

March 23, 1937.

W. H. BROWN

2,074,324

CLIP CONNECTER

Filed Sept. 18, 1934

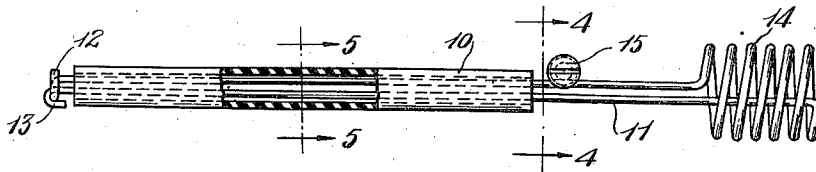


FIG. 1

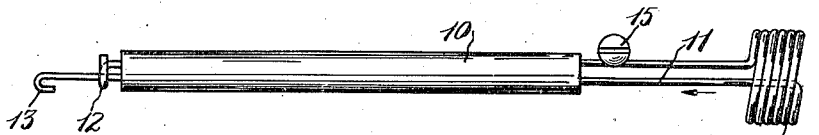


FIG. 2

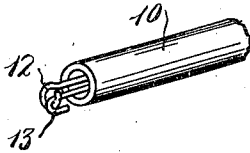


FIG. 3

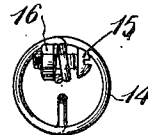


FIG. 4



FIG. 5

INVENTOR.

WILLIAM H. BROWN

BY

Kiris Hudson & Kent

ATTORNEYS

UNITED STATES PATENT OFFICE

2,074,324

CLIP CONNECTER

William H. Brown, Cleveland, Ohio, assignor to
Mueller Electric Company, Cleveland, Ohio, a
partnership composed of Ralph S. Mueller,
Maude K. Mueller, Virginia de Coningh, and
Scott Mueller

Application September 18, 1934, Serial No. 744,556

3 Claims. (Cl. 173-273)

This invention relates to an electrical connector clip for making an electrical connection between two conductors and is particularly adapted for use in making electrical connections in a radio instrument, although, of course, it is obvious that its utility is not limited to this alone.

An object of the invention is to provide an electrical connecting clip which enables electrical connections to be made at points which are inaccessible and wherein it would be difficult to employ the usual form of connecting clip.

Another object is to provide an electrical connecting clip of the character specified which is of simple construction and which enables the connection to be made quickly and easily.

Further and additional objects and advantages inherent in the invention will become apparent hereinafter during the following detailed description of an embodiment of the invention which is illustrated in the accompanying drawing, wherein

Fig. 1 is an elevational view of the connector clip embodying the invention with certain parts thereof broken away and shown in section, the parts of the clip being illustrated in the position they normally maintain, that is, in the position wherein the gripping means or jaws of the clip are closed.

Fig. 2 is an elevational view of the connector clip with the parts shown in the position they assume when the gripping means or jaws are open.

Fig. 3 is a fragmentary perspective view of the end of the clip at which the gripping means or jaws are located.

Fig. 4 is a sectional view taken substantially on line 4-4 of Fig. 1 looking in the direction of the arrows, and

Fig. 5 is a sectional view taken substantially on line 5-5 of Fig. 1, looking in the direction of the arrows.

The invention contemplates a device comprising an insulating sleeve from one end of which extend the gripping means or jaws for gripping an electrical conductor or other element, while from the opposite end of the sleeve extends the means for moving the gripping means or jaws to open position, a spring being provided for normally maintaining the jaws in closed position.

The invention further contemplates that the gripping means or jaws are connected by an electrically conductive medium to a binding screw or post to which an electrical wire or conductor may be connected.

Referring to the drawing the insulating sleeve of the conductor clip is indicated at 10 and said

sleeve may be formed of any suitable insulating material. While the gripping means or jaws and the elements for operating the same may take various forms, there has been shown herein by way of illustration a very simple form of construction for the gripping means or jaws and the operating elements thereof. This construction is made up in the present instance of a single piece of wire 11, preferably copper wire, while the gripping means or jaws of the clip are formed of a loop portion 12 and a hook portion 13 at the free ends of the wire 11. The end of the wire 11 carrying the hook portion 13 extends through the loop portion 12 in the other end of the wire in such manner that the former end of the wire may slide in and be guided by the loop 12. The end portions of the wire 11 carrying the loop 12 and hook 13 extend outwardly from one end of the insulating sleeve 10, while from the opposite end of the sleeve 10 both branches of the wire extend outwardly in the opposite direction and are connected by a coil spring 14 which is an integral part of the wire 11. One of the branches of the wire 11 at a point between the sleeve 10 and the spring 14 is wrapped or looped around a binding screw 15 upon which is a binding nut 16. An electrical wire or conductor, not shown, may be secured to this branch of the wire 11 by means of the binding screw 15 and nut 16, as will be well understood. If desired, those portions of the wire 11 including the spring 14 and the part that is wrapped around the binding screw 15 may be coated with a suitable insulating enamel or lacquer.

It will be noted that the spring 14 will maintain the hook 13 normally in engagement with the loop 12, as indicated in Fig. 1. When it is desired to electrically connect the wire or conductor which is secured to the device by the binding screw 15 and nut 16 to another electrical conductor or other element the user may grasp the device between his first and second fingers at the binding screw 15 and then press inwardly with his thumb upon the outer end of the spring 14 to cause the branch of the wire 11 carrying the hook 13 to move inwardly so as to separate the hook 13 from the loop 12, as clearly indicated in Fig. 2. The hook 13 may then be passed over an electrical wire or other element and when the user removes his thumb from the end of the spring 14 the latter will cause the hook to move toward the loop 12 and the electrical wire or other element will be gripped by the gripping member or jaws of the clip.

It will be seen that an electrical connector clip

of the character shown and described will enable electrical connections to be made in inaccessible places such as it is frequently necessary to do in radio and similar instruments and that the operation of the device is extremely simple and easy.

Although a preferred form of the invention has been illustrated and described herein, it should be understood that the invention is susceptible of various modifications and adaptations within the scope of the appended claims.

Having thus described my invention, I claim:

1. An electrical connector clip comprising an insulating sleeve, a single piece of electrically conductive wire bent to form two branches extending through said sleeve and interconnected exteriorly of one end of said sleeve by an integral coil spring portion, the free ends of said branches extending outwardly of the opposite end of said sleeve and one having a loop and the other a hook formed thereon, the branch provided with the hook extending through and guided by said loop, one of said branches being looped around a binding screw whereby an electrical conductor may be connected to the wire.

2. An electrical connector clip comprising an insulating sleeve, electrically conductive gripping jaws located beyond one end of said sleeve and adapted to grip an electrical conductor, means movable longitudinally of said sleeve and operatively connected with one of said gripping jaws

and extending through said sleeve and outwardly of the opposite end thereof from said jaws for relatively moving said jaws to open position, a spring operatively associated with said jaws and said means for normally maintaining said jaws in closed gripping relationship, and means for electrically connecting with said gripping jaws another electrical conductor which is independent structurally and functionally of the connecting clip whereby said jaws form the medium for electrically connecting said conductors.

3. An electrical connector clip comprising an insulating sleeve, electrically conductive gripping jaws located beyond one end of said sleeve and adapted to grip an electrical conductor, one of said jaws being movable relative to said sleeve, means movable longitudinally of said sleeve and operatively connected with one of said jaws and extending through said sleeve and outwardly of the opposite end thereof for relatively moving said jaws to open position, a spring operatively associated with said jaws and said means for normally maintaining said jaws in closed gripping relationship, and means for electrically connecting with said jaws another electrical conductor which is independent functionally and structurally of the connector clip whereby said jaws form the electrical connecting medium between said conductors.

WILLIAM H. BROWN. 30