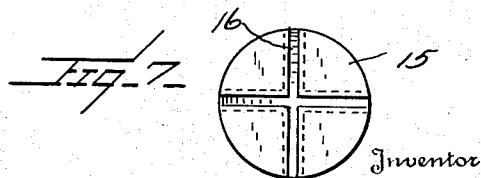
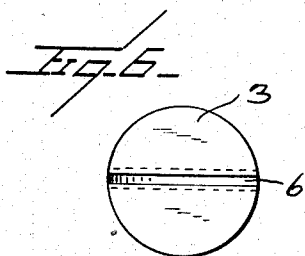
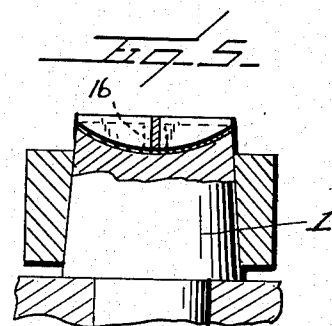
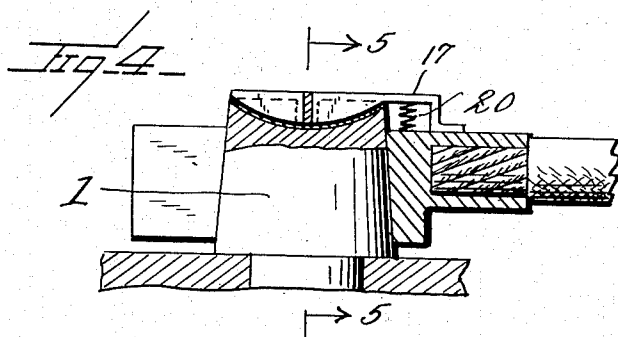
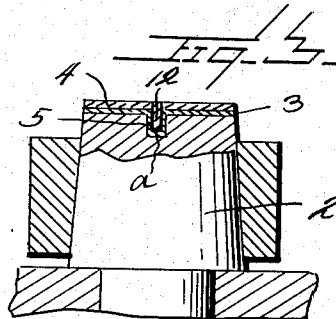
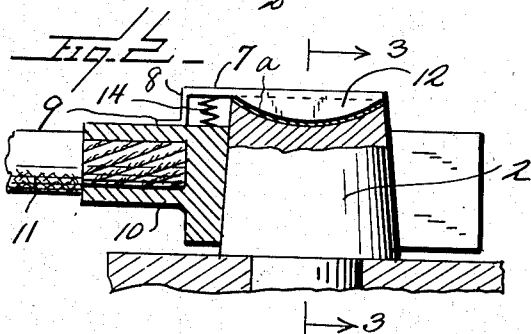
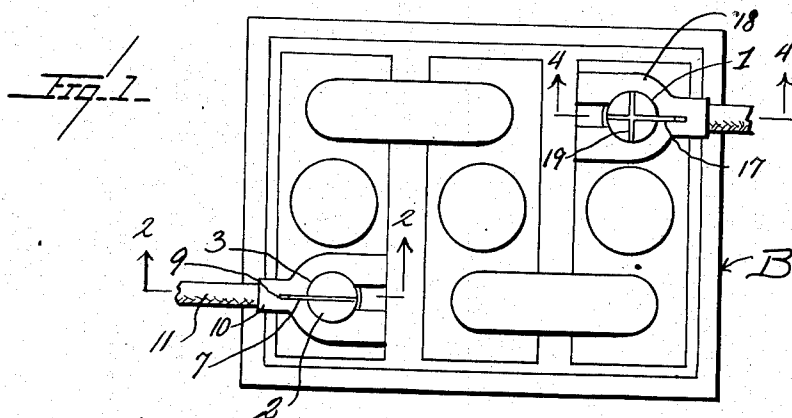


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ELECTRICAL CONNECTION
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ELECTRICAL CONNECTION

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Application February 24, 1942, Serial No. 432,131

2 Claims. (Cl. 173—259)

This invention relates to an electrical connection and it is primarily an object of the invention to provide a connection which can be easily and quickly attached and with the same facility disconnected.

It is also an object of the invention to provide a connection of this kind of a character which can be easily attached or disconnected under severe weather conditions as during rain, snow, extreme cold or great heat.

A still further object of the invention is to provide an electrical connection which is free of bolts, nuts or other mechanical devices and which is also of a character to be unhampered by rust, oxides or other conditions which may be created by heat, cold or acidic corrosion.

A still further object of the invention is to provide a connection of this kind wherein is employed a low melting alloy which serves to provide an effective adhesion for maintaining the connection.

The invention also contemplates for an object to provide an electrical connection which eliminates the use of any mechanical devices and wherein the connection can be attached or disconnected with convenience and facility by the use of heat of a comparatively low temperature.

The invention also has for an object to provide a connection of this kind which may be employed as a fuse to break the connection upon abnormal electrical load.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my electrical connection whereby certain important advantages are attained, as will be hereinafter more fully set forth.

In order that my invention may be better understood, I will now proceed to describe the same with reference to the accompanying drawing, wherein:

Figure 1 is a view in top plan of a battery showing electrical connections employed in connection therewith and arranged in accordance with an embodiment of my invention.

Figure 2 is an enlarged fragmentary detailed sectional view taken substantially on the line 2—2 of Figure 1.

Figure 3 is a detailed sectional view taken substantially on the line 3—3 of Figure 2.

Figure 4 is a detailed sectional view taken substantially on the line 4—4 of Figure 1.

Figure 5 is a sectional view taken substantially on the line 5—5 of Figure 4.

Figure 6 is a view in top plan of the top or cap plate illustrated in Figures 2 and 3, and

Figure 7 is a view in plan of the top or cap plate as illustrated in Figures 4 and 5.

As disclosed in the accompanying drawing, B denotes a conventional type of battery including the usual positive post 1 and negative post 2. While the present embodiment of the invention is being described and illustrated as being used in connection with a battery, it is to be understood that I am not limiting myself to such particular use as the invention can be employed with equal facility in connection with electrical connections of other types.

Superimposed upon the top face of the negative post 2 is a plate 3 of copper but having disposed thereover a lamination 4 of lead. This lamination 4 may be of any thickness preferred although, of course, it must be sufficient to effectively protect the applied plate 3 against acidic corrosion or other actions which would have a tendency to interfere with the efficiency thereof.

This plate 3 is pressed to provide a depending rib 5 extending radially thereacross to provide an upwardly facing slot 6. As is particularly illustrated in Figure 2 of the drawing, the base of this slot is disposed on a predetermined arc from end to end.

The plate 3 will be effectively maintained in applied position upon its post 2 by the application of proper heat as, of course, as is well known, the post 2 is also of lead although, of course, this plate 3 may be held in effective applied position in any manner deemed expedient.

The plate 3 constitutes one element of the electrical connection and in the present embodiment of my invention, the second element of the connection comprises an elongated bar or strip 7, preferably of copper, having one end portion offset, as at 8, to provide a foot 9 to be brazed or otherwise attached to a head or guide member 10 of material conductive of electricity and which is securely mounted upon and in electrical connection with an electrical conductor cable 11.

As illustrated in the accompanying drawing, the head or guide member 10 is of a split type and is so formed as to be readily applied upon the extended end portion of the post 2, thereby facilitating the initial operation in attaching the connection. While the use of this head or guide member 10 has been found of advantage when the connection is employed with respect to a post of a battery, it is to be understood that I do not wish to limit myself to the use of such a head or member in all instances as it is possible to

use my improved connection without such head or member.

The major or free portion of the bar or strip 7 is formed to provide a depending blade 12 which is substantially snugly received within the slot 6. However, there is sufficient space between the applied blade 12 and the walls of the slot 6 to allow effective spreading, under proper heat, of a soft metal alloy *a*, such as Newton's metal, so as to spread over substantially the entire surfaces of the blade 12 and walls of the slot 6 to create effective adhesion between the applied blade 12 and the walls of the slot 6 to assure the connection being maintained attached under normal conditions.

It is to be stated that in applying the connection, the blade 12 and the portion of the post 2 provided with the slot 6 is heated to a degree sufficient to assure the desired melting of the alloy. It is also to be stated that the bar 7 together with its blade 12 is coated with a lead film to protect the same against acidic corrosion or the like.

As illustrated in Figures 1 and 2, this strip or bar 7 is substantially straight from end to end. In the present embodiment of the invention, this is shown in order to readily identify the post 2 comprised in the connection as being the negative post.

Interposed between the head or member 10 and the strip or bar 7 at a point closely adjacent to the offset portion 8 is an expansible member 14, herein disclosed as a coil spring. This member 14 is of such tension to throw the blade 12 into open position upon abnormal load on the circuit. This abnormal load will result in substantially an instantaneous melting of the adhesive alloy.

When it is desired to break or disconnect the connection, it is only necessary that suitable heat be applied thereto to melt the fusing alloy. This is of particular importance as it enables a desired disconnection to be made irrespective of atmospheric conditions as this operation can be accomplished in extreme cold, great heat, in rain or in snow. It is also to be pointed out that the connection is one which is entirely free of nuts, bolts or other mechanical devices and that the connection is also one which will not be effected by acidic corrosion or rust.

The connection as herein disclosed with respect to the post 1 is substantially the same as

hereinbefore described with respect to the post 2 except that the copper plate 15 is provided thereacross with the perpendicularly related grooves 16 to give a plus reading so that the positive post may be readily identified. The bar 17 for coaction with the plate 15 is electrically connected with the head or member 18 or other element in the same manner as hereinbefore set forth in connection with the strip or bar 7 and the outer or free portion of the strip or bar 17 carries the oppositely directed and perpendicularly related arms 19, so that the strip or bar 17 together with the bars 19 will be effectively received in the cross grooves 16 of the plate 15. Aside from this difference in design, the connection as herein disclosed for use with a positive post operates in the same manner as hereinbefore described in connection with the negative post 2.

As illustrated in Figure 4, the inner or connected end portion of the strip or bar 17 has associated therewith an expansible member 20 of sufficient tension to throw the strip or bar 17 into position to break the connection as the result of overload of current.

From the foregoing description it is thought to be obvious that an electrical connection constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated.

I claim:

1. A terminal for adhesively holding a contact blade comprising a member conductive of electricity and having a face provided with a slot, a plate overlying such face and in close contact therewith, said plate having a rib depending therefrom to engage within the slot of the member, said plate also having a slot extending into the rib to receive the blade, and fusible means within the second slot for adhesively holding the blade within the slot of the plate.

2. A terminal connection including a member conductive of electricity and having a face provided with a slot, a plate overlying said face and in close contact therewith, said plate having a depending rib pressed therefrom to provide an outwardly facing slot to receive a second part of the connection, and fusible means within said second slot for adhesively holding such second part within the slot of the plate.

MYRICK N. BOLLES.