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TERMINAL CONNECTOR FOR STORAGE BATTERIES.

APPLICATION FILED OCT. 1, 1915.

1,175,651. Patented Mar. 14, 1916.

Fig. 1.

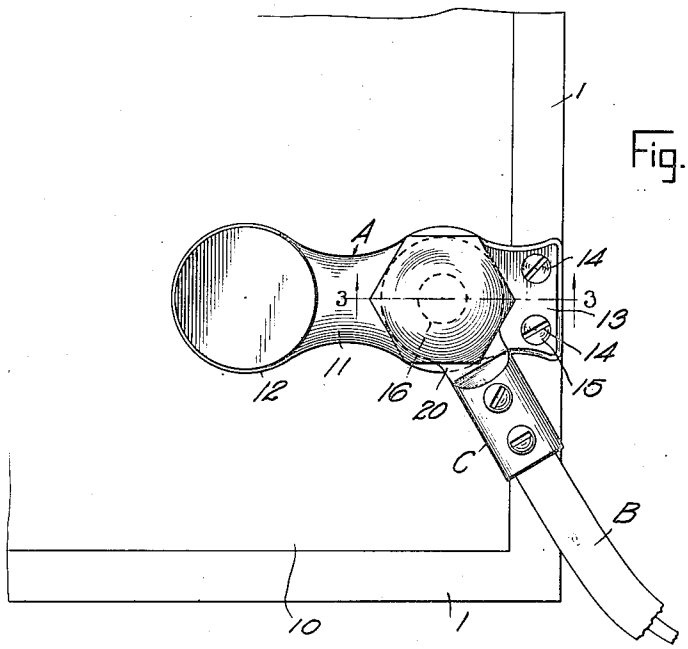


Fig. 2.

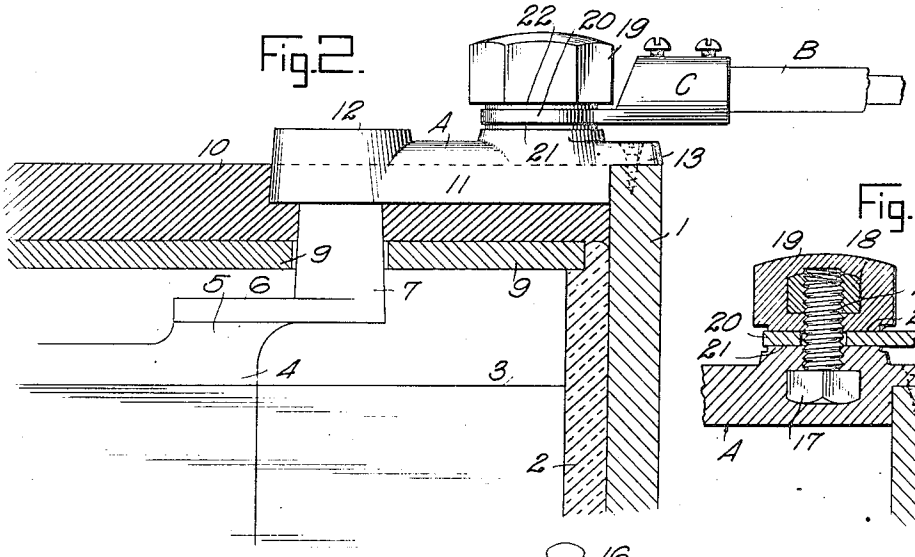
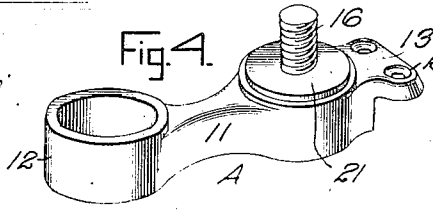


Fig. 3.

Fig. 4.



WITNESSES

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TERMINAL CONNECTOR FOR STORAGE BATTERIES.

1,175,651. Specification of Letters Patent. Patented Mar. 14, 1916.

Application filed October 1, 1915. Serial No 53,507.

To all whom it may concern:

Be it known that I, PAUL M. MARKO, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Terminal Connector for Storage Batteries, of which the following is a full, clear, and exact description.

This invention relates to storage batteries for starting, lighting, and other purposes and has to deal more particularly with the terminal connectors, whereby the cables or wires are connected with the terminal posts of the battery.

The invention has for its general objects to improve the construction of terminal connectors of the class referred to so as to be reliable and efficient in use, comparatively simple and inexpensive to manufacture, and so designed as to enable the leading-in wires or cables to be easily and quickly attached or detached, and have a carrying capacity of an electric current of more than five hundred amperes at a momentary discharge.

A more specific object of the invention is to provide a terminal connector of such design that the leading-in wires can lead into the battery casing at any desired angle and still be connected with the terminal connector, the latter including an upright threaded stud to which the terminal of the leading-in wire cable is clamped by a nut threaded on the stud, the terminal of the wire employed being in the form of a flat eye which fits over the threaded stud and can be adjusted to any angle around the latter as a center and thus facilitate the substitution of the battery, in place of a battery which may have had any other particular design of terminal connector.

An additional object is to reduce to a minimum, corrosion at the terminal connection, and this is accomplished by embedding the stud at a distance from the battery terminal post, and thus, should the acid creep along the terminal post, it would not affect the stud, owing to the distance they are apart.

Another feature of this terminal connector is the ease with which it can be connected to the cables of the car. If facilities are not present for the soldering of the cable to the terminal, the insulation of the cable can be stripped about one half inch, the bored portion inserted in the receptacle and tightened with set screws.

Still another object is to provide a terminal connector which is fastened to the stud of each terminal post of the battery and which is provided with means whereby the connector is fastened to the battery box so as to rigidly secure the connector in fixed position.

With such objects in view, and others which will appear as the description proceeds, the invention comprises various novel features of construction and arrangement of parts which will be set forth with particularity in the following description and claisms appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention, and wherein similar characters of reference indicate corresponding parts in all the views, Figure 1 is a plan view of one of the terminal connectors of a battery with a leading-in wire fastened thereto; Fig. 2 is a side view of the terminal connector; Fig. 3 is a detail sectional view on the line 3—3, Fig. 1; and Fig. 4 is a detail perspective view of the terminal connector before the same is welded to one of the terminal posts of a battery.

Referring to the drawing, 1 designates the wooden box of a battery in which is fitted the usual receptacle or container 2 that holds the electrolyte 3 and the positive and negative elements of the battery, there being a portion of one of such elements indicated at 4, Fig. 2. The lugs 5 of the various plates are connected with a lug strap 6 of usual form which has a stud 7 that extends upwardly through an opening 8 in the cover 9. To the upper end of this stud 7 is fastened a terminal connector A, and after the terminal connector is welded to the stud a plastic insulation 10 is filled into the top of the battery, as clearly shown in Fig. 2.

The terminal connector A comprises a bar-like body 11 of lead alloy or equivalent material which has formed at one end an eye 12 into which the stud 7 projects, and when the connector is applied in proper position to the stud the two are welded together so that the terminal connector will be integrally connected with the terminal post of the battery. The end of the connector opposite from the eye 12 is provided with a lug 13 which rests on the upper edge of one wall of the box 1 and is fastened thereto by screws or equivalent fastenings 14 which pass

through the openings 15 and enter the wall of the box 1. In this manner the terminal connector is rigidly secured in place. The outer portion of the body A is provided with an upstanding stud 16 in the form of a threaded bolt which has its head 17 molded and anchored in the connector body A at a distance from the terminal post, and screwed on this stud 16 is a nut 18 which is embedded in a protective shell 19 of lead alloy. This stud and nut form a binding post by which a leading-in wire or conductor B is fastened to the battery, such conductor having a terminal C formed with a washer-like eye 20 which is clamped between the flat seat 21 formed on the top of the connector body and the under side 22 of the shell of the nut. In this manner the screw and nut, which are of harder metal than the lead alloy, are protected from the corroding action of the gases or fumes arising from the battery. By the use of a binding post of this character and the terminal eye 20 it is obvious that the leading-in wire or conductor B can be disposed at any angle with respect to the terminal of the battery, which is especially advantageous, as a battery equipped with terminals of the character described can be inserted in any of the various makes of battery casings such as are used in automobiles. In other words, a storage battery maker using the terminal connector of the kind described herein can effectively replace the batteries on any type of automobile so that the owner will not be required to send an old battery away to the original manufacturer to have a new battery inserted, but a local battery maker or repairer can reliably make the repair or replacement no matter where the apertures in the battery casing for the leading-in-wires may be located.

From the foregoing description taken in connection with the accompanying drawing, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention appertains, and while I have described the principle of operation, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as fall within the scope of the appended claims.

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

1. As a new article of manufacture, a terminal connector for a storage battery comprising a body having at one end an eye to receive a battery terminal post stud, a threaded stud embedded in the body at a point removed from the said eye and extending with its axis parallel with the axis of the eye, and a nut on the threaded stud for clamping a conductor to the connector, said body having a lug extending in the plane of the body at the end opposite from the eye and apertured for receiving a fastening to secure the outer end of the connector rigidly to a battery box.

2. The combination of a battery box, a grid element having an upstanding post spaced from one wall of the box, a bar having an eye applied to the upper end of the post, said bar extending outwardly from the post and having a horizontally extending lug at its outer end overlying the top of the wall of the box, fastening means passing through the lug and into the wall, whereby the bar is rigidly held at its inner and outer ends, a threaded stud embedded in the bar at a point intermediate its ends and extending upwardly from the upper surface thereof, a nut threaded on the said stud, a terminal having a washer-like eye clamped by the nut against the bar, and a conductor electrically connected with and fastened to the terminal.

3. As a new article of manufacture, a battery terminal connector comprising a bar-like body enlarged into an eye at one end and having an enlargement adjacent its other end, a stud anchored in the last-mentioned enlargement and projecting upwardly therefrom, an apertured lug extending from the body in the general length thereof and projecting outwardly from the second-mentioned enlargement and of less depth than the body, said lug having an aperture for receiving a fastener.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PAUL M. MARKO.

Witnesses:
C. BRADWAY,
PHILIP D. ROLLHAUS.