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MOLD FOR BATTERY CONNECTORS.

APPLICATION FILED JULY 18, 1921.

1,415,027. Patented May 9, 1922.

FIG. 1.

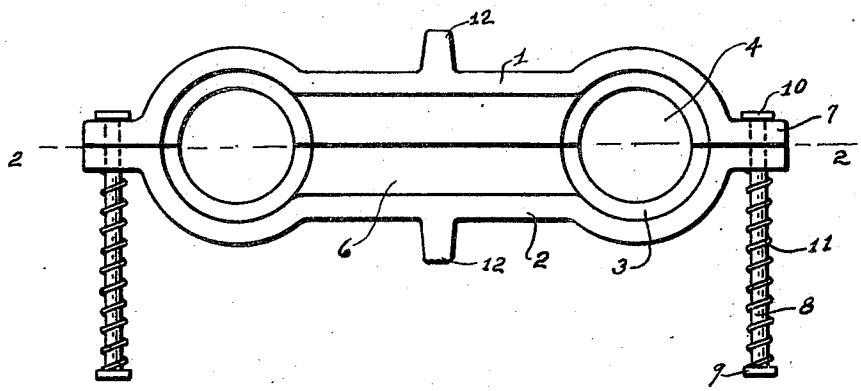


FIG. 2.

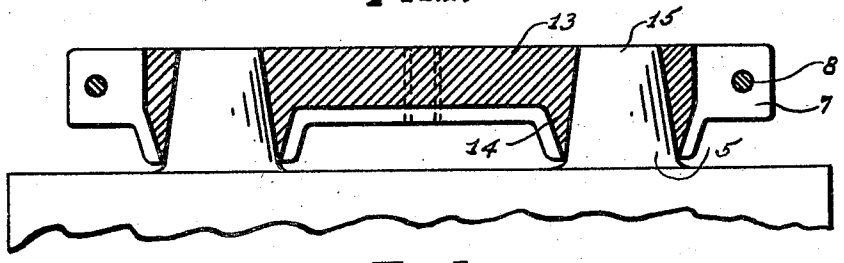
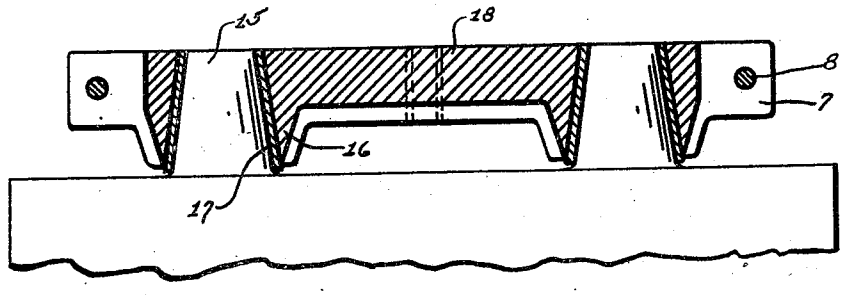


FIG. 3.



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MOLD FOR BATTERY CONNECTERS.

1,415,027. Specification of Letters Patent. Patented May 9, 1922.

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To all whom it may concern:

Be it known that I, ALFRED H. GEBHARDT, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Molds for Battery Connecters, of which the following is a specification.

This invention relates to molds for casting battery connecters and to a method of casting said connecters.

Objects of this invention are to provide a method of casting connecters for batteries, particularly storage batteries, whereby the connecters may be cast in place upon the battery terminals; whereby trimming, fitting and separate casting is avoided; and whereby one operation is employed to both cast and connect the connecters with the proper terminals of the batteries.

Further objects are to provide a mold for casting battery connecters whereby such mold may be positioned about the connecters and the lead alloy or compound poured into such mold to thereby both form the connecter and join it to the battery terminals; to provide a mold which may be readily positioned about the battery terminals and may be readily separated to remove it from the cast connecter and terminals; and to provide a mold so constructed that it may be used by unskilled labor and will at all times produce a perfect connecter in good electrical contact with the battery terminals.

Embodiments of this invention are shown in the accompanying drawings, in which:—

Figure 1 is a plan view of the mold.

Figure 2 is a longitudinal sectional view on the line 2—2 of Figure 1 showing the battery terminals in position and a connecter cast about them.

Figure 3 is a sectional view similar to Figure 2 showing a modified form of construction.

The process contemplates positioning a two piece mold about the battery terminals which it is desired to connect, pouring a readily fusible alloy into such mold, such alloy conveniently consisting of lead and antimony, allowing such cast connecter to harden and thereafter removing the mold. By this process the usual separate casting of the connecter, the trimming of the cast connecter, the subsequent fitting and "burning on" is wholly avoided. All of these operations are replaced by the method outlined above.

The method may be extended to include casting of the connecters about frusto-conical sheet metal members previously positioned about the battery terminals. This cone-shaped sheet metal member may, if desired, be coated with a suitable material such as white lead, graphite or other similar material to prevent the adhering of the conical member and the battery terminals. This latter method is applicable under conditions where it is desired to cast accurately fitted connecters which are temporarily removably positioned about the battery terminals. It is, however, to be noted that both methods contemplate casting the connecter in place about the battery terminals and the subsequent removal of the mold therefrom. If the latter method is employed, the connecter may be subsequently "burned on" by fusing either a portion of the battery terminals, or by fusing a separate piece of alloy and allowing it to run down about the terminals, thereby joining such terminals with the inner portion of the frusto-conical member.

The mold comprises two similar half sections 1 and 2 of malleable cast iron. These sections are provided with pockets or cavities 3 at their ends. These cavities are open at the top and bottom, the bottom opening 4 being relatively smaller and adapted to accurately conform to the larger lower portion 5 of the battery terminals, as indicated in Figure 2. These pockets are joined by a trough-shaped section 6 which is adapted to form the body portion of the connecter. The members 1 and 2 are identical in construction and are provided with perforated ears 7 at their ends. A bolt or rod 8 is passed through each of the perforations of the pairs of ears and is provided with headed ends 9 and 10. A compression spring 11 is loosely mounted upon the bolt 8 and is adapted to force the two sections into intimate contact as may be seen from Figure 1. A knob 12 may be formed adjacent the middle outer portion of each of the members 1 and 2 and may serve as a manipulating handle for its respective

member to aid in positioning or removing the mold from contact with the battery terminals.

The operation of the device is as follows:—

The sections 1 and 2 of the mold are separated by pulling them apart against the action of spring 11 and are positioned about the battery terminals, as indicated in Figure 2. The members are then released and allowed to move inwardly under the influence of the spring 11 and to contact with each other and with the tapered portions of the battery terminals. Thereafter the connecter 13 is formed by pouring the melted alloy into the mold until it is substantially flush with the top of the mold. After the connecter has cooled, the sections of the mold are separated against the action of the springs 11 to a sufficient distance to allow the mold to be lifted directly upwardly and to clear all portions of the connecter. It will be seen that by this process good electrical contact is secured between the eye portions 14 of the connecter and the battery terminals 15. It will also be seen that at one operation, the connecter is accurately fitted, formed and connected with the battery terminals.

The modified form of connecter shown in Figure 3 is similar to that previously described except that the pockets 16 are slightly larger than the pockets 3 of the first form and the openings at the lower end of the pockets are also slightly larger. In using this form of mold the battery terminals have a frusto-conical sheet metal member positioned about them. These frusto-conical members may or may not be coated upon their inner surfaces to prevent the adhering thereof to the battery terminals during the casting of the connecter 18—the absorption of heat by this conical member may be great enough to prevent its fusing the battery terminals. These frusto-conical members are to allow the casting and fitting of temporarily removable connecters in position upon the battery terminals. All that is necessary thereafter, is to fuse a portion of the battery terminals or to allow additional fused low melting alloy to run in the space between the conical members 17 and the battery terminals 15.

It will be seen that a mold has been provided whereby connecters may be quickly and expeditiously cast about battery terminals and the mold thereafter removed. It will also be seen that labor of trimming, fitting and subsequent fusing or joining is avoided. In the second type of mold described, it is possible to form removable connecters accurately fitted and shaped and requiring no subsequent work thereon, merely the uniting of the battery terminals with these connecters.

I claim:—

1. A mold for casting battery terminal connecters, comprising a pair of sections adapted to be positioned about said battery terminals and having pockets formed in the ends thereof about said battery terminals and spaced therefrom throughout their major portion and having a channel section connecting said pockets, and means for temporarily holding said sections together.

2. A mold for casting battery terminal connecters, comprising a pair of sections adapted to be positioned about said battery terminals and having pockets formed in the ends thereof about said battery terminals and having a channel section connecting said pockets, and a spring adapted to force said members together and into contact with the battery terminals.

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