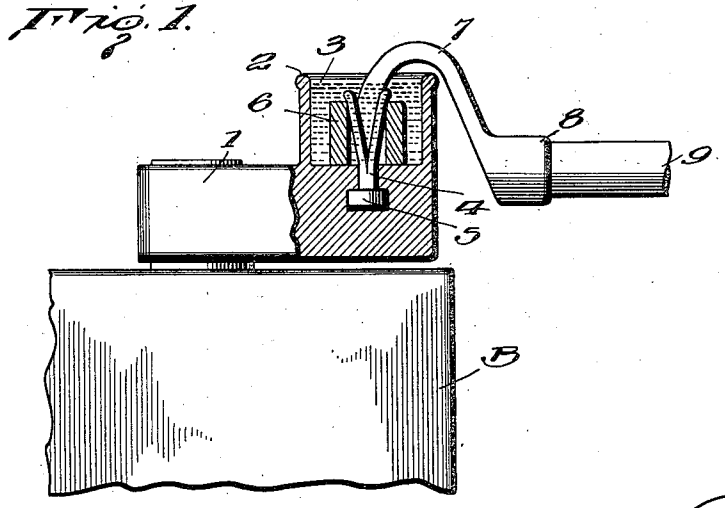
May 22, 1923. 1,456,420

B. B. BLACKBURN

STORAGE BATTERY CONNECTION

Filed Jan. 11, 1921

Fig. 1.



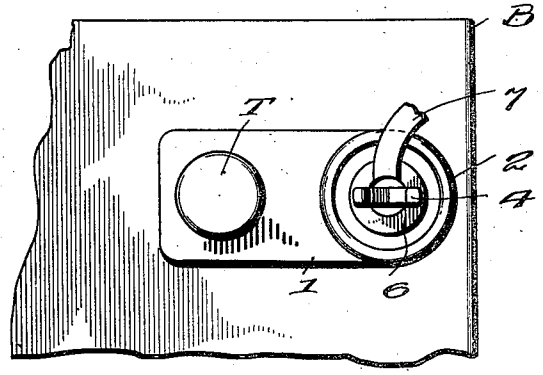


Fig. 2.

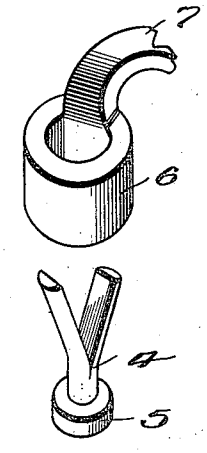


Fig. 3.

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Patented May 22, 1923. 1,456,420

UNITED STATES PATENT OFFICE.

BRUCE B. BLACKBURN, OF ST. PETERSBURG, FLORIDA.

STORAGE-BATTERY CONNECTION.

Application filed January 11, 1921. Serial No. 436,618.

To all whom it may concern:

Be it known that BRUCE B. BLACKBURN, a citizen of the United States, residing at St. Petersburg, in the county of Pinellas and State of Florida, has invented certain new and useful Improvements in Storage-Battery Connections, of which the following is a specification.

This invention relates to improvements in storage battery connections, having for an object to provide a novel form of connection for the terminals of a storage battery, whereby deterioration of the same, due to corrosion, will be prevented, hence, insuring proper electrical connection between the battery terminals and the wires employed to conduct energy therefrom.

It is also an object of my invention to provide a connection of the character mentioned which is of simple and durable construction and capable for use upon various types or makes of storage batteries with but slight modification thereof.

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

In order that the invention and its mode of application may be readily understood by persons skilled in the art, I have, in the accompanying illustrative drawings, and in the detailed following description based thereon, set out a preferred embodiment of the same.

In these drawings:

Figure 1 is an elevation of a fragment of a storage battery having my improved connection applied thereto, and shown in section;

Figure 2 is a top plan view of a fragment of a storage battery with my invention applied; and

Figure 3 is a disassembled detail in perspective showing the elements of the improved connection.

Having more particular reference to the drawings, in connection with which like characters of reference will designate corresponding parts throughout the several views, B designates the storage battery which is provided with two terminals, one of which is herein shown and indicated at T. To these terminals, the conductors employed for conducting energy from the battery B, are connected. By reason of the electrolyte employed in the battery B, rapid deterioration of the battery terminals T takes place, due to corrosive deposits thereon, and by consequence, the electrical connection is oftentimes broken or at least becomes faulty, thus giving considerable trouble to the battery user.

By the use of my improved connection, trouble heretofore experienced with faulty connections due to deterioration of the battery terminals by corrosion, will be prevented, such invention comprehending an arm 1 formed of brass or bronze, and having one end thereof secured by brazing, or other suitable process, to the battery terminal as illustrated in the Figures 1 and 2. On the outer or free end of the this arm 1, there is formed a substantial right angularly disposed upstanding sleeve or cup 2, preferably circular in cross-section and serving as a pocket for receiving oil, designated at 3. Molded with the arm and extending upwardly into the pocket formed by the sleeve 2, is a bifurcated spring-connecting element or pin 4, the lower end thereof being headed as at 5 for an obvious purpose. As will be noted, the several sides or legs of this connecting element or pin 4 are arranged in divergent fashion concentrically of the pocket and extend to a point slightly below the top thereof.

A circular sleeve 6, of a height less than that of the sleeve or cup 2, is employed as the connecting means per se as between the pin 4 and the cable which is to be connected to the particular terminal hereinbefore noted. Extending from one marginal portion of the sleeve 6 is a curved arm 7, one end of which, as shown in the Figure 1, may be formed integrally with said sleeve or welded or otherwise secured thereto in various ways common in the art, while the opposite end thereof is extended to a point below the connection of said first end and carries thereon a clamping sleeve 8 which is adapted to be securely engaged with the adjacent end of the electrical conductor 9 to have connection with the battery terminal T. Thus, it will be understood that when the sleeve 6 is engaged over the divergent spring portions of the bifurcated pin 4, the outer ends of such bifurcated portions will extend slightly beyond the adjacent marginal portions of the sleeve and by consequence, will function to secure the sleeve in this connecting position within the sleeve or cup 2, and also to effect electrical connection as between the cable and the arm 1 connected to the battery

terminal T. The arrangement of the curved arm 7 is such as will permit of the use of my improved connector upon practically any type of storage battery now marketed, and further, due to the arranging of the cable-attaching end of said arm in a plane lower than that of the end thereof having connection with the sleeve 6, any pulls upon said cable or conductor-attaching end will tend to move the sleeve 6 downwardly into the cup or sleeve 2, rather than upwardly, which latter action would detract from the effectiveness of the electrical connection. Also, by arranging the conductor-attaching end of the arm 7 in a plane lower than that of its end having connection with the sleeve 6, it is obvious that the conductor secured thereto may be conveniently arranged to prevent interference with any foreign devices or apparatus adjacent to the battery.

In this connection, it is to be noted that the diameter of the sleeve 2 is greater than that of the sleeve 6, which is also circular in cross-section, and in consequence, said sleeve will be loosely received in the oil-containing pocket of the connector 1, while the divergent sides of the connecting pin 4 will be snugly engaged with the side walls of the sleeve 6, and to effect positive connection as between the same and said connecting sleeve 6, in order that longitudinal displacement of the latter with relation to the connector 1 will be prevented. Due to the engagement of the divergent portions of the connecting pin 4 with the sleeve 6, it will be understood that effectual electrical connection between the battery terminal T and the conductor 9 will be insured.

Since the electrical connection between the connector 1 and the sleeve 6 is made in an oil bath, corrosive deposits on said connector and the sleeve 6 or any of the instrumentalities making up this improved device, will be prevented. Hence, in addition to insuring proper electrical connection between the battery terminal and the conductor, the period of use for which my improved connector may be used, will be materially lengthened.

When desired, the sleeve 6 may be quickly disengaged from the connector 1 merely by pulling the sleeve upwardly over the free ends of the divergent portions of the connecting pin 4 and moving said sleeve 6 upwardly entirely out of engagement with the same and the oil-containing cup of the connector.

From the foregoing, it is evident that I have provided a form of quick attachable and detachable battery terminal connection which will successfully withstand usage to which devices of this sort are subjected, and which, by reason of the absence of corrosive deposits thereon, may be used for an indefinite period of time.

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

I claim:

1. A battery connection comprising an arm having a vertically disposed cup-like extension formed on the upper side of one end thereof, a headed pin arranged concentrically of said extension having the head portion thereof embedded in the bottom of said cupped extension, the shank portion of the pin being bifurcated and having the opposite sides thereof arranged in divergent fashion, and a connector comprising a curved arm having a sleeve on one end thereof adapted to be received in the cupped extension and engaged over the divergent bifurcated portions of said pin.

2. A battery connection comprising an arm having an upwardly opening cupped extension formed on the upper side of one end thereof, a vertically disposed pin arranged concentrically of said extension having a head formed on its lower end embedded in the bottom of said extension, the shank portion of said pin being bifurcated and having its opposite sides arranged in divergent fashion, the upper extremities of the bifurcated portions of said pin being arranged slightly below the upper marginal portion of said cupped extension and a connector comprising a curved arm having a sleeve on one end thereof adapted to be engaged over the divergent bifurcated portions of said pin, the remaining end of said curved arm being arranged in a plane lower than the arrangement of the opposite end thereof.

In testimony whereof I affix my signature.

BRUCE B. BLACKBURN.