April 17, 1934. G. E. ANDRE 1,954,859

CONNECTER FOR ELECTRIC APPLIANCES AND THE LIKE

Filed Dec. 13, 1930

Fig. 1

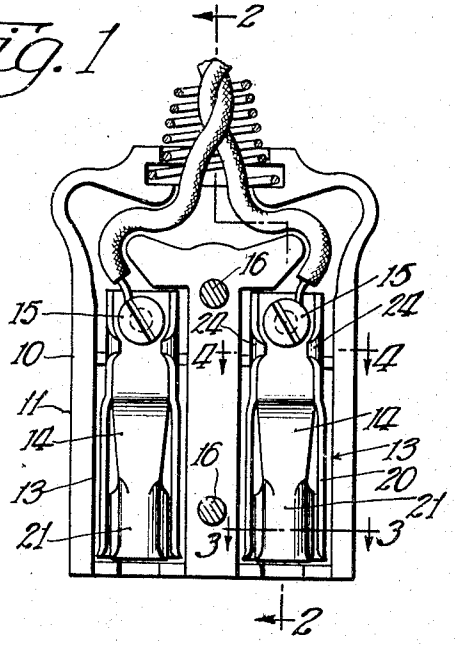


Fig. 2

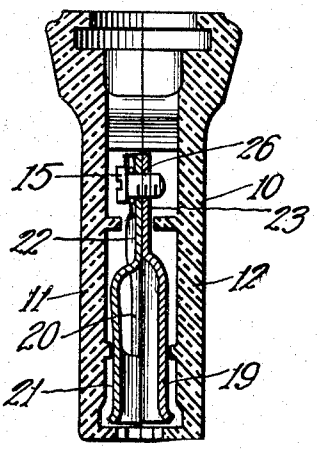


Fig. 3

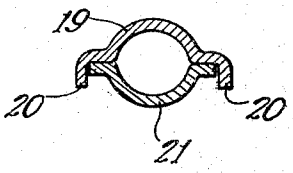


Fig. 4

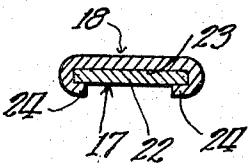
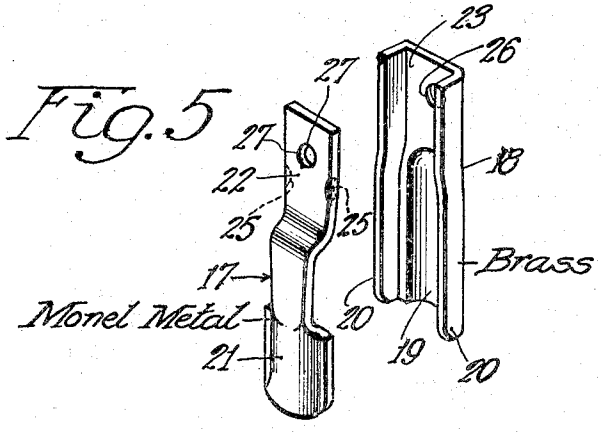


Fig. 5



Inventor
Gustaf E. Andre
By Fisher, Clapp, Soans & Pond Attys.

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UNITED STATES PATENT OFFICE

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CONNECTER FOR ELECTRIC APPLIANCES AND THE LIKE

Gustaf E. Andre, Richmond, Ind., assignor to Belden Manufacturing Company, Chicago, Ill., a corporation of Illinois

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2 Claims. (Cl. 173—332)

This invention relates to an improvement in the construction of a connecter for electric appliances and the like, and has particular reference to the construction of the metallic contact element of a separable connecting device.

The main object of the invention is to provide a contact element which is yieldingly and resiliently maintained in engagement with an electric terminal and to provide such a contact element in which the resilient holding power of the element is practically permanent and not apt to be destroyed because of the heat and arcing to which such contact elements are ordinarily subjected.

Other objects and advantages will be understood by reference to the following specification and accompanying drawing, in which a so-called appliance plug is illustrated and in which a preferred form of structure according to my invention is incorporated.

In the drawing:

Fig. 1 is an elevation of an appliance plug, one half of the plug body being removed to show the interior arrangement;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Figs. 3 and 4 are sections on the lines 3—3 and 4—4, respectively, on Fig. 1; and

Fig. 5 is a perspective showing the two main parts of my improved contact element structure in disassembled relation.

Referring now to the drawing, the appliance plug illustrated includes a main body 10, preferably formed in two like, or substantially like, halves 11 and 12. On the inside faces of each body portion, suitable recesses are provided as indicated at 13 for receiving contact elements 14, the latter being provided with binding posts or screws 15 for facilitating connection of conductors to their respective contact elements, substantially as indicated in the drawing. The two halves of the plug body may be held in assembled relation by means of fastening screws, indicated at 16, which extend through the body in accordance with well known practice. My invention is concerned particularly with the construction of contact elements 14.

In most commercial forms of appliance plugs, the contact members are formed of brass or similar metal which is initially of a springy nature, permitting the contact element parts to be spread sufficiently to allow a terminal pin to be inserted between the parts of the contact element. Such brass or like construction is quite satisfactory so far as the character of the electric connection effected is concerned, but it has been found to be quite unsatisfactory in that metal such as brass quickly loses its resiliency because of the heating to which it is subjected when the contact element is used in connection with a heating appliance, or in any other situation where heat is generated and applied to the contact element. In other cases, where the contacts are made of steel or resiliency-retaining metal, the contacts are subject to rapid oxidation due to heat and arcing, whereby a high resistance is produced between the contact members and the terminals of the appliance to which the connecter is attached. To overcome these disadvantages, I have devised the contact element or clip structure which I will now describe.

Each contact element or clip 14 is formed of two main parts designated 17 and 18, respectively one of which may be of a metal such as brass, which retains the property of always making good electrical contact with a terminal member for the reason that it is not apt to be oxidized or otherwise scaled on the inside as an incident to the heat or sparking incident to the normal use of the plug. The other body member is preferably made of a resilient metal, for instance, Monel metal, which has the property of being highly resilient or spring-like and which resiliency is not apt to be destroyed by such heat as the contact plug is subjected to in its normal use. In this instance, I prefer to form the member 18 of brass and the member 17 of Monel metal.

The brass member 18 has its outer or main body portion provided with an outwardly offset portion 19, and side flanges 20, 20 extend laterally as shown in Figs. 3 and 5, preferably the full length of the member. The Monel metal member 17 is preferably of more or less skeleton construction and includes a transversely arched outer end portion 21 which is designed to cooperate with the arched portion 19 of the brass member to form a socket designed to receive and embrace a terminal pin of an electric appliance or the like. The member 17 also includes a relatively offset upper or inner end portion 22, which is designed to be seated on the inside face of the inner end portion 23 of the brass member, substantially as shown in Figs. 2 and 4. For permanently securing the two parts together, portions of the respective flanges 20, 20 of the brass member 18 may be bent inwardly, as indicated at 24, to bind the Monel metal part to the brass part. If desired, the Monel metal part 17 may be provided with notches, such as indicated in dotted lines at 25 in Fig. 5, to receive the bent-in portions 24 of the brass member so as to anchor the mem-

ber 17 against longitudinal movement relative to the brass member as well as against displacement from the face thereof.

The arched end portion 21 of the Monel metal member 17 also fits between the flanges 20, 20 of the brass member, as clearly shown in Fig. 3, so that the Monel metal member is locked against lateral shifting relative to the brass member while being permitted to move away from or towards the same. The binding post 15 may be in the form of an ordinary headed screw and it may threadedly engage a suitably tapped opening 26 provided in the brass member and pass freely through an opening 27 in the other member. When the binding post is tightened on a conductor, it obviously serves to assist the bent-in flange portions 24 to hold the parts in assembled relation. It will be observed that the flanged construction of the brass member renders it substantially rigid or non-flexible, and that the resilient member serves to hold the rigid member in contact with a terminal pin entering the socket formed by both parts.

While I have above referred specifically to the use of brass and Monel metal, I wish it to be understood that other metals of like properties and characteristics may be substituted. I have merely referred to Monel metal and brass by way of specific example.

I am aware that changes may be made in the above-described construction without departing from the spirit of my invention, the scope of which should be determined by reference to the following claims.

I claim as my invention:

1. A contact element for an electric connecter, comprising an elongated Monel metal member, an elongated brass member positioned along one side of the Monel metal member, means securing said members together at one end, and said members having at their other ends, transversely arched portions forming a socket for receiving between them a terminal pin in contact with both of them.

2. A contact element for an electric connecter comprising an elongated member of generally channel-shaped cross section, and a second elongated member having an end portion offset and seated intermediate the side walls of the channel-shaped member on an end portion of the bottom wall of the latter, portions of said side walls being bent over said offset portion to anchor the second member to the first, said channel-shaped member being formed of brass and constituting a substantially rigid member, and said other member being formed of Monel metal and constituting a resilient member.

GUSTAF E. ANDRE.