United States Patent

[11] 3,601,784

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[45] Patented **Aug. 24, 1971**

[54] **BATTERY TERMINAL**
20 Claims, 22 Drawing Figs.

[52] **U.S. Cl.** ..... **339/240,** 339/278 C
[51] **Int. Cl.** **H01r 11/12**
[50] **Field of Search** 339/95, 114–116, 224–240, 247, 273, 278

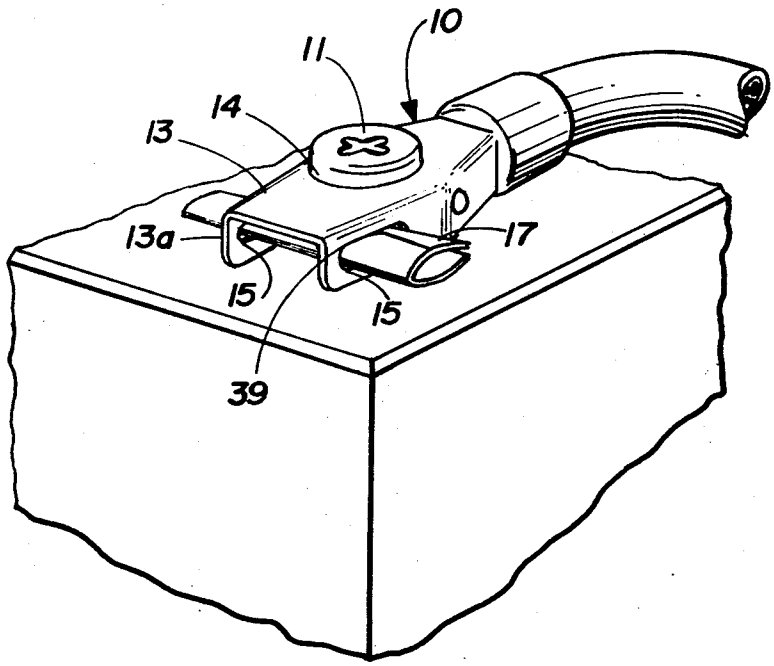
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Primary Examiner—Joseph H. McGlynn
Attorney—Richards, Harris & Hubbard

ABSTRACT: A quick connect-disconnect battery terminal which incorporates a saddle portion for receiving a battery post in cooperation with a movable spring wedge which is retained in guiding members in a spring biased relationship and movable transversely of the post opening with its edge inclined to the direction of the transverse movement for wedging action against the battery post. The wedge is formed of a sheet of resilient material folded into a wedge-shaped spring member to form a pair of spaced sides carrying opposed retaining edges which move in contact with the battery post.



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SHEET 1 OF 3

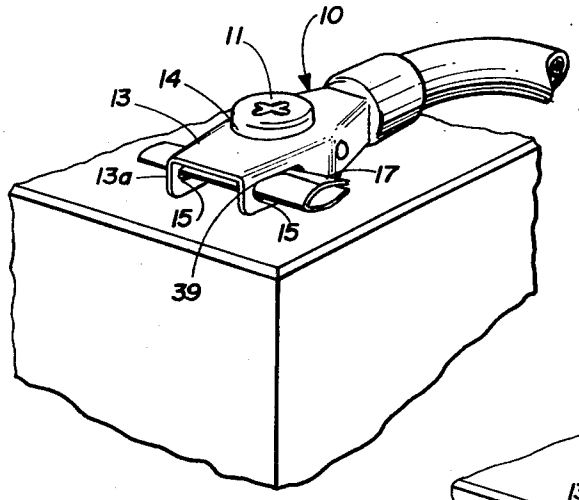


FIG. 1

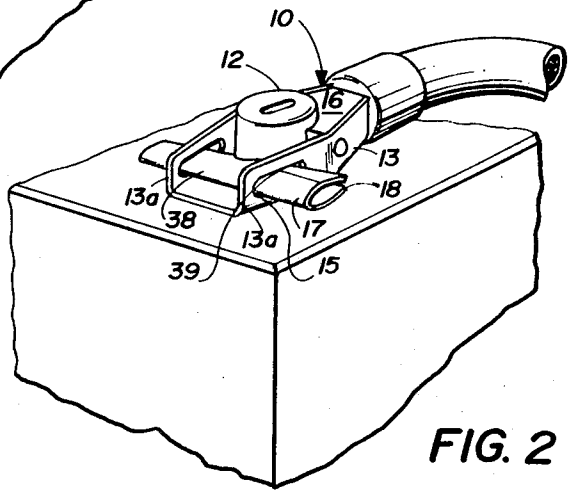


FIG. 2

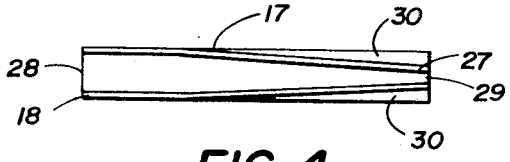


FIG. 4

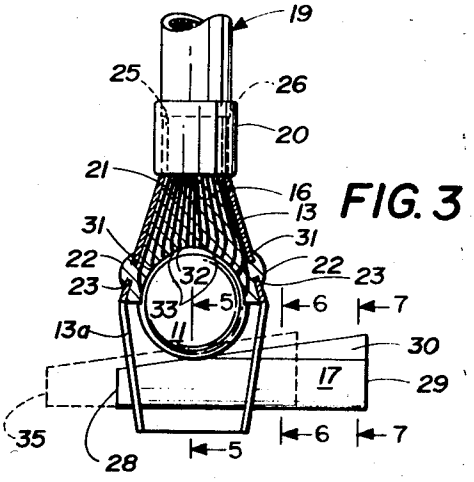


FIG. 3

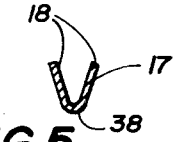


FIG. 5

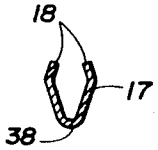


FIG. 6

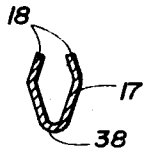


FIG. 7

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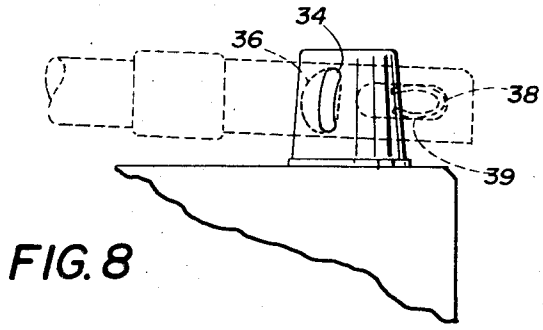


FIG. 8

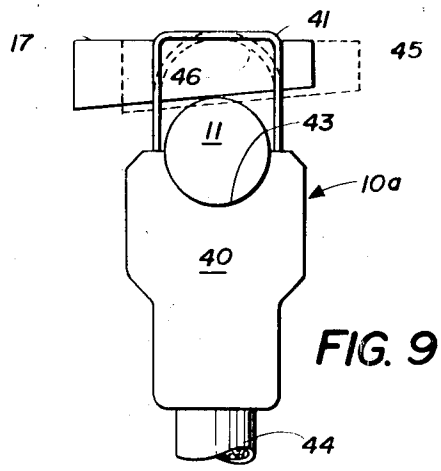


FIG. 9

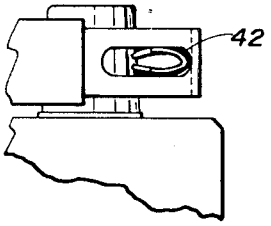


FIG. 10

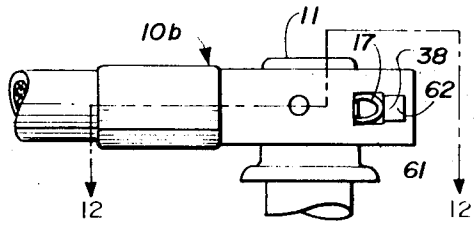


FIG. 11

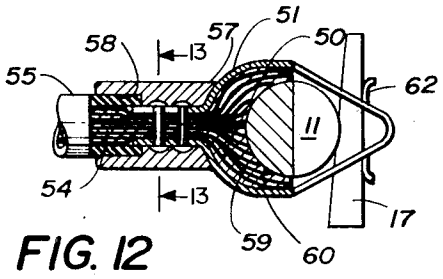


FIG. 12

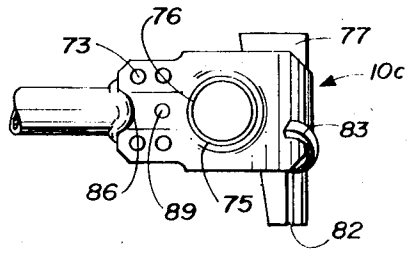


FIG. 17

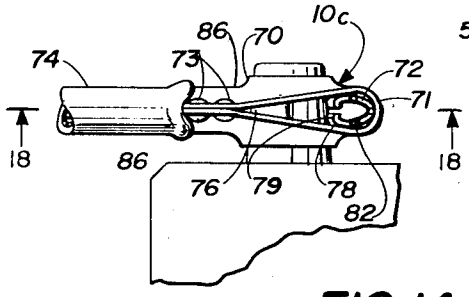


FIG. 14

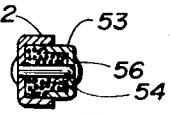


FIG. 13

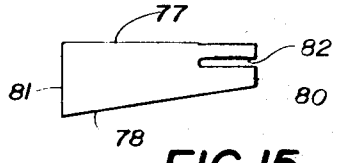


FIG. 15

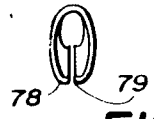


FIG. 16

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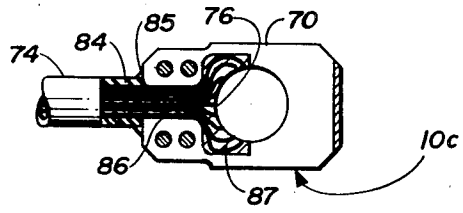
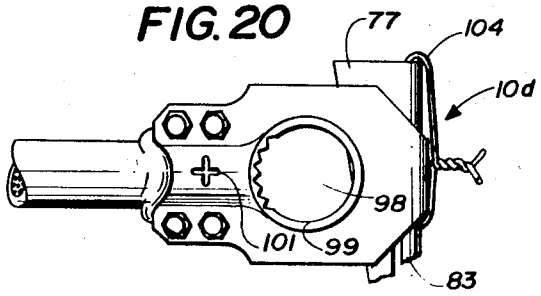


FIG. 18

FIG. 20



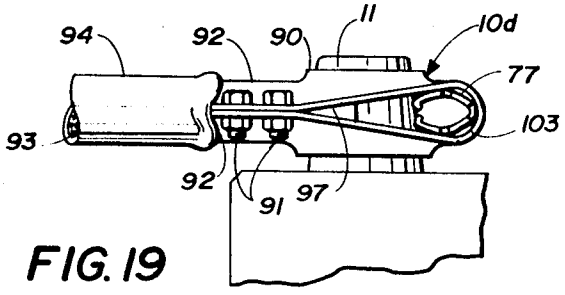


FIG. 19

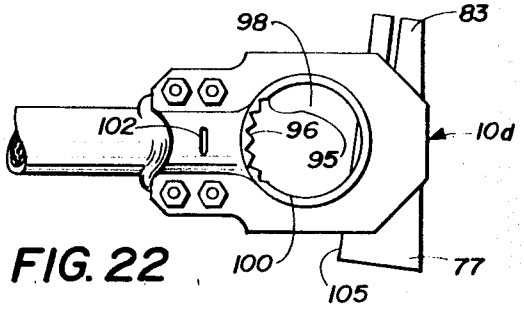


FIG. 22

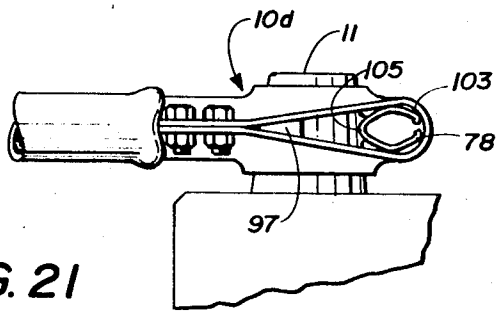


FIG. 21

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BATTERY TERMINAL

This invention relates to battery terminals. In another aspect, this invention relates to a new improved quick connect-disconnect battery terminal. In still a further aspect, this invention relates to a novel noncorrosive quick connect-disconnect battery terminal.

The various problems encountered when designing quick connect-disconnect battery terminals such as used to connect battery posts with cables in vehicles, include the corrosive nature of the storage battery, and the constant vibrational stresses to which the terminal is subjected during operation. Several quick connect battery terminals are known in the art, such as those disclosed in U.S. Pat. No. 1,942,435 and U.S. Pat. No. 1,965,846. In these terminals it has been generally desirable to utilize a wedge member which coacts against a lead battery post retained in a saddle portion of the terminal.

The performance of the above described quick connect-disconnect terminals has been less than satisfactory because the terminal is rather sensitive to heavy duty vibrational forces, and the corrosive atmosphere of the storage battery. More specifically, it has been found that the solid metal wedge will easily vibrate free from engagement with the post. Additionally, the solid metal wedges utilized in these prior art terminals have been generally made of a hardened steel or plated steel which is sensitive to the corrosive acids emitted from the storage battery.

Therefore, there is needed an efficient quick connect-disconnect battery terminal for storage batteries, which when once engaged will not be sensitive to a normal vibrational force imparted thereto from the vehicle, and which is substantially resistant to corrosion in the battery environment.

Accordingly, one object of this invention is to provide a novel battery terminal for storage batteries.

Another object of this invention is to provide a novel quick connect-disconnect battery terminal for storage batteries which is substantially insensitive to the normal vibrational forces encountered in the operation of the vehicles carrying the battery.

Another object of this invention is to provide a battery terminal that can be quickly connected or disconnected without the use of special tools.

A further object of this invention is to provide a quick connect-disconnect battery terminal which fits equally well on a large positive storage battery post or smaller negative storage battery post.

Still a further object of this invention is to provide a very efficient light weight corrosion-resistant battery terminal which is especially adapted for use on aircraft.

According to one embodiment of this invention, a quick connect-disconnect battery terminal is provided which comprises a housing section carrying a post opening adapted to receive a battery post, a saddle means for contacting a circumferential portion of the battery post positioned in said post opening and a self-locking spring wedge which contacts the battery post when engaged and thereby pulls the saddle tightly in place. The self-locking spring wedge slides transversely in guiding means adjacent the post opening, and when contact is made with the battery post, spring tension is activated between the wedge member and the guiding means both normal to the line of contact with the battery post and also in a parallel plane therewith to thereby self-lock the spring wedge within the guiding means.

According to another embodiment of this invention, the guiding means are provided with a spring means which force the wedge against the battery post to provide additional locking action.

According to still another embodiment of this invention, the spring wedge is made of a sheet of resilient material folded into a wedge-shaped spring member comprising a pair of spaced wedge-shaped sides carrying opposed retaining edges. The opposed retaining edges taper inwardly from the leading or narrow edge of the wedge along the length of the wedge to the trailing or wide portion of the wedge to thereby provide a biting section therebetween.

According to a further embodiment of this invention, the saddle means of the said one embodiment carries engaging means which bite into the lead battery post when the self-locking spring is engaged therewith.

According to still a further embodiment of this invention, the saddle means of the said one embodiment is integrally molded with the wires of a battery cable in a manner so that the wires therein are spread and the ends thereof are molded in an exposed relationship substantially radially in an arcuate seat.

According to still another embodiment of this invention, the spring wedge and housing components of the battery terminal are made of a corrosion-resistant material such as titanium.

This invention can be more easily understood from a study of the drawings in which:

FIG. **1** is a perspective view of a preferred battery terminal of this invention connected to a positive battery post;

FIG. **2** is a perspective view of the terminal of FIG. **1** connected to a negative battery post;

FIG. **3** is a bottom plan view partially in section of the battery terminal of FIG. **1** showing the self-locking spring wedge in a disengaged position, and an engaged position (broken line);

FIG. **4** is the back elevational view of the self-locking spring wedge of the battery terminal as illustrated in FIG. **1**;

FIG. **5** is a sectional view along lines **5—5** of FIG. **3**;

FIG. **6** is a sectional view along lines **6—6** of FIG. **3**;

FIG. **7** is a sectional view along lines **7—7** of FIG. **3**;

FIG. **8** is a side elevational view of a battery post with the battery terminal of this invention shown in broken line to illustrate the biting action of the engaging means of the saddle upon the battery post;

FIG. **9** is a top plan view of another preferred battery terminal of this invention with a broken line showing of an engaged position on a battery post;

FIG. **10** is a partial side elevational view, partially in section, of the terminal of FIG. **9**;

FIG. **11** is a side elevational view of another battery terminal of this invention engaged to a battery post;

FIG. **12** is a sectional view along the lines **12—12** of FIG. **11**;

FIG. **13** is a view along lines **13—13** of FIG. **12**;

FIG. **14** is a side elevational view of a preferred battery terminal of this invention connected to a battery post;

FIG. **15** is a top plan view of the self-locking spring wedge illustrated in FIG. **14**;

FIG. **16** is an end view of the self-locking spring wedge illustrated in FIG. **14**;

FIG. **17** is a top plan view of the terminal illustrated in FIG. **14** with a locking prong of the wedge of FIG. **15** in engaged position;

FIG. **18** is a sectional view of the terminal illustrated in FIG. **14** along lines **18—18**;

FIG. **19** is a side elevational view of another preferred battery terminal of this invention;

FIG. **20** is a top plan view of the terminal of FIG. **19** illustrating a practical modification thereof;

FIG. **21** is a side elevational view of the terminal of FIG. **19** with the spring-locking wedge in reverse position;

FIG. **22** is a top plan view of the terminal of FIG. **21**.

Now referring to the drawings, particularly FIGS. **1–8**, the preferred terminal of this invention is illustrated. FIG. **1** illustrates terminal **10** operatively attached to positive battery post **11**, and FIG. **2** illustrates terminal **10** in a reversed position and operatively attached to negative battery post **12**. Terminal **10** generally comprises housing **13** which carries aperture **14** for receiving the small end of the positive post (FIG. **1**) or the large end of the negative post (FIG. **2**), and flanges **13***a* which carry guiding slots **15**. Saddle **16** (FIG. **2**) is contained within housing **13** and is aligned with aperture **14**. Spring wedge **17** is contained within guiding slots **15** and aligned so that its retain-

ing edges 18 make operative contact with the outer portion of the battery post 11 or 12 when engaged.

It is noted that in this preferred embodiment aperture 14 is approximately eleven-sixteenths inch in diameter which is about one thirty-seconds inch larger than the twenty-one thirty-seconds inch top diameter of the positive post, but yet smaller than the twenty-three thirty-seconds inch diameter bottom of the negative post. This will assure proper fit on the conventional battery terminal posts which are frustoconical in shape, the positive post having a three-fourths inch bottom diameter tapering to a twenty-one thirty-seconds inch top diameter, and the negative post having a twenty-three thirty-seconds inch bottom diameter tapering to a five-eighths inch top diameter.

Now referring to FIG. 3, which is a partial sectional view of terminal 10, some construction details of terminal 10 are illustrated. As illustrated, cable 19 is connected to housing 13 of terminal 10 by sheath 20. The ends of the copper wires 21 are spread within housing 13 and integrally molded within saddle 16.

Saddle 16 can be made of a suitable material such as a lead alloy and molded within housing 13. It is noted that rivet members 22 are molded through apertures 23 of housing 13 to thereby securely fasten saddle 16 therewithin. They also provide a shorter path to the spread ends 21 of the copper wire for that part of the electrical current flow through the wedge 17 and flanges 13*a* of housing 13. It is also noted that the end of insulation 25 of cable 19 abuts the very end of housing 13 at points 26.

Referring to FIGS. 4–7, wedge 17 is illustrated in detail. Wedge 17 generally comprises a spring member formed from a trapezoidal-shaped sheet of resilient material folded along a longitudinal axis. Wedge 17 is then inserted within guiding slots 15 and forced therethrough in a manner so that its retaining edges 18 engage a battery post positioned within aperture 14, and force the post against saddle 16. Preferably, the retaining edges 18 are spread at the narrow or leading end 28 of wedge 17 and then converge in a tapering manner as illustrated in FIG. 4 to the wide or trailing end 29 of wedge 17 to form a biting section therebetween. These tapering retaining edges are formed by bending opposed triangular sections 30 inwardly to form the retaining edges which converge from leading end 28 to trailing end 29. The actual positioning of the converging retaining edges is more clearly illustrated with reference to FIGS. 5–7 and FIG. 3. The sectional view of the wedge 17 as illustrated in FIG. 5 shows a divergence of the retaining edges 18 which generally occurs at the apex of triangular sections 30. Retaining edges 18 then converge progressively along the length of triangular sections 30. FIG. 6 illustrates the relative convergence of retaining edges 18 at about the midpoint of triangular section 30, and FIG. 7 illustrates the relative convergence of retaining edges 18 at approximately the base of triangular sections 30.

In operation, the opposed sides of spring wedge 17 are slightly compressed and inserted within guiding slots 15. The spring action of the opposed sides of spring wedge 17 against guiding slots 15 causes the spring wedge 17 to be retained therewithin. As the leading end 28 of spring wedge 17 moves further to the left (FIG. 3) retaining edges 18 will engage the periphery of battery post 11. This action will force the opposite side of battery post 11 firmly against saddle 16. It is noted that the seating section of saddle 16 comprises arcuate areas 31 on either side of and contiguous with smaller diameter arcuate area 32 thereby forming gripping edges 33. The general area of contact 34 of gripping edges 33 on post 11 is indicated in FIG. 8. Spring wedge 17 is then forced within guiding slots 15 and against post 11 until it reaches position 35 as illustrated in broken line in FIG. 3. This wedging action will force battery post 11 into seating engagement with saddle 16, and the general area of contact of gripping edges 33 on post 11 is illustrated by area 36 (FIG. 8). Thus, the soft lead battery post yields to the compressive forces adjacent gripping edges 33 to form a retained area of contact.

As spring wedge 17 is forced against battery post 11 a self-locking action will occur. A primary locking action will occur between fold area 38 and retaining edges 18. Since the opposed sides of spring wedge 17 are made of resilient material, the force between fold area 38 and retaining edges 18 will tend to cause the opposed sides thereof to buckle outwardly at points 39 (FIGS. 1, 2 and 8) within guide members 15 in a secondary locking manner. Thus, the primary locking action is in a plane radial of the battery post 11 and the secondary locking action is in a plane substantially perpendicular to the radius of battery post 11. Additionally, a third locking action will occur between the lead battery post material and retaining edges 18. As wedge 17 is forced to position 35, the converging retaining edges 18 will bite the lead battery material in a wedging-type action. This action will tend to spread opposed retaining edges 18 and thereby cause spring wedge 17 to expand. This action will reenforce the stability of the primary and secondary contacts at areas 38 and 39 and provide a substantial vibration-resistant locking action between the wedge and the battery post.

It is noted that while housing 13 and spring wedge 17 can be made of any corrosion-resistant material which is generally higher in the Galvanic series than lead, for example, bronze, Type 304 or 316 stainless steel, it is preferred that these components be made of titanium. Titanium is substantially noncorrosive in the presence of the acid environment of conventional storage batteries, and is nonsusceptible to stress corrosion.

It is noted that while the action of the converging retaining edges 18 of spring wedge 17 as illustrated in the drawing is preferred, the terminal of this invention is operable with a spring wedge which carries nonconverging retaining edges. For example, it is within the scope of this invention to position retaining edges 18 in substantial by an opposed parallel relationship. This will result in the primary and secondary locking action as discussed above, and in the action of the retaining edges 18 biting in or penetrating the exposed circumference of the battery post.

Now referring to FIGS. 9 and 10, another preferred embodiment of this invention is illustrated. Terminal 10*a* generally comprises a saddle section 40, a resilient strap 41 which carries guiding slots 42 (FIG. 10), and spring wedge 17. Saddle 40 generally comprises an arcuate seating area 43 which is integrally molded to battery cable 44. The connection between the wires of battery cable 44 within saddle 40 can be substantially the same as that illustrated in FIG. 3 for terminal 10. Resilient strap 41 extends in a general U-shape around seating area 43 and can be made of titanium as is wedge 17.

In operation, a battery post such as 11, is placed within the opening between seating area 43 and resilient strap 41. Spring wedge 17 is then actuated by movement to position 45 as illustrated in broken line in FIG. 9. Retaining edges 18 of spring wedge 17 will bite into post 11 as described above, and the action of spring wedge 17 within guiding slots 42 will be substantially the same as the action of spring wedge 17 within guiding slots 15 as explained in relation to terminal 10. However, an additional locking force is supplied by the action of resilient strap 41. As illustrated in FIG. 10, resilient strap 41 will deflect to position 46 as illustrated in broken line. The deflection of strap 41 will provide additional spring locking tension for wedge 17 against battery post 11.

Now referring to FIGS. 11–13, an alternate embodiment of the basic concept as illustrated in FIGS. 9 and 10 is shown whereby additional spring tension other than that afforded by the wedge itself is provided to force retaining edges 18 against the battery post. As shown in FIGS. 11 and 12, terminal 10*b* generally comprises a saddle section 50 molded within strap 51. As illustrated in FIGS. 12 and 13, the ends of strap 51 widen into sections 52 and 53 at the base of saddle section 50. Sections 52 and 53 are bent inwardly so that sections 52 will overlap sections 53 and completely encircle exposed wires 54 of battery cable 55. Rivets 56 are then passed through the sides of resilient strap 51 adjacent infolded and overlapped

sections 52 and 53 to secure strap 51 to battery cable 55. As shown, a lead sheath 57 encircles the connection formed by rivets 56 and strap 51, and a portion of insulation 58 of cable 55.

The ends 59 of wires 54 are spread and integrally molded within saddle section 50 around arcuate seating area 60. This arrangement results in a very heavy duty type terminal which can be subjected to tremendous vibrational forces and current load.

Wedge 17 which is exactly the same wedge as hereinbefore described in relation to the foregoing Figures, passes through guiding slots 61 which are opposed transverse slots located through strap 51.

Additionally, spring members 62 extend outwardly from the outside edges of guiding slots 61 and rest against the folded area 38 of spring wedge 17. Thus, as spring wedge 17 is moved within guiding slots 61 so that retaining edges 18 are inclined to the direction of the movement and wedge against battery post 11, spring members 62 will depress and force retaining edges 18 of spring wedge 17 against post 11. This spring action is similar to the action caused by the deflection of the strap 41 of terminal 10*a* as illustrated in FIG. 9 and will result in additional locking force being applied between the wedge and the post.

Now referring to FIGS 14 through 18, a preferred heavy duty terminal using the self-locking spring wedge of this invention is illustrated. Referring to FIG. 14, terminal 10*c* generally comprises a housing unit 70 formed from a single piece of formed construction metal (titanium) folded at end 71 to form guiding loop 72. The two ends are then folded together and bradded by brad members 73 around the conductive wires of cable 74. As illustrated in FIG. 17, aperture 75 extends through housing 70 for receiving a battery post, and seating area 76 is adapted to seat flush with a battery post when wedging action is applied by spring wedge 77.

Referring to FIGS. 14–17, wedge 77 is very similar to wedge 17 in that it generally comprises a spring member formed from a trapezoidal-shaped sheet of resilient material folded along a longitudinal axis. However, engaging edges 78 comprise rounded sections formed by inturning the ends 79 of wedge 77. It is noted that the distance between opposed retaining edges 78 on leading end 80 of wedge 77 are wider than the distance between retaining edges 78 on trailing end 81 of wedge 77, and the distance therebetween slightly converges in a manner similar to that illustrated in FIG. 4 for wedge 17.

The result of rounding retaining edges 78 as described will lessen the degree of penetration of retaining edges 78 into the lead battery post as contrasted to the degree of penetration of retaining edges 18 which will result in utilizing spring wedge 17. However, there will be a slight depression of the lead post material by retaining edges 78. Because the penetration will be slighter, terminal 10*c* is readily adaptable to situations wherein battery interchanging occurs frequently.

It is also noted that slots 82 are positioned longitudinally along spring wedge 77 adjacent leading end 80 thereof. These slots 82 will result in the formation of prongs 83 which can be bent outwardly to further lock wedge 77 in operative position within guiding loop 72 as illustrated in FIG. 14.

Now referring to FIGS. 14, 17 and 18, the general construction of terminal 10*c* is illustrated in detail. As shown in FIG. 18, the insulation 84 of cable 74 is cut adjacent the overlapped ends of housing unit 70 and conductive wires 85 are positioned within matching semicylindrical indentations 86 carried by housing unit 70. The end of wires 85 are molded within a saddle section 87 which can be of a suitable material such as a tin-lead solder (30 percent tin, and 70 percent lead) in a manner so that the ends of wires 85 communicate with the surface of arcuate seating area 76 of saddle 87. It is noted that added coupling strength between housing 70 and cable 74 is provided by indentations 89 (FIG. 17) which protrude inwardly from the outwardly projecting semicylindrical indentations 86. Thus, when brads 73 are engaged to hold the two semicylindrical indentations 86 in operative relationship around wires 85, indentations 89 will exert inward compressive force against wires 85 and hold them in a locking relationship.

It is preferred that housing unit 70 and spring wedge 77 of terminal 10*c* be made of titanium in that titanium is not only corrosive-resistant to conventional battery acids such as sulfuric acid, but it has high resilient strength. Additionally, since copper sulfate is a corrosion protection agent for titanium, it has been found that by exposing the wires 85 in the integrally molded arcuate seating area 76 as discussed in reference to FIG. 18, any copper sulfate formed by coaction between the copper wire and sulfuric acid from the battery will immediately coat the titanium as a protective coating to prevent any further corrosion of the titanium. Thus, terminal 10*c* finds particular utility in situations wherein there is substantial battery changing, and in situations where the presence of corrosive gases is severe.

Now referring to FIGS. 19–22, an embodiment of the previously described terminal 10*c* is illustrated as 10*d*. Referring particularly to FIG. 19, housing 90 of terminal 10*d* is substantially the same as housing 70 of terminal 10*c* (FIG. 14) as previously described. However, instead of brads 73 (FIG. 14), nut and bolt assemblies 91 are positioned through housing 90 adjacent semicylindrical indentations 92 for holding wires 93 of cable 94 therebetween. Additionally, referring to FIGS. 20 and 22, seating area 95 includes serrations 96. Saddle 97 (FIG. 19) extends from about 140° to about 150° around the inside of post opening 98. The arc-shaped seating area 95 contains serrations 96 only from about 90° to about 120° around saddle 97 to insure positive release of post 11 after wedge 77 is disengaged.

Saddle 97 is made integral with either the top or the bottom portion of housing 90, and is adapted to abut the ends of wires 93 which are clamped between semicylindrical indentations 92. Additionally, aperture 99 (FIG. 20) is shown smaller than aperture 100 (FIG 22). This sizing arrangement will allow apertures 99 and 100 to receive the bottom of the negative and positive post, respectively. Indentations 101 (FIG. 20) and 102 (FIG. 22) which extend inwardly from the semicylindrical indentations 92 not only mark the terminal for receiving positive and negative battery posts, respectively, but also function as retaining members to hold wires 93 securely within semicylindrical indentations 92 in a similar manner that indentations 89 function in relation to coupling 10*c* (FIG. 17). Saddle 97 can be formed in exactly the same manner as saddle 87 was formed for terminal 10*c* except that the ends of the wires are bound together as a cylindrical unit and not spread as illustrated at character 87 in FIG. 19 before serrations 96 (FIGS. 20 and 21) are cut by suitable stamping operation. After the serrations have been cut, it is preferred that the wire ends of the cylindrical unit be fixed together, such as by soldering or silver plating operations, to insure maximum conductivity and corrosion resistance.

Thus, coupling 10*d* can be utilized on custom-made cables very readily by the clamping of an exposed wire end of the cable within semicylindrical indentations 92 by the action of nut and bolt assemblies 91. Additionally, serrations 96 provide for heavy duty operation, but yet quick release when wedge 77 is disengaged. Also, FIG. 20 illustrates an expedient means which can be utilized to lock spring wedge 77 within guiding loop 103 if the prongs 83 have all been broken due to repeated flexing. As shown, the wire 104 is positioned through wedge 77 and around guiding loop 103 and twisted to fixedly engage wedge 77 through guiding loop 103 under the most extreme conditions of vibration.

FIGS. 21 and 22 show alternative placement of spring wedge 77. Spring wedge 77 is inserted backwards so that the folded area 105 will serve as a retaining edge against post 11. This arrangement is particularly suitable for situations when frequent interchange of the batteries for charging and the like is required, because folded area 105 will cause less wear upon the edge of post 11 than the action of retaining edges 78. In addition, folded area 105 will extend farther into post opening

98 and provides a tight fit if an old battery post should be worn undersize from repeated scraping and cleaning.

While this invention has been described in relation to its preferred embodiments, it is understood that various modifications can be made by one skilled in the art upon reading the specification and it is intended to cover such modifications as fall within the scope of the appended claims.

I claim:

1. A terminal device for connecting a battery cable to a terminal post of a storage battery comprising:

a. a body housing carrying a post opening for receiving said battery post, means for connecting said cable to said body housing, a seating means for said post operatively positioned in said post opening, and guiding members for confining movement of a spring retaining wedge transversely of said post opening opposite said seating means; and

b. a spring retaining wedge having a leading narrowed end and a widened trailing end being made from a sheet of resilient material bent to form opposed side members which carry opposed retaining edges for engagement with said post which are inclined to the direction of movement of said spring wedge within said guiding members, and wherein the opposed retaining edges on said leading end are spaced wider apart than the opposed retaining edges of said trailing end and wherein the retaining edges on the body of said wedge between said ends taper therebetween so that when contact is made between said retaining edges and a battery post, said spring retaining wedge will expand in said guiding members.

2. The terminal of claim 1 wherein said guiding means comprise a pair of opposed transverse slot members positioned on a resilient band integral with and partially encircling said seating means.

3. The terminal of claim 1 further comprising spring means positioned adjacent said guiding means to contact said wedge and force it in the direction of said post opening.

4. The terminal of claim 1 further comprising serrations extending from said seat for contacting and deforming said battery post when it is forced thereon by said spring wedge.

5. The terminal of claim 1 further comprising at least one longitudinal slot extending from said leading end of said spring wedge to thereby form at least one bendable prong.

6. The terminal of claim 1 wherein said retaining edges comprise slightly rounded sections formed by inturning the ends of said resilient sheet material.

7. The terminal of claim 1 wherein said housing and said spring wedge are made of a substantially noncorrosive metal.

8. The terminal of claim 7 wherein said metal is titanium.

9. The terminal of claim 1 wherein said seating means comprises a molded conductive metal body having the ends of the conductive wires of said battery cable integrally molded therein, and an arcuate seating area for seating said battery post.

10. The terminal of claim 9 wherein said arcuate seating area extends from about 140° to about 150° around said post opening.

11. The terminal of claim 9 wherein said conductive wires are spread in said molded body so that the ends thereof communicate substantially radially with said arcuate seating area.

12. The terminal of claim 9 further comprising serrations for engaging said battery post extending from said arcuate seating area.

13. The terminal of claim 12 wherein serrations are positioned from about 90° to about 120° around said arcuate seating area.

14. The terminal of claim 9 wherein the ends of said conductive wires of said battery cable are initially molded into said seating means as a cylindrical unit communicating with said arcuate seating area, and said serrations are cut through said arcuate seating area and the end of said cylindrical unit.

15. The terminal of claim 14 further comprising a silver plating on the exposed ends of said conductive wires in said cylindrical unit communicating through said arcuate seating area.

16. The terminal of claim 1 wherein said housing means comprises a sheet of metal transversely folded to form said guiding members at one end thereof and opposed end portions at the other end thereof carrying matching semicylindrical indentations for receiving a battery cable, a battery post aperture extending through the mid portion thereof, and means for fastening said opposed ends together.

17. The terminal of claim 16 further comprising inwardly directed indentations in said semicylindrical indentations for compressing said battery cable therebetween.

18. A terminal device for connecting a battery cable to a terminal post of a storage battery comprising:

a. a body housing made from a sheet of metal transversely folded to form a wedge guiding loop at one end thereof and opposed end portions at the other end thereof carrying semicylindrical indentations for receiving a battery cable, means for fastening said opposed ends together, a battery post aperture extending through the midportion thereof, and a post seating means aligned in said aperture in opposed relationship to said wedge guiding loop; and

b. a spring retaining wedge positioned within said guiding loop comprising a wedge having having a leading narrowed end and a widened trailing end and being made from a sheet of resilient material bent to form opposed side members which carry opposed retaining edges for engagement with said post which are inclined to the direction of movement of said spring wedge within said guiding loop for wedging action against said post, portions of said opposed side members being biased outwardly so that engagement of said wedge between said post and said guiding loop during said movement causes expansion of said wedge in locking relationship within said guiding loop.

19. A terminal device for connecting a battery cable to a terminal post of a storage battery comprising:

a titanium body having a post receiving port therethrough to secure to one end of the battery cable, and wedging means made of titanium for retaining a battery post within said post receiving port, said body and wedging means carrying a protective coating of a metal sulfate thereon.

20. The terminal device of claim 19 wherein said metal sulfate is copper sulfate.