

Dec. 16, 1941.

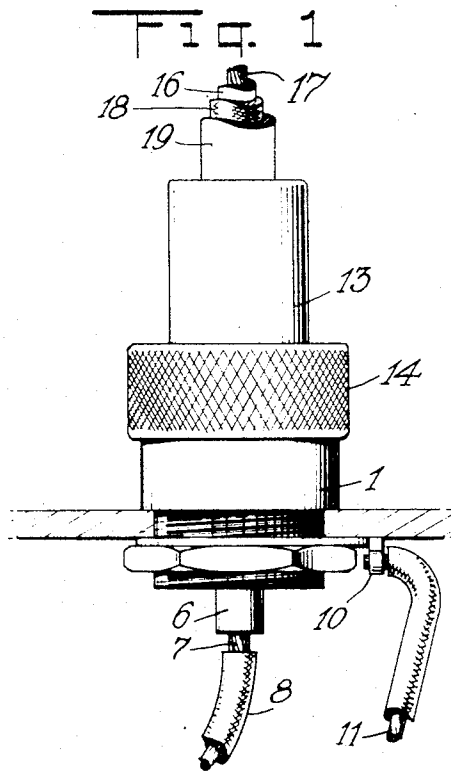
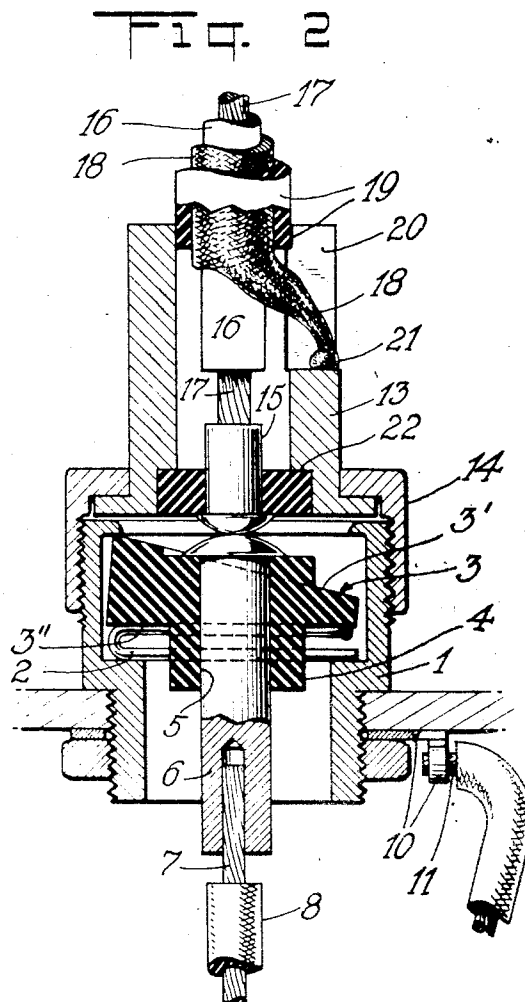
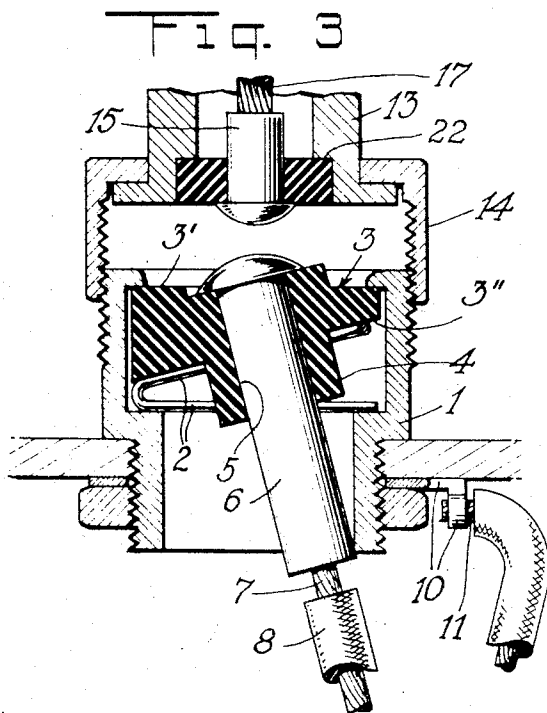
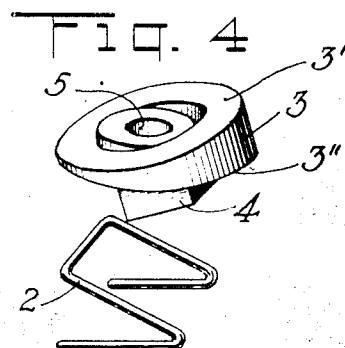
W. A. BRUNO

2,265,998

ELECTRIC CONNECTOR

Filed June 28, 1940

2 Sheets-Sheet 1



BY

INVENTOR.
WILLIAM A. BRUNO

Benno Steinhilber
Attorney

Dec. 16, 1941.

W. A. BRUNO

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Fig. 5

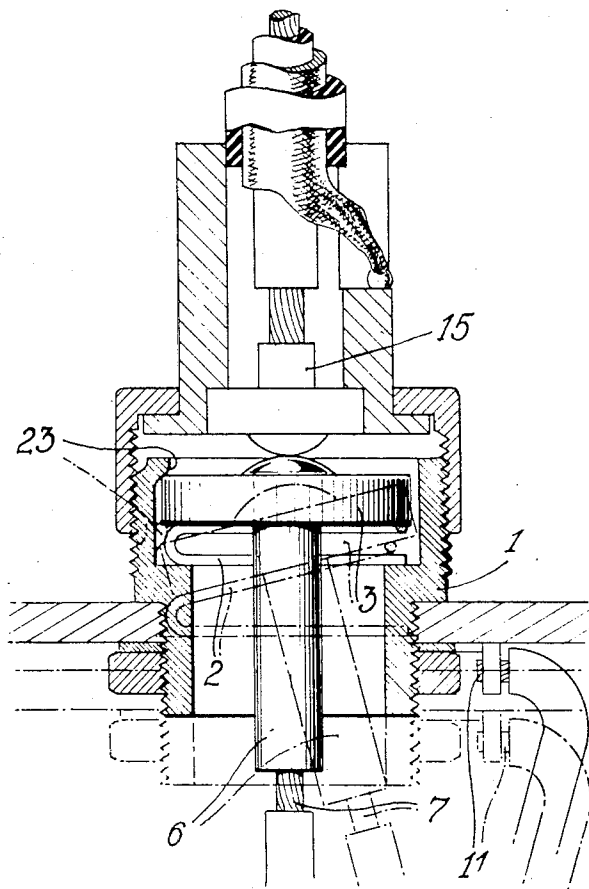
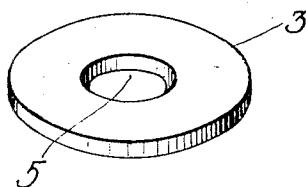


Fig. 6



BY

INVENTOR.
WILLIAM A. BRUNO

W. A. Bruno
Attorney

UNITED STATES PATENT OFFICE

2,265,998

ELECTRIC CONNECTOR

William A. Bruno, Astoria, Long Island, N. Y.,
 assignor, by mesne assignments, to Bruno
 Patents Inc., Long Island City, N. Y., a corpo-
 ration of New York

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5 Claims. (Cl. 200—51)

This invention relates to electric couplers or connectors, and, while not limited thereto, is particularly adapted for microphone connections, such as amplifier inputs or extension cables, for example.

It is the principal object of my invention to provide an electric connector which comprises means for producing a self-cleaning short circuiting contact between the electrodes of said connector.

Another object of my invention is to provide an electric connector which is adapted to afford a secure, quick and positive connection between the elements to be connected, and cannot be connected or disconnected accidentally.

Still another object of my invention is to provide means whereby wires or leads can be connected with connector parts or elements in an improved, simple, and convenient manner.

The manner in which the above and other objects are realized by the invention will now be described, reference being had to the appended drawings.

The connector according to my invention consists preferably of two separable main parts. One of these parts is provided with a contact element which is connected with one of the leads, and can be brought, by inclining the same, into a position in which said contact element produces a short circuit between the electrodes of said part, whereas such short circuit can be interrupted by assembling said main parts of the connector.

Two embodiments of the electric connector according to my invention are illustrated by way of example in the accompanying drawings, wherein

Figure 1 is an elevational view of a preferred embodiment of my invention;

Figure 2 is a sectional view of the embodiment according to Fig. 1, showing the manner in which the conductors leading to the connector are connected;

Figure 3 is a fragmentary sectional view similar to that shown in Figure 2, the parts of the connector being in a relative position in which they are disconnected;

Figure 4 is a perspective view of the insulating member and the spring used in the embodiment according to Figs. 1-3;

Figure 5 shows in sectional view another embodiment of my invention, and

Figure 6 shows an insulating washer which can be used in the embodiment illustrated in Figure 5.

Like characters of reference denote similar

parts throughout the several views and the following specification.

Referring to Figure 2, the connector according to my invention comprises two preferably separable main parts, a female part, and a male part. The female part comprises a tubular metal casing or housing 13 which receives the electric conductors 17 and 18. Lead 17 is insulated by a rubber skin 16, and is connected with contact pin 15 which passes through the central aperture of a circular insulating disc 22. The second lead consists of a wire gauze or shield 18 which is provided with rubber insulation 19 and soldered with said tubular casing 13 at 21. The male part of the connector comprises a threaded metal casing or housing 1. A washer 3 which is made of insulating material, for example of the molded insulating plastic known under the trade-name "Bakelite," is positioned in said casing 1. This washer 3, the upper surface 3' and lower surface 3'' of which form an acute angle, is preferably provided with a square projection 4, and a central bore 5 which extends through said washer and its projection, and receives the bolt-like contact member 6 connected with the lead 7. The latter may be covered with rubber insulation 8. The washer 3 rests on the upper part of spring 2. If the female part and the male part of the connector are screwed together by means of the cap screw 14, the contact pin 15 presses on said contact member 6 and the washer 3, and forces said member and said washer to move downward whereby the spring wire 2 is compressed as shown in Figure 2. A soldering lug 10 is provided to solder to it lead 11. Thus, in the position shown in Figure 2 lead 7 being connected with lead 17, and conductor 18 being connected with lead 11 the circuit is completed by the assembled connector parts.

Figure 3 shows the female and male parts of my connector in another relative position, in which these parts are separated. In this position the cap screw 14 is partly screwed off from casing 1 so that the contact between pin 15 and element 6 is interrupted, and pin 15 does not press on said element 6 and the washer 3. Thus, the spring 2 is released and forces the washer 3 and contact member 6 into a position in which said member 6 is in contact with the inner surface of casing 1 whereby wires 7 and 11 are short circuited.

In order to break this short circuit the cap screw 14 is screwed on casing 1 until pin 15 and element 6 come in contact, spring 2 is compressed, and element 6 is forced away from the

inner surface of casing 1. Thus, the short circuit between element 6 and casing 1 is interrupted, and connection between the elements to be connected, for instance a microphone attached to the female connector part and an electronic amplifier input attached to the male connector part, is established.

Shield 18 can be connected with the tubular casing 13 in any convenient manner. I have found, however, that a connection between said parts can be obtained in a particularly simple, efficient, and cheap manner by providing said tubular casing with a slot or the like 20, and soldering the shield to the body, as shown in Fig. 2, for example at 21.

In the embodiment shown in Figures 5 and 6, a preferably circular insulating disc-like washer 3 is positioned in the threaded metal casing 1, the wall of which has a projecting portion as shown at 23. Said washer which is shown in Fig. 6, is provided with preferably parallel surfaces and a central aperture 5, and rests on the upper part of spring 2. The washer 3 holds the contact member 6 which is connected with lead 7. If the female part and the male part of the connector are not screwed together, and the spring 2 is released, the washer 3 and contact member 6 will be forced by the dented wall portion of casing 1 and spring 2 into the position shown in dotted lines, in which member 6 is in contact with the inner surface of casing 1 and thus short circuits wires 7 and 11. If, as shown in Fig. 5, the female part and the male part of the connector are assembled, the contact pin 15 presses on contact member 6 and washer 3, and the circuit is completed as described above in connection with Fig. 2.

The short circuiting contact produced between contact member 6 and casing 1 is self-wiping.

I have shown preferred embodiments of my invention, but it will be obvious from the above that the invention is not limited to the specific constructions and arrangement of elements shown, but that the principle and underlying novel concept as described are susceptible of numerous modifications and embodiments coming within the scope of invention as defined by the appended claims. The specification and drawings are accordingly intended to be regarded in an illustrative rather than in a limiting sense.

I claim:

1. An electric male connector comprising a threaded metallic casing connected with an electric lead, an insulating washer, said washer being provided with a projection and an aperture extending through said washer and said projection, and being positioned in said metallic casing and resting on a spring positioned in said metallic casing, a contact member received by

said aperture and connected with another electric lead, said spring in its released condition being adapted to support said washer and said contact member in a position in which said contact member contacts with said metallic casing.

2. An electric male connector comprising a threaded metallic casing connected with an electric lead, a disc-like insulating washer, said washer being provided with an aperture, and being positioned in said metallic casing and resting on a spring positioned in said metallic casing, a contact member received by said aperture and connected with another electric lead, said spring in its released condition and an inwardly projecting wall portion of said metallic casing being adapted to hold said washer and said contact member in a position, in which said contact member contacts with said metallic casing.

3. An electric connector means comprising a metallic casing connected with an electric lead, an insulating washer, said washer being provided with an aperture, and being positioned in said metallic casing and resting on a spring positioned in said metallic casing, a contact member received by said aperture and connected with another electric lead, said spring in its released condition being adapted to hold said washer and said contact member in a position in which said contact member contacts with said metallic casing.

4. An electric connector means comprising a metallic casing connected with an electric lead, an insulating washer, the upper surface and lower surface of which form an acute angle, said washer being provided with a projection and an aperture extending through said washer and said projection, being positioned in said metallic casing and resting on a spring positioned in said metallic casing, a contact member received by said aperture and connected with another electric lead, said spring in its released condition being adapted to hold said washer and said contact member in a position in which said contact member contacts with said metallic casing.

5. An electric connector means comprising a metallic casing connected with an electric lead, a disc-like insulating washer, said washer being provided with an aperture, being positioned in said metallic casing and resting on a spring positioned in said metallic casing, a contact member received by said aperture and connected with another electric lead, said spring in its released condition and a dented wall portion of said metallic casing being adapted to hold said washer and said contact member in a position in which said contact member contacts with said metallic casing.

WILLIAM A. BRUNO.