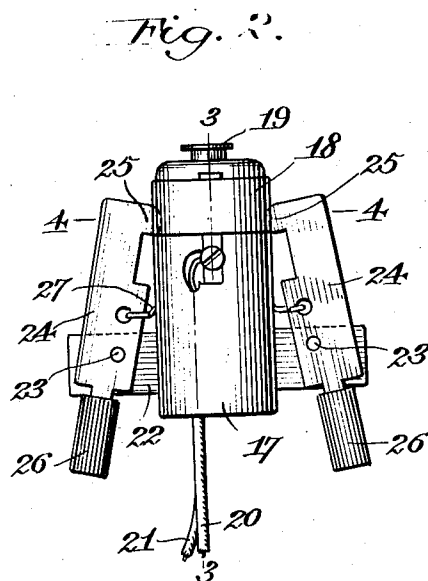
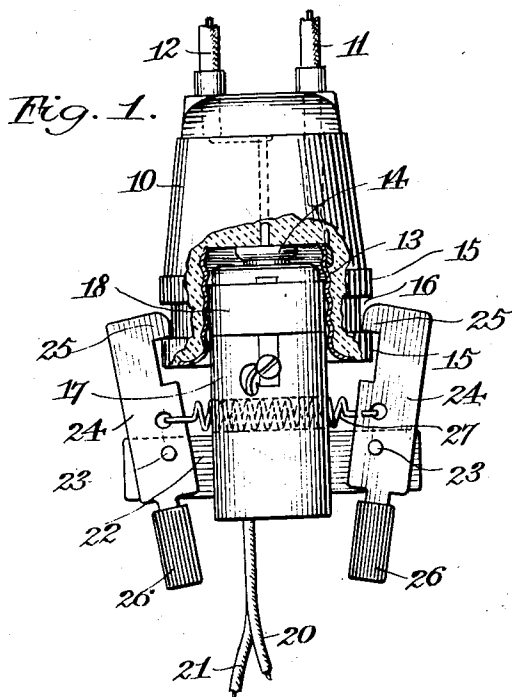


Fig. 3.

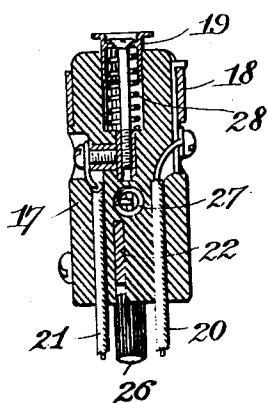
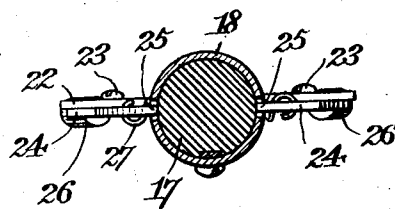


Fig. 4.



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ELECTRIC COUPLING.

Application filed December 27, 1924. Serial No. 758,425.

To all whom it may concern:

Be it known that I, WALTER A. RILEY, a citizen of the United States of America, and a resident of the city of New York, borough of Manhattan, in the county of New York and State of New York, have invented a new and Improved Electric Coupling, of which the following is a full, clear, and exact description.

This invention has relation to electric connectors and pertains particularly to an improved coupling for electric conductors by means of which the connection and disconnection of the same is greatly facilitated.

The invention furthermore comprehends a coupling for electric conductors which insures a positive establishment of the circuit while rendering the coupling and uncoupling of the elements thereof capable of ready accomplishment especially in difficult places.

The invention furthermore provides a coupling or connector which is comparatively simple in its construction, inexpensive to manufacture and which is highly efficient in its purpose.

With the above recited and other objects in view, the invention resides in the novel construction set forth in the following specification, particularly pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that the right is reserved to embodiments other than those actually illustrated herein, to the full extent indicated by the general meaning of the terms in which the claims are expressed.

In the drawings—

Figure 1 is a side view of a coupling illustrating the plug and socket element in coupled relation, parts being broken away and shown in section to disclose the underlying structure.

Fig. 2 is a side view of the plug element removed from the socket element.

Fig. 3 is a longitudinal sectional view through the plug element taken approximately on the line indicated at 3—3 in Fig. 2.

Fig. 4 is a transverse sectional view through the plug element taken approximately on the line 4—4 in Fig. 2.

Referring to the drawings by characters of reference the coupling or connector includes a socket member 10 which may be of any ordinary construction into which the conduit wires 11 and 12 are led the former

being electrically connected with a threaded conductor socket 13 and the latter with a central contact 14 which members 13 and 14 are suitably insulated from each other. The socket element 10 is further provided with spaced external beads 15 which define therebetween a receiving groove 16.

The coupling or connector further includes a plug member 17 of an insulating material which is provided adjacent one end with an annulus or ring 18 of a conducting material and with a central contact member 19. Conductor wires 20 and 21 are respectively connected to the annulus or ring 18 and to the central contact member 19. The plug adjacent its opposite end is provided with a cross member 22 the outwardly projecting portions of which have pivoted thereto as at 23 the arms 24 the inner free ends of which are provided with hooked terminals 25 and the outer free ends of which are covered by manipulating handle elements 26. The hooked terminals of the levers are tensioned against relative separation and are normally swung toward each other by means of a spring 27.

In use and operation of the device, when it is desired to apply the plug element to the socket element the manipulating handles 26 are grasped and moved toward each other to effect relative separation of the hooked terminals 25 against the action of the spring 27, whereby the hooked terminals are spaced apart a distance slightly greater than the diameter of the outer bead 15. The end of the plug element having the central contact member 19 is then inserted within the threaded socket sleeve 13 of the socket member 10 until the central contact 19 engages and abuts the central contact member 14 of the socket member. When this position is obtained the hooked terminals 25 will be in a position to engage within the groove 16 for retaining the plug member in the socket member whereby the annulus or ring 18 engaging with the conductor socket sleeve 13 will establish electrical communication between the conductors 21 and 12 and 20 and 11. The central contact element 19 of the plug member 17 is normally projected a limited distance from the end of the plug body under the influence of the spring 28. The spring 28 thus serves to insure a positive engagement of the central contact elements 14 and 19 and further functions to insure a firm gripping engagement of the hooked ter-

minals 25 with the outer external bead 15 so that relative movement between the coupling members is eliminated when the same are in coupled relation.

5 From the foregoing it will thus be seen that the connection and disconnection of the connector elements is greatly facilitated, and eliminates the necessity of threading the usual threaded plug into a threaded socket.

10 I claim:

1. A coupling device for detachably connecting electric conductor wires comprising a socket member having adjacent one end thereof an annular side contact element and a central contact element with which one pair of conductor wires are respectively connected and a plug member having adjacent one end thereof a peripheral side contact element and a spring-pressed normally projecting central contact element with which another pair of conductor wires are connected, an interengageable means on said plug and socket member for detachably locking the same together said means comprising an annular grooved portion exteriorly of the socket member and pivoted latches having hooked terminals on the plug member, said terminals engageable within the grooved portion at diametrically opposite points.

2. A coupling device for detachably connecting electric conductor wires comprising a socket member having adjacent one end thereof an annular side contact element and a central contact element with which one pair of conductor wires are respectively connected and a plug member having adjacent one end thereof a peripheral side contact element and a spring-pressed normally projecting central contact element with which another pair of conductor wires are connected, an interengageable means on said plug and socket member for detachably locking

the same together, said means comprising an annular grooved portion exteriorly of the socket member and pivoted latches having hooked terminals on the plug member, said terminals engageable within the grooved portion at diametrically opposite points, the said spring-pressed central contact element of the plug member functioning to insure a positive engagement of the central contacts and a positive engagement of the hooked terminals with the outer wall of the grooved portion whereby to prevent relative movement of the coupling members when associated.

3. An electric coupling device including a socket member comprising a body of insulating material having at one end an external annular keeper groove and a recess, a central contact element at the inner end of the recess and a side contact sleeve in the recess with which electric conductors are respectively connected, and a plug member comprising a body of insulating material, central and peripheral contact elements adjacent one end thereof with which electric conductors are respectively connected and means carried by the plug member and engageable within the keeper groove of the socket member at diametrically opposite points for holding said members in coupled relation and the contact elements in engaged position, said means comprising a pair of pivoted latch members having hooked terminals at one end, means for normally effecting movement of said terminals and each other for holding the same engaged within the keeper groove and a manipulating handle at the opposite end of each latch adapted upon manipulation to effect relative separation of the hooked terminals to release the latch members.

WALTER A. RILEY.