QUICK RELEASE BATTERY TERMINAL CLAMP

Herbert H. Hoggatt, Bloomington, and Robert L. Trego, Lagoootee, Ind.; said Trego assignor to said Hoggatt
Application February 24, 1954, Serial No. 412,172

1 Claim. (Cl. 339—238)

This invention involves a structure for securing a good electrical contact between a battery terminal post and the usual battery cable, wherein the interconnecting means therefor may be quickly released from a remote point such as the instrument panel of an automobile when there develops some short circuit in the electrical system, and the circuit needs to be broken quickly. Specifically, the invention involves a split clamp to surround the battery post and to be held in intimate contact therewith through a lever arrangement by means of which lever arrangement, the clamp may also be quickly released and pulled from contact with the battery post.

In addition to the above indicated objects and advantages of the invention, there is had the advantage of a very simple and easily operated mechanism, which at the same time may be relatively cheaply produced, and which will not have movable members in close contact or close proximity with the battery post itself so that corrosion normally arising immediately adjacent the post is avoided in respect to the parts which are to be moved. These parts constitute hinge pins and the like which should be free to be operated when the emergency arises, or even when the battery itself is to be replaced or removed from the general electrical circuit.

The invention in one particular form is described in connection with the accompanying drawings, in which:

Fig. 1 is a view in side elevation of a structure embodying the invention;
Fig. 2 is a view in top plan; and
Fig. 3 is a view in end elevation and partial section.

A clamp generally designated by the numeral 10 is formed out of two parts, a body part 11, and a clamp arm 12. These two members 11 and 12 are hinged one to the other by a pin 13 so that the arm 12 may travel relatively about the hinge pin 13 toward and away from the body portion 11. Each of the portions 11 and 12 have outturned legs 14 and 15 respectively extending from those members on the side opposite to the portions through which the pin 13 extends. The hinge about the pin 13 is formed in an ordinary manner such as by the reduced body portion height 16 extending between the upper and lower ears 17 and 18, Fig. 3.

The inner, opposing faces of the members 11 and 12 are given a contour which will bring them into snug connection with a conical battery terminal post 19, Figs. 1 and 3. When the post 19 is engaged to have the members 11 and 12 extend such that the legs 14 and 15 intersect and its height, the legs 14 and 15 will be substantially parallel as indicated in Fig. 2.

To provide for a battery cable connection with the terminal post 19, the body 10 carries an extension 20 from the side thereof, and on this extension 20 is an upright terminal post 21 about which the usual cable terminal (not shown) may be secured. A lever generally designated by the numeral 22 is substantially L-shaped to have a lower leg 23 rockably engaged with the clamp arm leg 15, Fig. 1. The leg 15 is slotted vertically from its upper side to permit the leg 23 to enter into that slot, and the pin 24 on which the leg 23 is rockably supported to form the hinge connection passes through the leg 15, and across through the leg 23.

A second lever, generally designated by the numeral 25 has one end rockably connected to the leg 14 through the pin 26, the downturned end of the lever 25 entering the leg 14 through a vertically disposed slot across which the pin 26 extends. The lever 25 extends upwardly from the pin 26 and around over the top of the leg 15 and then downwardly and rockably to rockably engage the lever 22 through a pin 27 at a point substantially at the juncture of the leg 23 with the upward turning portion of the lever 22, herein shown as having the end of the lever 25 straddle the lever 22, Fig. 2.

The arm 12 is swung around toward the member 11 by pushing the lever 22 to the right as viewed in Fig. 1, whereupon the pin 27 is carried downwardly to bring its axis below the plane including the axes of the pins 24 and 26 so that a line drawn from the pin 26 through the pin 27, that is through their axes, will be below the axis of the pin 24, which will cause the lever 22 to maintain the clamping engagement of the post 19 by members 11 and 12.

At the upper end of the lever 22, there is interconnected therewith an operating rod or cable 28, and this member 28 extends to that position from which the members 11 and 12 are to be spread apart and released from them from the terminal 19. Preferably the inter-connection of the member 28 with the lever 22 is through an insulating member 29, herein shown as a sleeve rockably attached to the lever 22 by means of the pin 30, and fixed to the member 28 by means of the pin 31. By pulling on the member 28, the clamp is not only released from the post 19, but continued pulling will pull the entire apparatus entirely away from the post so that no accidental contact between the post and the members 11 and 12 involved in the invention remains. The lever 22 and the insulating member 29 are of such length to extend from the pin 27 up to the pin 30 to cause the body 10 and the arm 12 with the attached levers to be pulled entirely free of the post 19 when the occasion arises.

Therefore while I have herein shown the invention in one particular form as specifically described, it is obvious that structural changes may be employed without departing from the spirit of the invention, and therefore do not desire to be limited to the particular form without limitations which may be imposed by the following claim.

I claim:

A cable to battery post connector releasable from a control station comprising a pair of post engaging members, one hinged to the other to one side of the post; a cable receiving post carried by one of said members; an ear on each of said engaging members extending from said post on its side opposite from said hinging; a lever rockably engaged to one of said ears; said post moving upwardly and around into a terminal end over and spaced above the lever and at an elevation above said battery post; a second lever rockably engaged to the other of said ears nearer said station and extending upwardly and over said remote ear and thereon rockably engaging said first lever intermediate said remote ear and said arm terminal end; and a member rockably engaging by one end with said arm terminal end and extending therefrom to said station; said levers operating to spread apart said ears and initially rock said members from engagement with said battery post upwardly and around said terminal end engaging member toward said station and further movement of that engaging member lifts both of said members from said battery post; the hinging axis of said second lever with said first lever normally lying below a line through the hinging axes of both of said levers with their respective ears with said members in compressive engagement about the battery post.

References Cited in the file of this patent
UNITED STATES PATENTS
1,840,240 Lindewig 21—21—6 6—1—1932
2,045,590 Emery 21—21—6 6—1—1936
2,239,812 De Urzaiz 21—21—6 6—1—1941
FOREIGN PATENTS
232,734 Switzerland 21—21—6 6—1—1944