United States Patent

[11] 3,625,774

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[54] **BATTERY-MOUNTED RECEPTACLE MEANS**
5 Claims, 9 Drawing Figs.

[52] **U.S. Cl.** **136/181,** 136/135, 339/92, 339/152, 339/159, 339/202
[51] **Int. Cl.** **H01m 1/00,** H01r 11/00
[50] **Field of Search** 136/108, 109, 135, 181; 339/152, 119, 159, 154, 156, 92

[56] **References Cited**
UNITED STATES PATENTS

2,245,099	6/1941	Wheat	136/135
2,205,878	6/1940	Eby	136/135
2,654,074	9/1953	Lancelot	339/92
1,215,004	2/1917	Decker	136/135
1,378,952	5/1921	Hawthorne	136/108

Primary Examiner—Donald L. Walton
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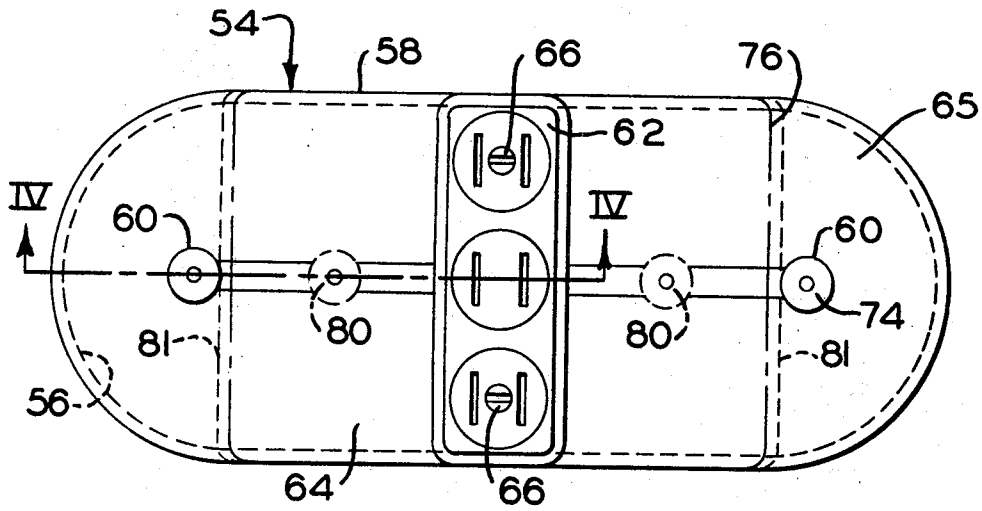
ABSTRACT: I disclose a receptacle arrangement for mounting on a battery, said arrangement comprising an insulating support, receptacle means mounted on said support, conductors mounted on said support and electrically connected to said receptacle means, said conductors being disposed for electrical engagement with terminals respectively of said battery, and cooperating means on said support and on said battery terminals for securing said support to said terminals at a position of electrical engagement of said conductors with said terminals respectively.



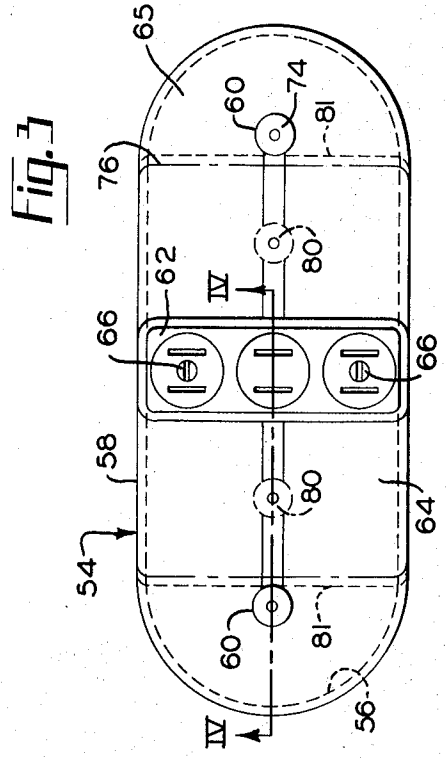


Fig. 3

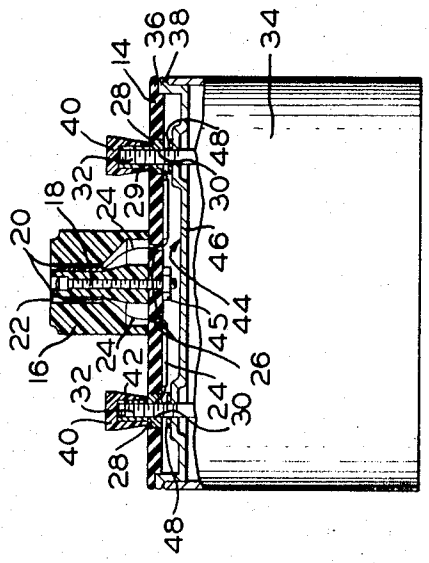


Fig. 2

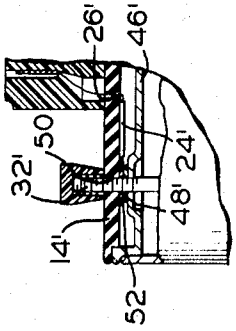


Fig. 2A

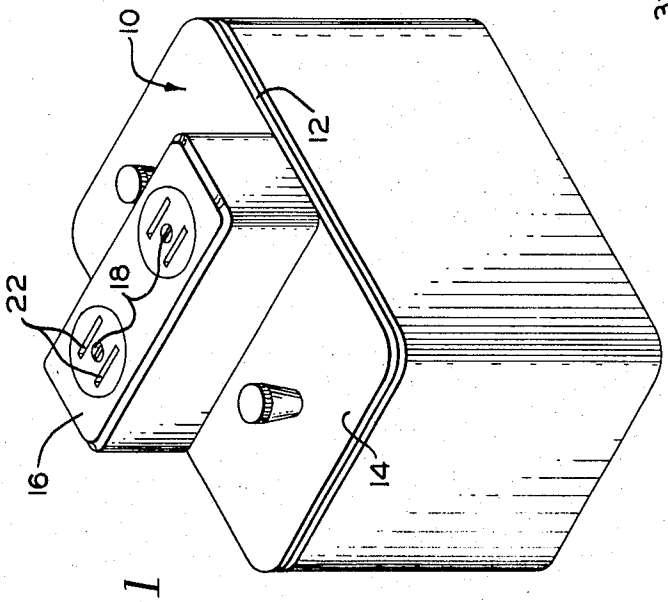


Fig. 1

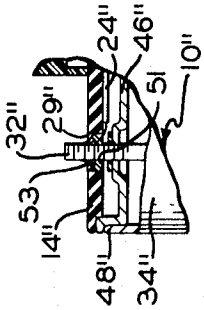


Fig. 2B

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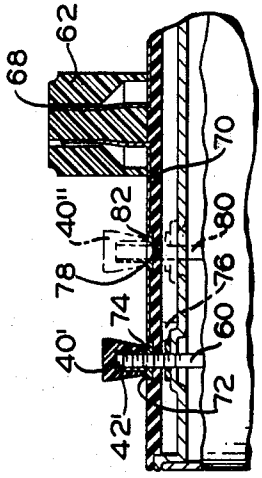

Fig. 4

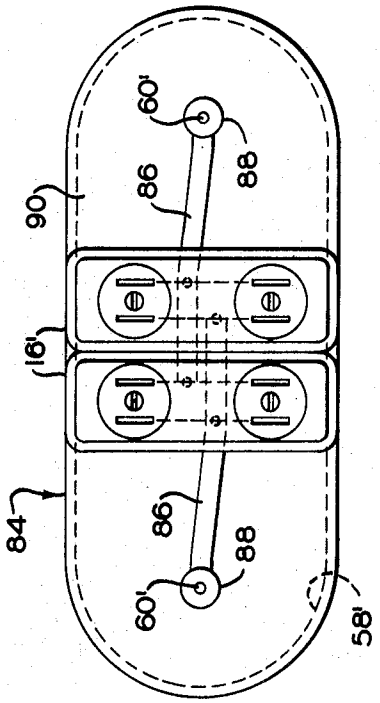

Fig. 5

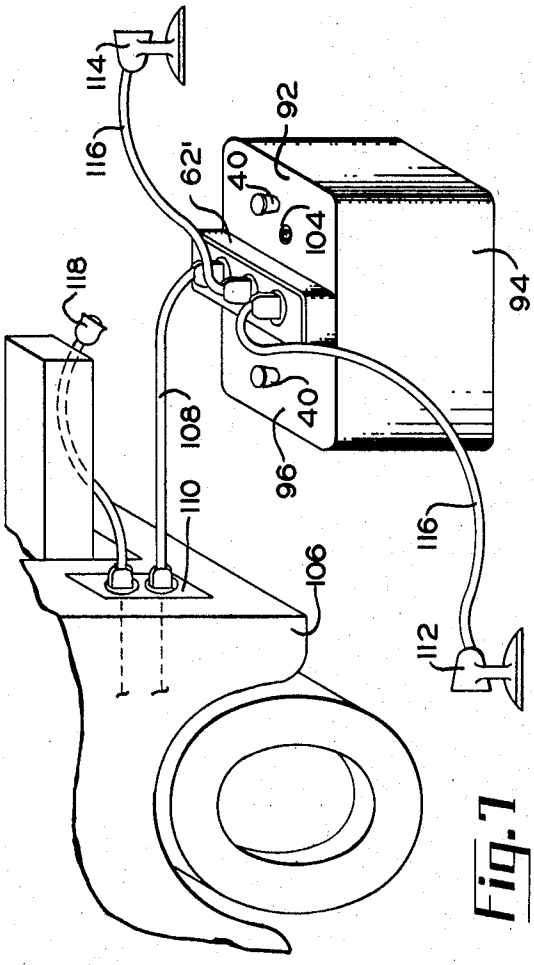

Fig. 7

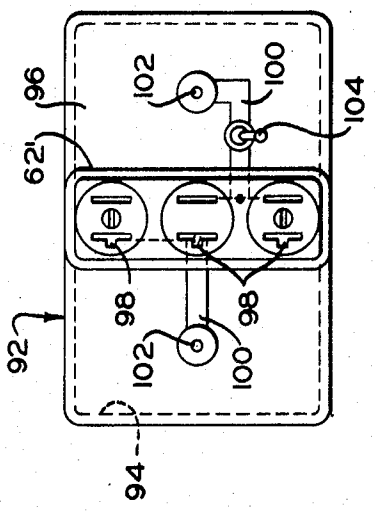

Fig. 6

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BATTERY-MOUNTED RECEPTACLE MEANS

The present invention relates to a receptacle arrangement which can be quickly and securely mounted on a battery casing to facilitate utilization thereof, and more particularly to a receptacle arrangement of the character described which can be readily removed from the battery casing for battery replacement purposes.

Although the battery-mounted receptacle arrangement of the invention is illustrated and described in connection with particular types of 6-volt and 12-volt batteries, it will be apparent that the arrangement can be readily modified, within the teachings of the invention, for other types, styles, and sizes of batteries.

Various types of receptacles for installation on a battery or a number of batteries have been known for many years, for example, the U.S. Pat. to Kammerhoff No. 1,266,814. Battery receptacles of this type, however, require excessive hardware both for mounting and securing the receptacle arrangement on the battery and for establishing electrical contact between the receptacles and the battery terminal. Moreover, these and other types of battery receptacles, for example, those disclosed in the U.S. Pat. Nos. to Koch 1,983,037, Hautala 2,582,330, Hall 3,007027 and Knight 3,177,463 require specialized receptacle constructions and specialized plug connectors which are not readily available. In many cases, such as in the battery receptacles of U.S. Pat. Nos. 3,177,463 (supra) and 1,983,037 (supra) the receptacle arrangements are not readily removable from the battery and must be discarded when the batteries are worn out.

Other battery receptacle arrangements of known construction utilize receptacle contacts which are unshielded, and care must be taken that they do not undesirably contact an electrically conducting component, when in use. This frequently necessitates the provision of an electrically insulating shield or suitably spacing the socket from the conducting parts with which it is to be associated. The provision of such shield involves additional complexity and manufacturing difficulty, while spacing the socket from adjacent conductive components undesirably increases the bulk of the receptacle and battery combination.

In many of these prior receptacle arrangements, it is necessary to modify the casing or other structure of the battery. In the present-day standardization of various battery sizes, this is highly undesirable from a manufacturing point of view. Such modification, moreover, increases the bulk or complexity of the batteries in the first instance and usually complicates and increases the size of the receptacle arrangement.

In other cases such as in U.S. Pat. No. 3,177,463 (supra) the receptacle arrangement is configures such that portions of the receptacle must extend into a cavity defined by a number of batteries. That is to say, the last-mentioned receptacle arrangement can only be used with a group of batteries, without exposing the receptacle contacts.

In the foregoing references and in other receptacle arrangement, the battery terminals usually are completely enclosed which renders recharging of the battery difficult, in those cases where the battery is of the rechargeable variety. Of course, prior receptacle and battery combination can be recharged through the receptacle itself, but as noted previously, specialized plug connectors are required, instead of the usual alligator clamps furnished with conventional battery-recharging apparatus.

In general, no prior receptacle and battery arrangement is assembled solely through the use of the battery terminal means. Instead, complicated and excessive hardware is employed in making known battery and receptacle assemblies. The battery terminals therefore are not accessible for direct connection by external circuit components. This complicates the aforementioned battery-recharging operation when used.

I overcome these deficiencies of the prior art by providing a receptacle and battery assembly, in which the components are assembled primarily through use of the battery terminals usually provided with the battery. The manufacture of the

receptacle arrangement is considerably simplified in the first instance, and only minimal labor is entailed in completing the receptacle and battery assembly. Further, the receptacle arrangement can be readily removed from the battery for replacement or recharging purposes as desired. On the other hand, the battery terminals remain accessible after assembly of the receptacle and battery combination for connection to external circuitry, for example in a battery-recharging operation with the receptacle arrangement remaining attached to the battery.

My novel receptacle and battery arrangement can be assembled without exposure of electrical contacts, without modifying the conventional battery, and without unduly increasing the bulk of the battery. More particularly, my novel receptacle arrangement is adaptable for mounting on a variety of conventional battery sizes and shapes, and moreover, utilizes conventional receptacle structures, which in turn can be engaged by conventional plugs and appliance cords. On the other hand, both the plug and receptacle structure can be modified in a minor manner to prevent a low-voltage appliance used with my novel receptacle and battery combination from being inadvertently plugged into a high-voltage or line voltage outlet.

My invention further contemplates a receptacle arrangement on which one or more duplex or triplex receptacle structures can be mounted in engagement with contact means forming part of the receptacle arrangement and capable of quick-attach assembly to the battery terminals. My receptacle and battery arrangement is admirably suited for emergency lighting sources, and when provided with a 12-volt battery is readily adaptable for use with most vehicular emergency lighting systems or other emergency lighting systems employing a source of similar voltage.

In a specific applicative embodiments, for example for use with certain vehicular electric systems, I additionally provide means forming part of the receptacle arrangement for quick-disconnecting the receptacle arrangement from the attached battery to permit energization only from the vehicle battery during that time in which the vehicle ignition battery contains adequate potential. Thereafter, warning lights or other appliances can be energized directly from the attached emergency battery by the barest minimum of circuit manipulation.

As an example of the last-described application, my invention can be utilized with the electrical system of my copending application entitled Safety Lighting System for Vehicles, filed Mar. 20, 1969, Ser. No. 808,794 now abandoned.

I accomplish these desirable results by providing a receptacle arrangement for mounting on a battery, said arrangement comprising an insulating support, receptacle means mounted on said support, conductors mounted on said support and electrically connected to said receptacle means, said conductors being disposed for electrical engagement with terminals respectively of said battery, and cooperating means on said support and on said battery terminals for securing said support to said terminals at a position of electrical engagement of said conductors with said terminals respectively.

I also desirably provide a similar receptacle arrangement wherein said conductors are embedded in said insulating support.

I also desirably provide a similar receptacle arrangement wherein said cooperating means include conductive members disposed to engage said battery terminals respectively upon mounting said insulating support thereon, and said conductors are secured to said conductive members respectively in electrical contact therewith.

I also desirably provide a similar receptacle arrangement wherein said conductive members protrude through an upper surface of said insulating support for engagement respectively with conductive portions of said cooperating means, said conductive portions being shaped for engagement with said terminals respectively for electrically connecting said conductive members to said terminals.

I also desirably provide a similar receptacle arrangement wherein said receptacle means are arranged to accommodate

at least three electrical plugs, means for electrically connecting said conductors in parallel respectively to related contacts of said receptacle means, one of said electrical plugs being connected to an external source of electrical potential, the remaining plugs being connected to electrical appliances, said battery being capable of supplying a similar potential, and quick-disconnect means for connecting at least one of said conductors to the associated battery terminal so that said battery can be electrically connected to said receptacle means for emergency purposes in the event of failure of said external source.

During the foregoing discussion, various objects, features and advantages of the invention have been set forth. These and other objects, features and advantages of the invention together with structural details thereof will be elaborated upon during the forthcoming description of certain presently preferred embodiments of the invention and presently preferred methods of practicing the same.

In the accompanying drawings I have shown certain presently preferred embodiments of the invention and have illustrated certain presently preferred methods of practicing the same, wherein:

FIG. 1 is an isometric view of one form of receptacle arrangement shown in its mounted position on a battery;

FIG. 2 is a vertically sectioned view of the apparatus as shown in FIG. 1 and taken along reference line II—II thereof;

FIG. 2A is a partial view generally similar to the related portion of FIG. 2 but illustrating a conductor modification in accordance with my invention;

FIG. 2B is a similar view of a modified form of securance means for assembling my novel receptacle and battery combination;

FIG. 3 is a top plan view of another form of my novel receptacle arrangement adapted here for use with differing sizes of batteries;

FIG. 4 is a partial cross-sectional view of the apparatus as shown in FIG. 3 and taken along reference line IV—IV thereof:

FIG. 5 is a top plan view of still another modification of my receptacle arrangement;

FIG. 6 is a similar view of a further modification of my receptacle arrangement; and

FIG. 7 is an elevational view illustrating an exemplary application of my receptacle and battery combination.

With particular reference to FIGS. 1 and 2 of the drawings, my receptacle and battery combination 10 includes a terminal-mounted receptacle arrangement 12 formulated in this example from an insulating support in the form of a plate 14 having a duplex receptacle 16 or the like mounted thereon. The receptacle 16 can be secured to the insulating support 14 by a pair of mounting bolts 18, and desirably is otherwise of conventional construction. In this arrangement, contact blades 20 in plug openings 22 of the receptacle 16 are electrically connected to conductors 24 extended, in this example, from the receptacle casing through the insulating plate 14 and thence along the underside thereof to the battery terminal means. The conductors 24 are secured to the insulating plate 14 by passage through closely fitted apertures 26 therein and by their securance to the conductive members 24 described below.

Alternatively, as described below in connection with FIG. 4, the conductors can be embedded in the insulating plate 14, in printed-circuit fashion or otherwise, in order to mount the conductors on the insulating plate.

The outer ends of the conductors 24 are soldered, brazed, or otherwise joined to a pair of conductive members or ringlets 28 (FIG. 2) embedded at apertures 29 therefor in the insulating plate 14. The ringlets 28 are so located on the plate 14 and are provided with internal apertures 30 which are alignable respectively with battery posts 32.

The plate 14 is mounted on battery 34 by inserting the battery post 32 through the ringlet apertures 30 until the outer periphery 36 of the insulating plate engages a battery casing flange or lip 38 surrounding the terminal area of the battery. As the threaded battery posts 32 project through the insulating plate 14, the receptacle arrangement 12 can be secured to the battery 34 by a pair of thumb nuts 40. Other cooperating securing means (e.g. as shown in FIG. 2B) can be mounted on the support 14 and on the battery terminals 32 for securing and electrically connecting the support to the terminal.

The thumb nuts 40 conventionally include a conductive metallic insert 42 (FIG. 2) which both threadedly engages the associated battery post 32 and beamingly engages the surrounding conductive ringlet 28 of the insulating support 14. An electrical conductive path is thereby established from each battery post 32 through the associated conductor 24 to the associated receptacle contact 20. The thumb nuts 40, therefore, both retain the receptacle arrangement 12 on the battery 34 and establish electrical contact between the electrical components of the receptacle arrangement 12 and the battery posts 32.

Desirably, the periphery 36 of the insulator plate 14 is configured similarly to the plan area of the battery 34, such that the insulating plate 14 does not extend appreciably beyond the casing lip or flange 38. Similarly, the receptacle 16 does not extend a significant distance above the thumb nuts 40 (FIG. 2). In consequence the receptacle arrangement 12 does not add appreciably to the initial bulk of the battery 34.

The battery 34 may be of the conventional type having a dished top surface 44 to accommodate common mounting hardware, such as the screws 18 and nuts 45 for the receptacle 16. The dished surface 44 also permits the receptacle conductors 24 to be passed along the undersurface of the insulating plate 14 without any possibility of contacting the battery casing 46. If desired, insulating washers or spacers 48 can be inserted over the battery posts 32 to bridge substantially the gap between the casing 46 and the insulating plate 14 in those areas respectively adjacent the battery posts 32. When thumb nuts 40 are tightened upon the battery posts 32, little or no bending forces can be applied to the insulating plate 14.

As apparent from the foregoing and from FIGS. 1–2, the receptacle arrangement 14 can be readily installed on and removed from the battery 34. Thus the battery 34 can be replaced without discarding the receptacle arrangement 12. Similarly, the receptacle arrangement 12 can be readily removed for battery-recharging purposes or for some other, independent use of the battery 34, as desired. Alternatively, the battery 34, if of the rechargeable variety, can be recharged simply by removing the thumb nuts 40 and attaching alligator clamps or similar connectors directly to the protruding ends of the battery posts 32. As a further alternative, the thumb nuts 40 can be removed and eyeletted conductors (not shown) for external circuit means (not shown) can be slipped over the protruding battery post 32 and the thumbscrews replaced to operate an external circuit in parallel with the load device plugged into the receptacle 16.

An alternative conductor arrangement is illustrated in FIG. 2A. The eyelets 30 of FIG. 2 are omitted and the insulating plate 14′ is apertured at 50 for close-fitting insertion of the battery terminals 32′. The receptacle conductors 24′ are bent or eyeletted at 52 as the case may be for close-fitting insertion over the battery posts 32′. The eyelets 52 and conductors 24′ are disposed such that the battery terminals are inserted respectively therethrough upon their substantially simultaneous insertion through the support apertures 50. Insulators 48′ isolate the conductors 24′ from the battery casing 46′. If desired, the conductors 24′ and eyelets 52 can be shellacked or otherwise adhered to the undersurface of the insulating plate 14′ to maintain a proper alignment of the eyelets with the support apertures. Alternatively, the conductors 24′, particularly, if separately insulated, can be maintained in their proper positions by their passage through the insulating plate apertures 26′ and by securance of their eyeletted portions 52 to the battery posts 32′.

A modified form of securance means for assembling my receptacle and battery combination 10″ is shown in FIG. 2B.

In the latter arrangement the conductors 24'' are each connected to a modified conductive member or ringlet 51 securely positioned in the insulating plates apertures 30'' after the manner of ringlets 28 in FIG. 2. In the instant modification, however, each of the conductive members 51 is provided with means for frictionally engaging the battery posts or terminals 32'' respectively. Such frictional means not only retains the insulating plate or support 14'' on the battery 34'', but simultaneously establishes a reliable electrical contact between the battery terminals 32–, the conductive members 51 and the receptacle conductors 24'' secured thereto. One form of such frictional means includes a number of spring arms 53 which can be formed integrally with the conductive member or ringlet 51, for example by lancing or stamping therefrom. Retention of the engagement between the spring arms 53 and the battery posts 32'' is aided by the fact that the battery posts are threaded in most cases. The conductive ringlets 51 can be fabricated from a suitable, resilient structural material such as brass or bronze with requisite electrical conductivity.

FIGS. 3 and 4 of the drawings illustrate another feature of the invention involving an adaptation of a single receptacle arrangement 54 to accommodate various battery sizes. In an exemplary application, the receptacle arrangement 54 is shaped to overlie lip or flange 56 at the top of battery 58. In this example, the battery 58 is of the 12-volt variety having terminals 60. A triplex receptacle 62 or the like is secured to the insulating plate 64 by means of mounting screws 66. Naturally, a duplex receptacle such as that shown in the preceding figures can be substituted. The insulating plate or support 64 is shaped to seat flushly around the battery top flange or lip 56 to preserve the compact nature of the receptacle and battery combination. As better shown in FIG. 4, the receptacle 62 is provided with contacts 68 connected to conductors 70. The conductors 70 can be embedded, in this example, on the top surface of the insulating plate 64, as by printed circuit or similar techniques.

The insulating support or plate 64 is provided with a pair of apertures 72 through which the battery posts 60 respectively protrude when the receptacle arrangement 54 is mounted on the battery 58. Each conductor 70 terminates in an annular member 74 surrounding the associated insulating plate aperture 72. The conductors 70 are secured to the annular conductive member 74 by soldering or brazing or by fabricating the annular member 74 and the conductors 70 integrally. The annular members 74, likewise are recessed or embedded in the top surface of the insulating plate 64. As shown in FIG. 4, tapped metal inserts 42' of the thumb nuts 40' engage both the annular conductive members 74 and the battery posts 60 for reliable electrical contact. Alternatively, the conductors 70 and annular members 74 can be embedded or otherwise disposed on the underside of the insulating plate 64. As a further alternative, the thumb nuts can be omitted in favor of the quick-attach ringlets 51 of FIG. 2B.

In order to adapt the receptacle arrangement 54 to a different size battery, for example a 6-volt battery denoted by chain outline 76 thereof, a second pair of insulating plate apertures 78 are suitably spaced therein to accommodate terminal posts 80 of the different size battery 76. The auxiliary insulating plate apertures 78 likewise are surrounded, in this example, by embedded annular conductor members 82 which are electrically connected to the adjacent portions of the conductors 70. Here again, the annular conductor members 82 can be formed integrally with the balance of the conductors 70 after the manner of FIG. 2A.

As shown in FIGS. 3, the outer end portions 65 of the insulating plate 64 can, if desired, be broken off when the insulating plate is utilized with the smaller sized battery 76. In furtherance of this purpose, a row of perforations 81, or other preferentially weakening means, can be formed in the insulating support or plate 64 in conformance with each end of the smaller batter 76.

In the battery and receptacle combination of FIGS. 3 and 4, the contacts 68 of the receptacle 62 are electrically connected to the battery posts 60 or 80 irrespective of whether the receptacle arrangement 54 is mounted on the battery 58 by protruding its terminals 60 through the insulating support 64 securing with thumb nuts 40', or on the different size battery 76 by protruding its terminals 80 through the support 64 and securing with thumb nuts 40'' (FIG. 4).

In FIG. 5, another form of my novel receptacle arrangement 84 is shown with modified receptacle structures. In this modification, a pair of duplex receptacles 16' are connected in parallel to posts 60' of battery 58' by means of eyeletted conductors 86. Eyelet portions 88 of the conductors 86 surround suitably placed apertures in insulating plate or support 90 through which the battery terminals 60' project for securance of the insulating receptacle plate 90, for example by means of the thumb nuts shown in the preceding figures. Although the conductors 86 and annular conductive members 88 are shown as supported on the top insulating plate surface, these conductive members can be formed in accordance either with FIGS. 2, 2A, 2B, or 4 of the drawings.

Each conductor 86 is electrically connected, as shown in FIG. 5, to an associated pair of receptacle contacts of each duplex receptacle 16'. Alternatively, two or more triplex receptacles, such as the receptacles 62 in FIG. 3, can be substituted. Similarly one or more single-type receptacles (not shown) can be substituted for the illustrated duplex or triplex receptacles.

In FIG. 6, receptacle arrangement 92 mounted on battery 94 includes insulating plate 96 shaped similarly to that shown in FIGS. 1–2. A triplex receptacle 62' or the like is mounted on the insulating plate 96. The receptacle 62' is similar to that shown in FIG. 3 except that at least one opening of each receptacle can be keyed at 98 to accept a similarly keyed appliance plug (not shown 7. Thus, an appliance adapted for relatively low battery voltage cannot be plugged into a house wiring circuit or other high-voltage circuit that may use similar receptacles. The receptacle 62' is connected to insulating plate conductors 100 which in turn are connected to battery posts 102 protruding through aperture means in the insulating support or plate 96. The several components of the receptacle arrangement 92 can be assembled and secured to the battery 94 in accord with the teachings of any of the preceding figures.

FIG. 6 illustrated a further feature of my invention in that a single-pole, single throw switch means such as toggle switch 104 can be connected in one of the conductors 100. This provides energization and deenergization of external electric appliances, such as the light fixtures shown in FIG. 7, without withdrawing the appliance plugs from the receptacle 62'. It is also contemplated that a similar function can be provided by any of the other receptacle arrangements illustrated herein by removing one of the thumbscrews 40 or other securance means and springing the adjacent end portion of the insulating plate sufficiently upward to withdraw the associated battery post. The insulating plate then can be angularly displaced about the other battery post whereupon the undersurface of the insulator plate will rest upon the withdrawn battery post at a point removed from the adjacent receptacle conductor.

My novel receptacle and battery combinations as shown herein and their reasonable equivalents are useful in a wide variety of applications, particularly those wherein it is desired to energize two or more electric light fixtures or other appliances from a single battery.

The receptacle and battery combinations are also useful in connection with emergency and/or warning lighting systems, for example that illustrated in FIG. 7. Although the FIG. 7 organization utilizes the receptacle arrangement of FIG. 6, it will be understood that others of my illustrated receptacle arrangements can be so used, depending upon the number of plug outlets desired. In the arrangement of FIG. 7, the triplex receptacle 62' is connected to the electrical system of vehicle 106, through cord 108. The vehicle 106 can be provided with my novel warning light system as described and claimed in my aforementioned copending application. In such case, the ex-

tension cord **108** is doubly plug-ended for contacting both the receptacle **62'** and the vehicle outlet receptacle **110**, which is in turn connected to the vehicle electric system as set forth in my aforementioned application.

Assuming the vehicle **106** to be stalled or otherwise parked along a roadway for repair work or the like, a pair of light fixtures **112, 114** can be electrically connected to the triplex receptacles **62'** by means of their conventional plug-ended appliance cords. **116**. The light fixtures **112, 114** can be directed forwardly and rearwardly of the vehicle **106** along the roadway for warning oncoming traffic under nighttime conditions. Alternatively, one or both of the light fixtures **112, 114** can be employed as a trouble light. Other appliances, such as power tools (not shown), can be plugged into the receptacle **62'** along with or in place of one or both of the light fixtures. As shown in my aforementioned copending application, an overhang warning light **118** can also be plugged into the vehicle receptacle **110**. Alternatively the overhang light **118** can be connected to the receptacle **62'**.

Additional receptacles can be provided, as required, in conjunction with the receptacle arrangement **92** FIG. **7**, after the manner of FIG. **5**.

The receptacle arrangement **92** of FIG. **7**, as described thus far, serves as a convenient connection point for a plurality of electrical appliances, as the several outlets of the triplex receptacle **62'**, or the like, are energized in parallel from a single point or outlet of the vehicle electric system or other electric system. Thus, a multiple electrical connection is afforded at a single point connection in the vehicle electrical system for operation from the vehicle battery. During such operation, switch **104** of the receptacle arrangement **92** can be switched off to conserve the battery **94** of the receptacle and battery combination for emergency or other subsequent use. In the absence of a switch **104**, as when using any of my novel receptacle arrangement as illustrated in FIGS. **1–5**, one of the battery terminals can be withdrawn from the insulating plate **96**, which can then be swung slightly aside about the other battery terminal as described above, to disconnect temporarily the battery **94**.

When the vehicle battery commences to run down, or when it is otherwise no longer desirable to use the vehicle battery, the receptacle arrangement switch **104** is switched on to supply the electric appliances such as light fixtures **112, 114** from the emergency battery **94** instead of the vehicle battery, or other source of electric potential. At this time, one of the plugs of extension cord **108** can be removed from its respective receptacle. Naturally, it is contemplated that the potential of battery **94** will be the same as that of the vehicle battery or other potential source supplying the electric system with which my novel receptacle and battery arrangement is used.

From the foregoing it will be apparent that novel and efficient forms of battery-mounted receptacle means have been described herein. While I have shown and described certain presently preferred embodiments of the invention and have illustrated presently preferred methods of practicing the same it is to be distinctly understood that the invention is not limited thereto but may be otherwise variously embodied and practiced within the spirit and scope of the invention.

I claim:

1. A receptacle arrangement adapted for mounting on any one of several batteries of different size each having different terminal locations, said arrangement comprising an insulating support member, receptacle means including opposite terminals mounted on said support member, a pair of conductors mounted on said support member and respectively connected to the opposite terminals of said receptacle means, said pair of conductors being so constituted as to make electrical contact with the opposite terminals respectively of batteries of different size when said support member is mounted thereon, and means on said support member cooperable with the terminals of batteries of different size to secure said support member in position thereon and to effect electrical contact of said conductors with the battery terminals.

2. A receptacle arrangement according to claim **1**, wherein the last said means comprises a first pair of appertures in said support member located conformably to the terminals of a first battery of one size, and s second pair of apertures in said support member located differently than said first pair and conformably to the terminals of a second battery of different size than the first battery.

3. A receptacle arrangement according to claim **1**, wherein said support member is provided with preferential weakening means therein to enable portions of said support member to be broken away of conform the support member to the size of the battery on which it is mounted.

4. A receptacle arrangement according to claim **1**, wherein said receptacle means comprises characteristic slots for receipt of complementary pronged plugs, said slots permitting entry thereinto by conventional pronged plugs but insuring that the complementary pronged plugs used therewith cannot enter into a conventional standard receptacle.

5. A receptacle arrangement adapted for mounting on a battery, said arrangement comprising an insulating support member, receptacle means including opposite terminals mounted on said support member, a pair of conductors mounted on said support member and respectively connected to opposite terminals of said receptacle means, said pair of conductors being so constituted as to make electrical contact with the opposite terminals of a battery, means on said support member for mounting and making electrical contact with the battery terminals, wherein the improvement comprises the provision of characteristically keyed slot means in said receptacle means for receipt of complementary pronged plugs, said slot means permitting entry thereinto by conventional pronged plugs but insuring that the complementary pronged plugs used therewith cannot enter into a conventional receptacle.

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