April 9, 1929. J. TAYLOR 1,708,808

BURNING COLLAR

Filed Jan. 23, 1928

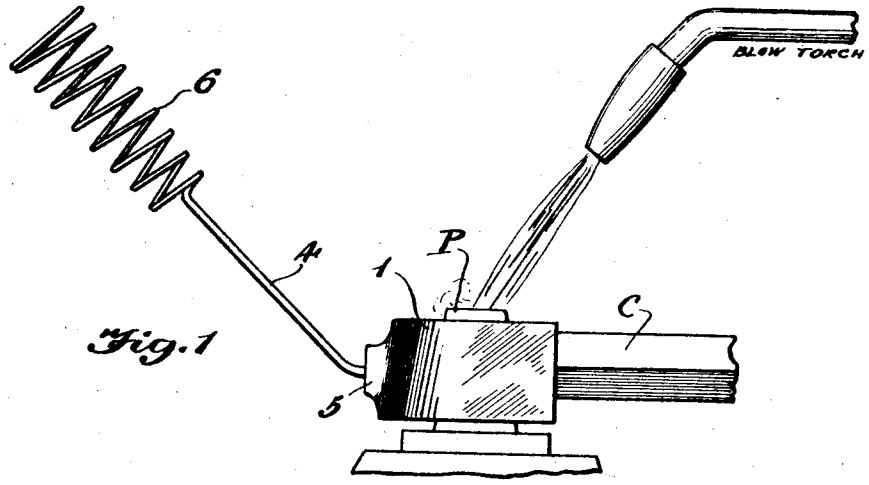



Fig. 1

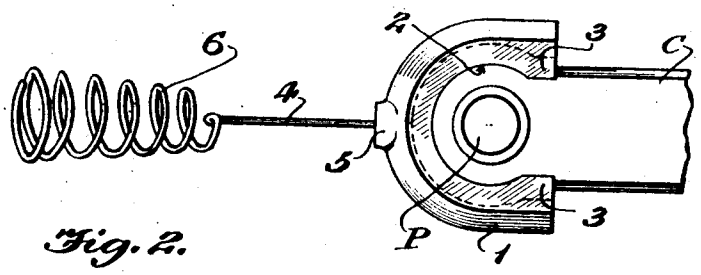



Fig. 2.

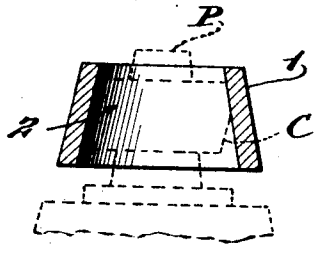



Fig. 3.

Inventor

John Taylor.

By William C. Linton.

Attorney

Patented Apr. 9, 1929. 1,708,808

# UNITED STATES PATENT OFFICE.

JOHN TAYLOR, OF CHICAGO, ILLINOIS.

## BURNING COLLAR.

Application filed January 23, 1928. Serial No. 248,911.

This invention relates to improvements in electrical battery working tools, having for an object to provide a "burning" collar device for use in "burning"' or fusing electric storage battery connectors to the pillar posts thereof whereby to insure a positive and efficient mechanical and electrical connection therebetween, the device being of such construction that with placement or engagement of the same over or about that portion of a connector engaged over a pillar post, a hot or fusing flame may be directed thereupon from a torch or other device, causing the even and unifom transmission of heat to the connector and post at a temperature sufficient to effect a fusion of the metals from which they are formed and hence, with cooling, produce a positive mechanical and electrical connection after which the "burning" collar may be freely removed, leaving a finished and nicely appearing job.

The invention also aims to provide a device of the character described formed of a material whose melting point is above that of the connectors or posts to be "burned" thereby, said device, with arrangement about a connector engaged over a pillar post, serving the dual agency of a shape retaining mold for the connector and the post during that period when a fusing flame is applied to said elements, thereby preventing malshaping of the heat treated portions of the post and the connector and thus, with completion of a "burning" operation and removal of the device, insuring a finished and properly appearing job.

Other objects of the invention will be in part obvious and in part pointed out hereinafter.

In order that the invention and its mode of operation may be readily understood by those skilled in the art to which it appertains, I have in the accompanying illustrative drawings set out one possible embodiment of my invention.

In these drawings:

Figure 1 is a side elevation of the improved device applied over a battery terminal and filler during a "burning" operation,

Figure 2 is a top plan view thereof, and

Figure 3 is a vertical transverse section through the same.

Having more particular reference to the drawings, in connection with which like characters of reference will designate corresponding parts throughout, the improved "burning" collar consists of a substantially U-shaped piece of metal whose fusing or melting point is materially above that of the metal from which the connectors and pillar posts in connection with which it is to be used are formed, constituting a collar designated for convenience by the numeral 1. The inner and outer side portions of the collar 1 are arranged in relative parallelism but taper upwardly as is shown in the Figure 3, whereas the inner side of said collar is formed with a cross sectionally semi-circular seat 2 corresponding or approximately corresponding in size and shape to the standard design and size of battery cell connectors, so that the device may be freely downwardly engaged over a battery connector subsequently to the engagement of the same over a pillar post; the free extremities of the collar being thickened as is indicated by the numeral 3, thus reducing the open side of the semi-circular seat 2 so as to permit the device to generally conform to the contour or shaping of a connector engaged thereby.

For convenience in handling or properly adjusting the "burning" collar with respect to a connector and a pillar post engaged thereby, I may and preferably do provide the same with a handle such as is indicated herein by the numeral 4, forming said handle of a length of suitable material, one end of which is engaged and anchored in a boss or lug 5 cast integral with the outer side and intermediate portion of the collar 1, the said handle being disposed upwardly with respect to the collar and formed with a coiled hand grip portion 6 whereby it may be engaged and held by a user without liability of burning him as by transmission of heat from the collar during a "burning" operation to the handle.

In using the improved "burning" collar, a connector such as is shown herein and indicated by the reference character C is engaged over a pillar post P to which the former is to be fused and with such engagement, the "burning"' collar is dropped over that portion of the connector C engaged about or receiving the pillar post P therein. At this time, a hot flame is directed downwardly from a torch or other suitable device onto the connector and the adjacent portions of the pillar post, hence, melting a portion of the metal of each thereof and causing a fusion of such molten metals. Following this melting of parts of the connector and the pillar post,

the flame is removed and the device is permitted to remain about the connector until the same, together with the pillar post have fully cooled whereupon the "burning" collar may be then drawn upwardly and away from the connector, leaving a finished and nicely appearing job.

By reason of the shaping of the "burning" collar it will be understood that the same will serve in the capacity of a shape retaining mold for the connector engaged about a pillar post to be mechanically and electrically interconnected and because of this, the mal-shaping of the connector during a "burning" operation will be positively prevented and at the same time, an efficient mechanical and electrical connection will be produced between the two battery elements. Also, by reason of the tapered formation of the "burning" collar 1, it will be understood that the same will automatically adjust itself to snug engagement over and about a connector to be "burned" thereby, such slight variances in size or design of the connector being compensated for by the tapering of the inner sides of the collar. Likewise, this upwardly tapering formation of the collar 1 will permit of its free removal from a connector subsequently to a "burning" operation in that with imparting of an upward pull to the "burning" collar from the handle 4, the enlarged lower portion of the collar will readily and freely disengage itself from the connector and move upwardly thereover.

From the foregoing, it will be understood that I have provided a simple and high efficient type of battery working tool whereby an effectual mechanical and electrical connection may be effected between the connectors and pillar posts of an electrical storage battery, the device serving as a means for positively preventing the mal-shaping of the melted or fused portions of either the connector or the pillar post and in so doing, permitting the production of a mechanically sufficient and nicely appearing job by comparatively unskilled labor, an item of material importance to battery manufacturers who, have heretofore been compelled to rely upon the "burning" of battery connectors to pillar posts by skilled and highly salaried labor. Furthermore, it will be understood that by reason of the inside surface or shaping of the shaping of the burning collar, the device may be successfully used in connection with the "burning" of any type of connector now prevalent in this particular art, the inside taper of the collar permitting of ample compensation for variance in cross sectional size or shaping of the connector and at the same time, permitting the collar to be snugly engaged about said connector prior to a "burning" operation. Herein, it should be noted and understood that whereas the outside shaping or formation of the collar may vary within a wide range, the inside shaping or surfacing of the same will generally correspond to that shown in the accompanying drawings whereby the fundamentals of the device may be effectually served, that is, that the collar may be engaged over battery connectors of different size or of different shape, according to the products of different manufacturing concerns.

Manifestly, the construction shown is capable of considerable modification and such modifications as are within the scope of my claims, I consider within the spirit of my invention.

I claim:

1. A device of the character described comprising a substantially U-shaped collar formed of material possessing a melting point comparatively higher than that of the connectors and pillar posts of an electrical storage battery, the side walls of said collar tapering upwardly throughout their widths and the inner surface of the collar being formed with a circular seat adapted to be removably and snugly engaged over one end portion of a battery connector received upon a pillar post, and a handle secured to a portion of the collar and extended therefrom.

2. A device of the character described comprising a collar having an inside horizontal curvature and a vertical taper throughout its width.

3. A device of the character described comprising a collar having a circular and tapered inside formation.

4. A device of the character described comprising a collar having a curved inside surface, the diameter of which varies throughout.

5. A device of the character described comprising a collar having one side portion thereof open and the inner side walls of the same being tapered.

6. A device of the character described comprising a substantially U-shaped collar having the inner side walls thereof tapered throughout the width of the same.

7. A device of the character described comprising a collar having an inside horizontal curvature and a vertical taper throughout its width, and a handle secured to a portion of the outer side of said collar and extended therefrom.

In witness whereof I have hereunto set my hand.

JOHN TAYLOR.