

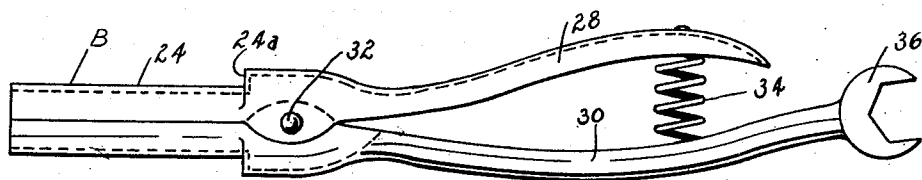
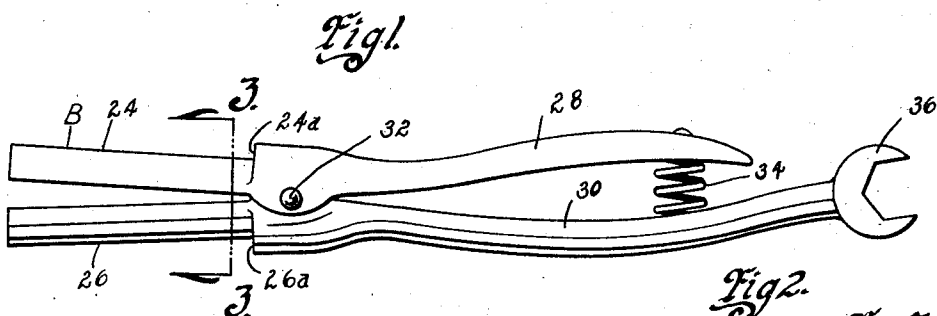
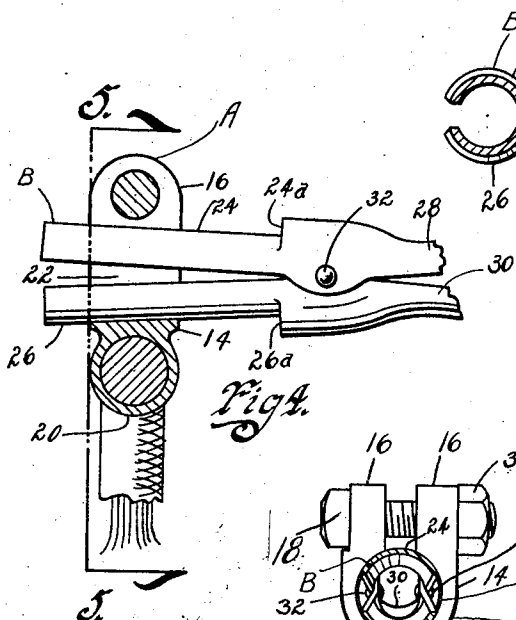
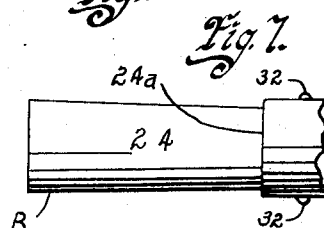
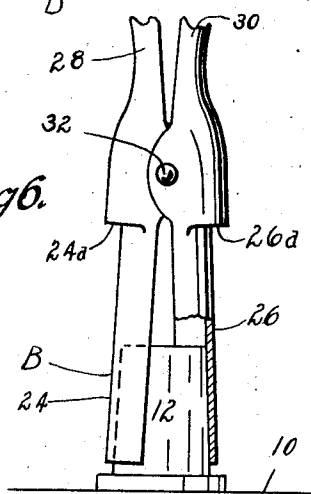
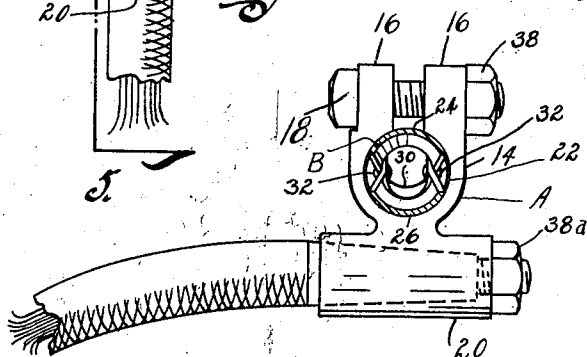
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A. S. MILLER

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## BATTERY TERMINAL CLEANER

Filed Feb. 13, 1928



Witness  
Phil  
Harrison

Phil  
Harrison

*Inventor*

by Archibald S. Miller  
by Bair & Freeman Attorneys

by Bair & Freeman Attorneys

## UNITED STATES PATENT OFFICE

ARCHIBALD S. MILLER, OF ST. PAUL, MINNESOTA

## BATTERY-TERMINAL CLEANER

Application filed February 13, 1923. Serial No. 253,857.

The object of my invention is to provide a battery terminal cleaner of very simple, durable and inexpensive construction, which can be used for cleaning the terminal posts of all the standard sizes and interiors of the post receiving holes of the terminal links of all standard sizes, and for effecting the cleaning without removing the lead coatings of the parts cleaned.

With this and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my battery terminal cleaner, whereby the objects contemplated are attained, as herein-after more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a plan view of a battery terminal cleaner embodying my invention.

Figure 2 is a similar view illustrating the cleaner with its parts in a different position.

Figure 3 is a detail, sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a sectional view through one of the terminal links with the cleaner inserted into the hole therein.

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

Figure 6 is an elevation, partly in section, parts being broken away, illustrating the application of the tool to a battery post; and

Figure 7 is a side elevation of one end of the cleaner to illustrate the normal taper of the cleaning members.

It is well known that a great many standard batteries now in use are provided with terminal posts. In Figure 6, I have indicated a battery at 10 provided with a post 12. The battery posts are slightly tapered toward their free ends. There are about four or five sizes or diameters of such posts in common use. Ordinarily the negative posts are not quite the same size, but they all have about the same taper.

Terminal links, such as that shown at A in Figure 5 are used in cooperation with the posts.

The links A ordinarily consist of a split ring clamp 14, having the projecting, spaced

arms 16 to receive the bolt 18 and supporting the sleeve 20 for receiving the cable end.

It becomes necessary quite frequently to remove the terminal links from the post and to subsequently replace them.

It is highly desirable to clean the posts and the interiors of the holes 22 in the terminal links to take away any foreign matter and particularly take away any such matter due to corrosion.

In performing the cleaning operation, however, it is of importance not to scrape the posts or the walls of the holes 22 in such a way as would remove the lead coating with which these members are always provided.

The purpose of my present tool is to provide a cleaner by which the posts 12 and holes 22 may be cleaned quickly, easily and thoroughly without injuring the lead coating.

I have endeavored to provide a single tool, which would serve for posts and terminal links of various sizes.

This tool includes a cleaner element indicated generally at B, made in two parts 24 and 26, each forming a substantially half cylinder. The parts 24 and 26 are provided with shoulders 24<sup>a</sup> and 26<sup>a</sup> at one end and with handles 28 and 30 projected therefrom.

The cleaner elements are pivoted together as at 32.

A spring 34 is provided for normally pressing the handles apart and the members 24 and 26 together whereby they assume a closed position when not in use. This protects the sharp edges of the tool from injury when thrown in a tool box with other tools.

The handle 30 is provided at one end with a wrench 36 to fit the nut 38 of the bolt 18 and the nut 38<sup>a</sup>.

The members 24 and 26 are channel-shaped and when closed together form a hollow cylinder. They have substantially rectangular inner and outer cutting edges along their meeting faces as best shown in Figure 3.

The shape of the members 24 and 26 is somewhat peculiar in that when the said members are spread apart to a flared position they form a split, hollow frustum of a cone tapered from the free end of said members to

ward the shoulders 24<sup>a</sup> and 26<sup>a</sup> to fit the taper of the hole 22 and the taper of the post 12.

In the practical use of a tool of this kind, the members 24 and 26, when closed together, may be inserted into a hole 22 of the clamp member 14 of a terminal link, and then the handles may be pressed together for flaring the members 24 and 26, which may be adjusted lengthwise with relation to the axis of the hole 22, until the outer surfaces of the members 24 and 26 fit the taper of the hole.

Without pressing the handle together too tightly, the tool is given a little more than a half turn, and this usually suffices to clean the hole in the terminal link.

For cleaning the posts 12, the handles are pressed together and the members 24 and 26 of the cleaner element A are moved apart and placed over the post, as shown in Figure 6, and a short rotary movement then imparted to the tool for cleaning any foreign matter from the surface of the post.

It will thus be seen that the operation of cleaning a terminal link and post is a simple one, easily performed with a tool of this kind.

The cleaning operation is thoroughly done.

The tool is readily adjustable to fit posts and links of different sizes and can be used in the garage or battery station for most of the batteries now in use for motor vehicles.

Where a tool of this kind is used, it eliminates the necessity for keeping on hand a variety of small tools for cleaning battery terminals.

Changes may be made in the details of the construction and arrangement of the parts of my improved battery terminal cleaner, and it is my purpose to cover by my claims any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. In a battery terminal cleaner, a cleaner element comprising a pair of like channel-shaped members having substantially rectangular inner and outer cutting edges along their meeting faces, said members being pivoted together and provided with handles, said members being so flared that when they are moved apart on their pivot, they form a split frustum of a cone adapted to clean the interior of a tapered opening in a link and the exterior of a tapered post.

2. In a battery cleaner, a cleaner element comprising a pair of like channel-shaped members pivoted together, said members having longitudinal sides each formed into two substantially rectangular inner and outer cutting edges along their meeting faces adapted for cleaning parts of a battery, said members being provided with handles and means for yieldingly tending to hold the members together, whereby they assume a closed position when not in use.

ARCHIBALD S. MILLER.