C. C. ARMSTRONG.

ELECTRICAL CONNECTOR.

APPLICATION FILED JULY 24, 1916.

1,242,637. Patented Oct. 9, 1917.

Fig. 1.

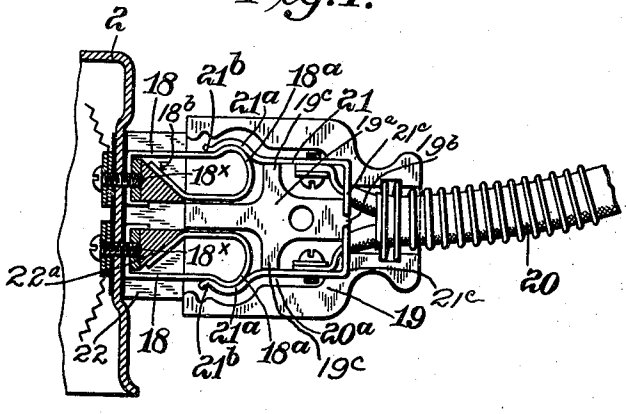
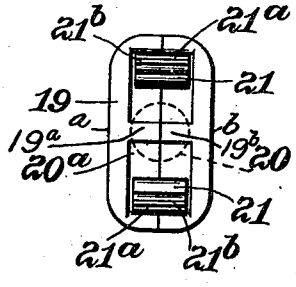


Fig. 2.



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UNITED STATES PATENT OFFICE.

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ELECTRICAL CONNECTOR.

1,242,637. Specification of Letters Patent. Patented Oct. 9, 1917.

Original application filed June 27, 1916, Serial No. 106,244. Divided and this application filed July 24, 1916. Serial No. 111,018.

To all whom it may concern:

Be it known that I, CHARLES C. ARMSTRONG, a citizen of the United States, and resident of Marysville, Ohio, have invented certain new and useful Improvements in Electrical Connectors, of which the following is a specification, this application being a division of my application filed June 27th, 1916, Serial No. 106,244.

My present invention relates to improvements in electrical connectors and is designed more particularly for use in connecting flexible conductors with portable heating devices, such as heaters for table use, sad irons and the like.

Heretofore, so far as I am aware, such connections have usually been in the form of a plug and socket brought together or separated by a relative rectilinear movement, and engaging with such friction as to require the operator to hold the heater with one hand, while removing the plug, or corresponding part, with the other hand, especially after the parts have become somewhat corroded in use.

This is a matter of considerable discomfort and annoyance as it is usually necessary to remove the plug while the heater or other device is still hot.

The object of the present invention is to devise a coupling which may be readily connected and disconnected by a rocking movement by the use of one hand only and without requiring the holding of the electric heating device with the other hand.

The invention includes the novel construction hereinafter described and particularly defined by the appended claims, an embodiment of the invention being shown in the accompanying drawing, in which

Figure 1 is a sectional elevation, and

Fig. 2 a face view of one of the parts.

Referring by reference characters to this drawing, the numeral 2 is intended to represent an electric heating device, such for example as an electric cooker for table use, and 20 the electric conductor which is to be coupled thereto. Secured to the frame or portion of the electric heater 2 are a pair of tongues or projections 18, preferably of looped sheet metal, which are secured to the member 2 by means of set screws 18^x and properly insulated therefrom, and designed to be connected to the resistance wires by means of said set screws 18^x, which serve as binding screws.

These tongues have oppositely directed shoulders or rounded projections 18^a and inclined end portions. A socket member 19 secured to the end of the insulated conductor 20 has within the socket 20^a thereof a pair of fingers 21 with indented portions 21^a corresponding to the projections 18^a. Either the tongues 18 or the fingers 21, or both, may be made of spring metal. Preferably both tongues and fingers are made of spring metal to insure easy connection and disconnection and to aid in securing perfect electric contact when connected. The fingers may have outwardly inclined or deflected ends 21^b.

The space within the socket is considerably wider than the fingers 21, so as to allow lateral movement thereof, enabling the recess 21^a of one finger to engage with the shoulder 18^a of the corresponding tongue by applying the socket piece in a tilted position. By thereafter straightening the socket piece the other finger and tongue will spring into interlocking engagement with each other.

The connection may be separated by a reversal of the movement, to wit; a tilting of the socket piece out of its normal position, and both these operations of connection and disconnection may be readily effected by one hand without the necessity of taking hold of the heating device.

The fingers or contacts 21 of the female part of the coupling are not secured by screws, but are held in place between the two halves *a* and *b* of the socket member 19. Said contact members have at their rear ends angularly turned portions 21^c, which abut against the rear walls of the socket and are retained in position by the rear ends of the central projections 19^a of the socket members, abutting against the inner faces of said angularly turned portions. Said projections have at the ends small ribs or flanges 19^b which lie between the adjoining ends of portions 21^c. Said projections 19^a have lateral extensions 19^c, which serve as stops to limit the inward movement of contact arms 21. The socket members 19 are duplicates of each other, are easily molded into the desired shape, and retain the spring contacts by being merely clamped together. As the

contacts are held entirely by their rear angular turned ends great resiliency is secured with short contact arms.

The tongues 18 constituting the male portion of the contact are doubled back upon themselves and provided with inclined ends 18^b bearing with a sliding contact on inclined faces of portions 22^a of the carrier 22, this further adding to the spring action.

What I claim is:—

1. In an electric coupling a male member comprising a pair of tongues with reversely faced shoulders and inclined ends, and a female member comprising a pair of socket members, and a pair of spring fingers to engage said shoulders, said spring fingers having angular bent ends resting between shoulders formed by walls of said socket members and retained therein by the assembling of said members.

2. In an electric coupling a male member comprising a pair of loop-shaped spring fingers having free inclined end portions and inclined rigid abutments against which said ends bear, in combination with a female member having a pair of spring arms to engage said loop-shaped members.

In testimony whereof, I affix my signature.

CHARLES C. ARMSTRONG.