Sept. 8, 1959 M. ADE 2,903,672

BATTERY TERMINAL CONNECTOR

Filed March 6, 1956

Fig. 1.

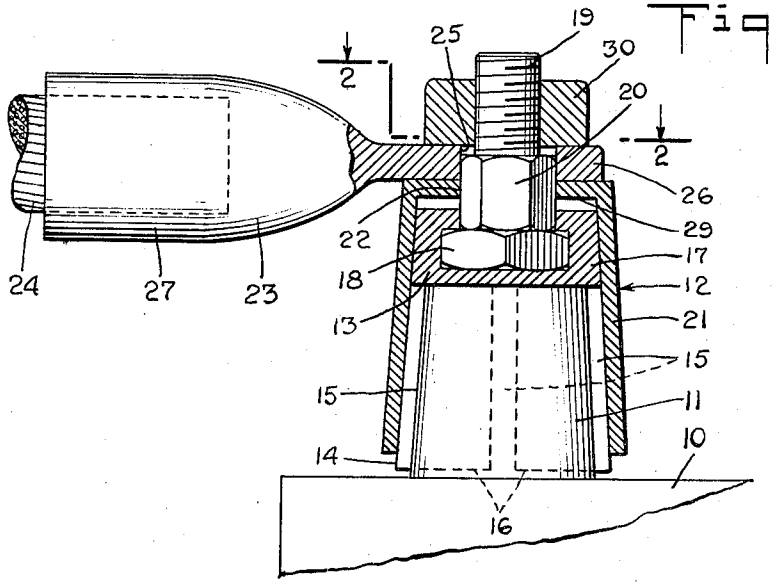


Fig. 2.

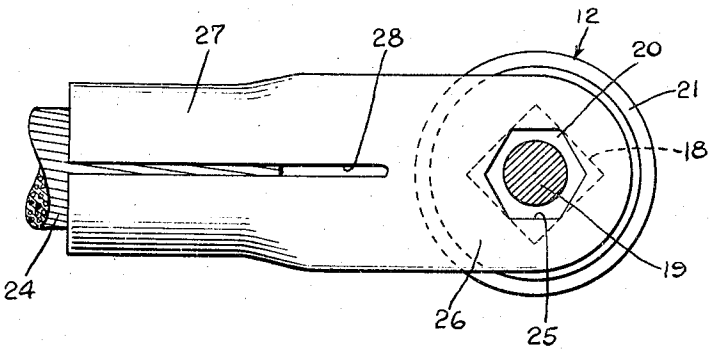
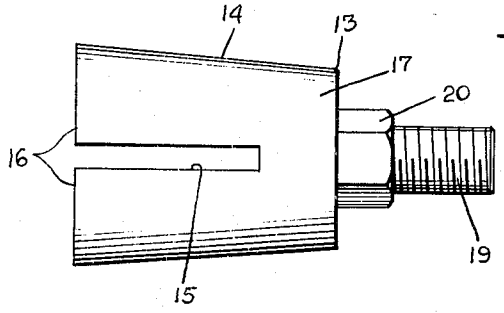


Fig. 3.



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BATTERY TERMINAL CONNECTOR

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1 Claim. (Cl. 339—232)

This invention relates to devices for use in securing electric conductors, such as wires, cables or the like, to the terminal post of a battery. More particularly, the invention deals with a device of this type and kind, wherein the conductor can be quickly and easily attached and detached wtih respect to the battery terminal in the making of repairs, alterations, chargings or the like.

Still more particularly, the invention deals with a connector employing means for keying the terminal end of a conductor with the connector to prevent relative movement between the parts in the operation of attaching and detaching the conductor.

Still further, my invention deals with a connector assemblage, wherein parts directly engaging the terminal of the battery can be retained against displacement therefrom in the operation of coupling and uncoupling an electric conductor.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

Fig. 1 is a diagrammatic view showing part of a battery with a terminal thereon and illustrating one of my improved connectors in section arranged upon the terminal, with part of the construction shown in elevation.

Fig. 2 is a sectional view substantially on the line 2—2 of Fig. 1; and

Fig. 3 is a detached side detail view of one part of the connector.

To illustrate one adaptation and use of my invention, I have indicated, at **10**, part of the upper portion of a battery, such as commonly used in conjunction with automotive and similar apparatus and at **11** is shown one of the positive and/or negative terminal posts of the battery, upon which my improved connector unit **12** is adapted to be arranged.

The unit **12** comprises a conical gripper sleeve **13**, having a depending skirt **14**, the skirt being slit at circumferentially spaced intervals, as seen at **15**, to divide the skirt into a plurality of gripper members **16**.

At the upper end of the skirt is a solid head **17**, in which is embedded and key anchored the square head **18** of a bolt **19**.

The gripper sleeve **13** is preferably composed of a moulded body of electric conductive material, the body **13** including, to a large degree, lead but having reasonable rigidity. Moulding such as babbitt materials can be used.

The bolt **19** has, adjacent the head **18**, an angular key portion **20** which, in the construction shown, is of hexagon cross-sectional form, the key portion extending above the head **18** sufficiently to establish key engagement with a pressure collar **21**, as at **22**, as well as with the terminal end member **23** of a circuit wire or cable **24**, the latter being indicated by the hexagon aperture **25**.

The member **23** comprises a flattened end **26**, in which

the hexagon aperture **25** is arranged, as clearly noted in Fig. 2 of the drawing, and, beyond the end **26**, the member is expanded into a split tube **27**, the split being indicated at **28** in Fig. 2 of the drawing. This tube is adapted to receive the wire, cable or conductor and the same may be forcibly clamped in the tube **27** and, in some instances, the addition of soldering can be employed.

The collar **21** is also conical in form to fit snugly over the gripper sleeve **13** with the upper head end **29** of the collar at all times spaced from the upper head end **17** of the sleeve **13**.

In the use of the device, the gripper sleeve is first forced downwardly over the tapered terminal or post **11** and fitted snugly thereon, after which, the collar **21** is arranged upon the sleeve. The end **26** of the member **23** is then passed over the bolt onto the head end **29** of the collar, whereupon, the clamping nut **30** is mounted on the threaded end of the bolt and, in the operation of tightening the nut, the collar **21** is moved downwardly to firmly move the grippers **16** into positive gripping engagement with the post **11**. In this operation, the collar **21**, as well as the member **23**, are keyed against rotation on the bolt by virtue of the fitting of the apertures **22** and **25** upon the hexagon key **20**.

Whenever it is desired to remove the member **23**, all that is necessary is to remove the nut **30**; whereupon, the member **23** can be detached. In this operation, the gripping engagement of the sleeve **13** with the post **11** need not be disturbed. In other words, the parts **13**, **19** and **21** can be retained on the post **11** of the battery while the battery is being re-charged or repaired.

It will also be apparent that, by raising the collar **21**, the sleeve **13** can be forcibly removed from the tapered post **11** and, then, reassembled therewith, in the manner previously described.

Devices of the type and kind under consideration, will eliminate the many impractical, inconvenient and undesirable features of conventional battery couplings of the type and kind now in general use.

The collar **21** and member **23** are both preferably composed of brass or copper to establish a good electrical connection.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

A connector unit of the character described, comprising a gripper sleeve, said sleeve comprising a split skirt and a solid head, a pressure collar arranged upon said sleeve and having a head end, a bolt including an angular head embedded within and fixedly keyed to said solid head and projecting axially therefrom, said collar being arranged upon the bolt and having a circumferentially continuous one-thickness wall, an electric conductor terminal end member apertured to receive the protruding end of the bolt and adapted to be arranged upon the upper head end of said collar, a nut mounted on the bolt adapted to apply pressure to said member and collar in forcing the gripper sleeve into operative engagement with the terminal post of a battery in establishing positive electrical engagement therewith, said bolt including, beyond the upper solid head of said sleeve, an axially extending key portion, and said collar and member engaging the key portion to prevent rotation of the collar and member on said bolt.

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