May 4, 1954

A. H. RIEG

2,677,812

BATTERY CONNECTOR CLAMP

Filed Nov. 29, 1952

Fig. 1

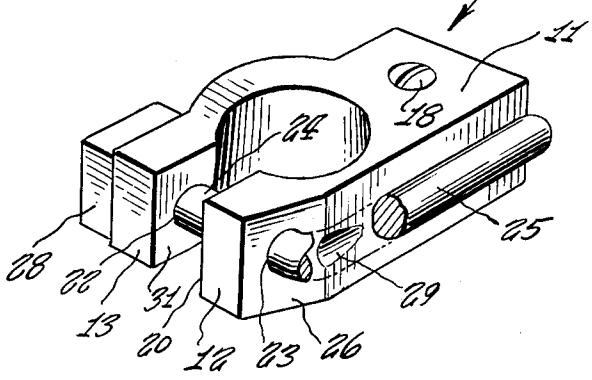


Fig. 2

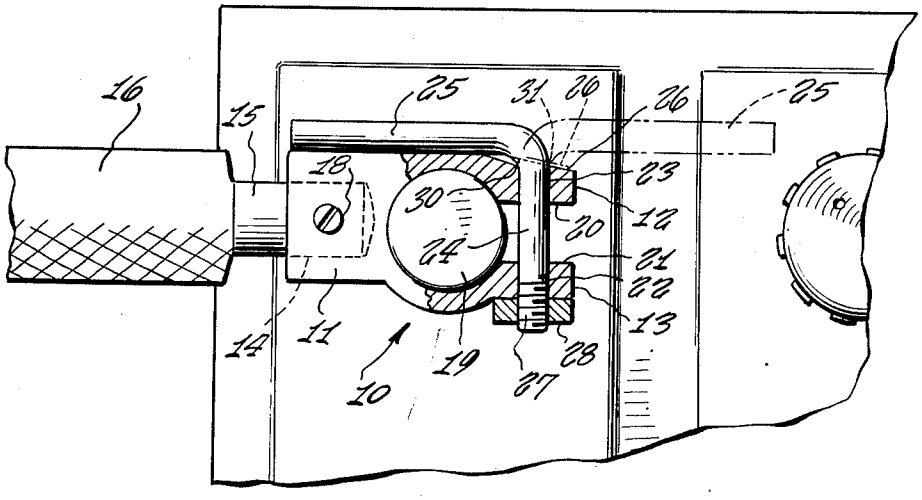
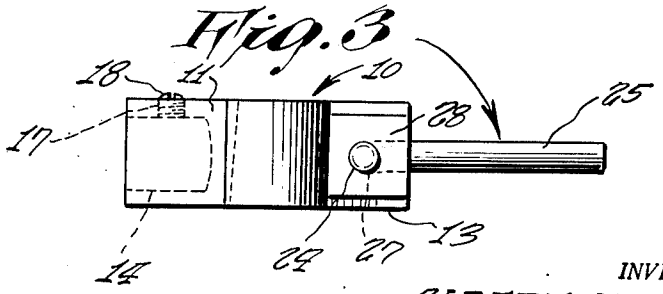


Fig. 3



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Patented May 4, 1954

2,677,812

UNITED STATES PATENT OFFICE

2,677,812

BATTERY CONNECTOR CLAMP

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Application November 29, 1952, Serial No. 323,203

1 Claim. (Cl. 339—229)

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This invention relates to battery connector clamps.

It is an object of the present invention to provide a clamp to secure a battery cable to the terminals of a standard car type battery by a quick lock action.

It is another object of the present invention to provide a clamp which will quickly and easily secure the battery cable to the terminals of a car type battery and which may be adjusted for different sizes of terminal posts.

It is still another object of the present invention to provide a clamp of the above type which will afford positive contact between the connector and binding post.

It is still another object of the present invention to provide a clamp of the above type which does not require the use of tools for operative use.

It is still another object of the present invention to provide a clamp of the above type for detachably connecting a cable to the terminal post of a battery which while being secure and in good contact with the post is nevertheless easy to detach and remove from the post.

Other objects of the present invention are to provide a battery connector clamp bearing the above objects in mind which is of simple construction, inexpensive to manufacture, has a minimum number of parts, is durable, easy to use and efficient in operation.

For other objects and for a better understanding of the present invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view of a battery connector clamp embodying the features of the present invention and showing the lock lever partly broken away to illustrate the slight recess behind it;

Fig. 2 is a top plan view thereof showing the same in operative use on a battery and partly in cross section and

Fig. 3 is a side elevational view of the invention showing the lock lever in an open or inoperative position.

Referring more in detail to the drawing, in which similar reference numerals identify like parts throughout the several views, there is shown a battery connector clamp, referred to collectively as 10, and including a clamp body 11 having a pair of integral clamping arms 12 and 13, substantially as illustrated.

The body 11 at the end remote from arms 12 and 13 is provided with a cylindrical opening 14 adapted to receive therewithin the bared end 15 of cable 16, the top of body 11 further being provided with an internally threaded opening 17 communicating with opening 14 and into which is screwed a set-screw 18 engaging the bared end 15 of transmission cable 16 in an obvious manner.

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The cable end 15 may, of course, be soldered or otherwise secured within opening 14 for the purposes of the present invention.

The inner faces of arms 12 and 13 and the adjacent portion of body 11 are cut out in a circular manner, substantially as illustrated, the cut out portion having a conical internal face complemental in shape to the tapered upper end of battery shank 19 whereby to embrace the same.

The arm 12 is split from the arm 13, the inner faces thereof 20 and 21 being substantially parallel and planar, and being pierced by aligned, cylindrical openings 22 and 23 which rotatably receive one leg 24 of a substantially L-shaped, cylindrical lock lever having a handle 25. The outer face of arm 12 is bevelled as at 26 for a purpose to be hereinafter referred to.

The free end of leg 24 is externally threaded as at 27 and has screwed thereon a nut 28 which abuts the outer face of arm 13, substantially as illustrated.

The outer face of arm 12 is provided with a slight recess 29 for a purpose to be referred to directly.

It will be noted that the corner intermediate leg 24 and handle 25 is bent so that the two portions are at substantially right angles to each other.

With the bared end 15 of transmission cable 16 secured within opening 14 by means of set-screw 18 and the leg 24 secured within openings 22 and 23 by means of nut 28, the handle 25 is rotated to the open or inoperative position shown in Fig. 3. This permits the arms 12 and 13 to separate their maximum amount, as shown in dotted lines in Fig. 2, whereupon the clamp 10 may be slipped onto the shank 19.

The handle 25 is then rotated to the locking position shown in Figs. 1 and 2. When the lock lever is in this position it forces the ends of arms 12 and 13 to a tightening position by a cam action as at 30 (see Fig. 2), thereby drawing the faces 20 and 21 approximately $\frac{1}{16}$ of an inch closer together. This tension is relieved when the handle 25 of the lock lever is rotated to the position shown in Fig. 3, as at 31 (see Fig. 2).

The recess 29 serves to lock the handle 25 of the lock lever in place, as shown in Fig. 1, when

the clamp 10 is normally locked upon the shank 19.

The nut 28 permits a variety of adjustments, allowing the lock lever to be locked and permitting the clamp 10 to fit different size shanks 19. This nut 28 serves as a stop and is not a tightening factor.

It should now be apparent that there has been provided a clamp to secure a battery cable to the terminals of a standard car type battery by a quick lock action, the clamp being quickly and easily secured to the battery shank and adjustable for different sized shanks. It should also be apparent that there has been provided a clamp which will afford positive clamping action and contact between the connector and shank, which requires no special tools to install, and which while being secure and in good contact with the shank is nevertheless easy to detach and remove therefrom.

While various changes may be made in the detailed construction, it shall be understood that such changes shall be within the spirit and scope of the invention as defined by the appended claim.

Having thus set forth and disclosed the nature of my invention, what is claimed is:

A battery connector clamp comprising a clamp body having a pair of integral clamping arms, said body at the end remote from said arms having an opening adapted to receive therewithin the bared end of a transmission cable, the top of said body having an internally threaded opening communicating with said first opening, a set-screw within said last mentioned opening adapted to engage the bared end of the said cable within said first opening, the inner faces of said arms and the adjacent body portion being cut-

out in a circular manner, the cut out portion having a conical inner face complemental in shape to the tapered upper end of a battery shank whereby to embrace the same, said arms being split apart with the inner, adjacent faces thereof substantially parallel and planar, said arms having aligned, substantially cylindrical openings therethrough piercing said inner adjacent faces, a substantially L-shaped lock lever, one leg of said lever being rotatably mounted within said aligned openings and extending outwardly therefrom at each end, the free end of said leg being externally threaded, a nut screwed onto said threaded free end of said leg, said nut abutting the outer face of one of said arms, the outer face of the other of said arms being bevelled inwardly towards its free end, a lateral handle integrally formed in the other end of said leg and extending thereto at substantially right angles, said handle being adapted to be rotated into flush engagement with the longitudinal side of said body adjacent said bevelled arm, the junction of said handle with said leg cooperating with said bevelled face in a cam action upon rotation of said handle to said flush position whereby to draw said arms together about the shank of a battery, and said longitudinal side having a recess receiving the portion of said handle adjacent said leg whereby to retain the same in the locking position.

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