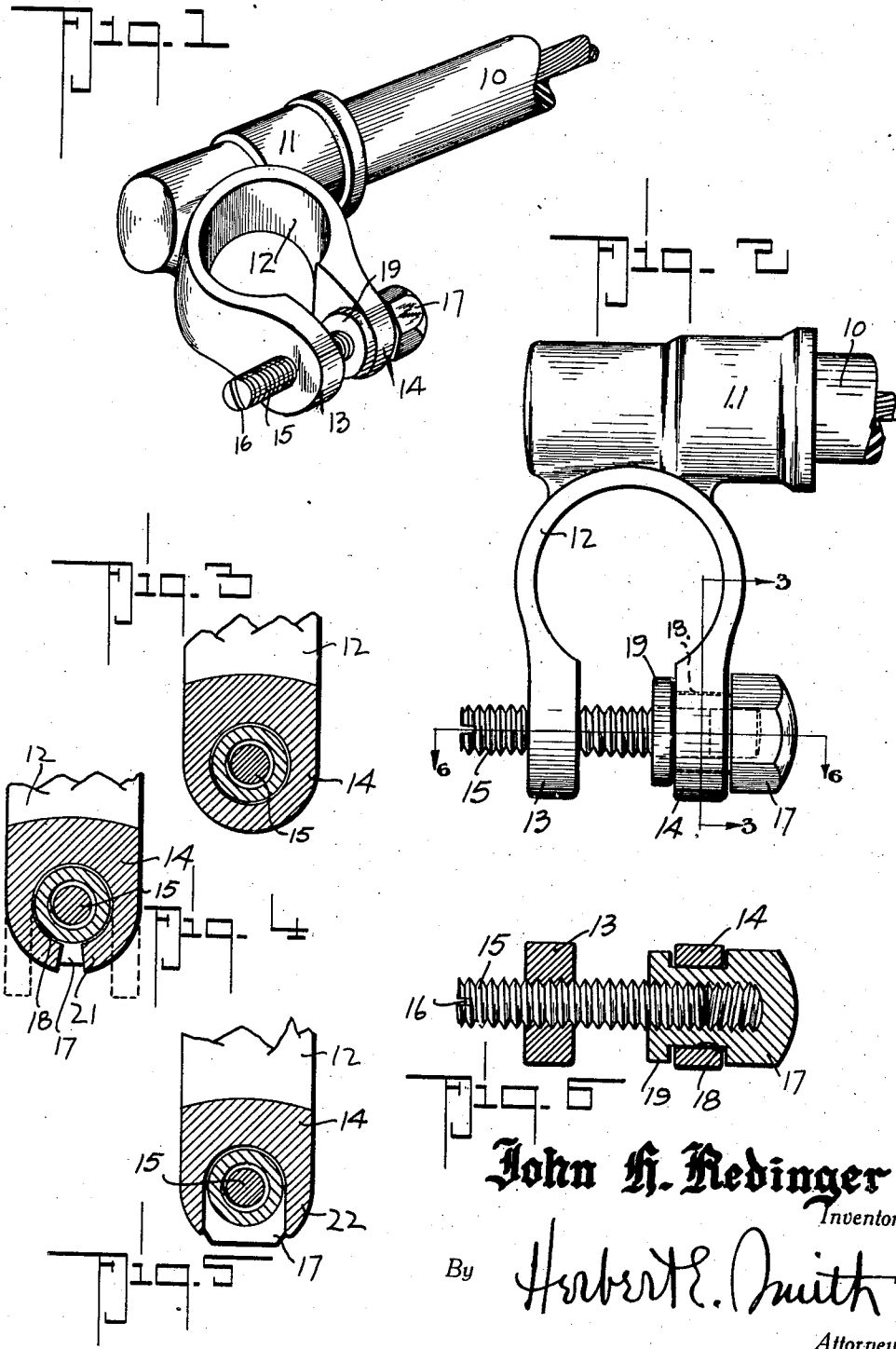


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J. H. REDINGER  
BATTERY TERMINAL CLAMP  
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# UNITED STATES PATENT OFFICE

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## BATTERY TERMINAL CLAMP

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2 Claims. (Cl. 173—259)

My present invention relates to an improved battery terminal clamp between the binding post of the battery and the terminal of the cable or wire employed for electrical appliances, especially for automotive vehicle installations. The primary object of the invention is the provision of a connection of this character which may quickly be clamped on the binding post and which may, with equal facility, be separated and detached therefrom and in carrying out my invention I provide means whereby the terminal is securely and rigidly attached to the post to prevent accidental displacement or disconnection of the parts. Means are provided whereby the clamped terminal may readily be separated from and released from the post preparatory to withdrawing or detaching the terminal from the post regardless of corrosion, and by the use of the invention a tight grip of the terminal on the post is insured, and loosening of the parts, due to vibrations, is avoided.

In construction and operation the device is simple and readily understood and manipulated and while the device is inexpensive in cost of manufacture, it is durable and reliable in use. The invention consists in certain novel combinations and arrangements of parts as will hereinafter be more fully set forth and claimed. In the accompanying drawing I have illustrated one complete example of the physical embodiment of my invention, wherein the parts are combined and arranged according to the best mode I have thus far devised for the practical application of the principles of my invention, but it will be understood that further changes and alterations may be made in the exemplified structure, within the scope of my claims, without departing from the principles of my invention.

Figure 1 is a perspective view of a battery terminal clamp embodying my invention and showing a portion of the usual insulated cable in connection therewith.

Figure 2 is a plan view of the clamp embodying my invention.

Figures 3, 4, and 5 are fragmentary portions taken on the lines 3—3 of Figures 2, of one of the ears of the clamping member showing various forms for supporting one of the members of my device to the clamp.

Figure 6 is a cross sectional view through the clamp taken on the lines 6—6 of Figure 2.

In order that the general relation and utility of parts may readily be understood, I have shown in Figure 2 a complete assembly of one form of

a battery clamp in which the devices of my invention are shown in their normal relationship for operation in connection with the binding post of a battery or other connector member. The cable or wire 10 is provided to be inserted into and fixed into a head 11 to make a substantial electrical connection and the head 11 is cast or formed integral with the clamping ring 12 which may be disposed as shown herein in Figure 2 or may be set at some other proper angle for its best intended use. As an instance, the clamp ring 12 may be on the left hand end of the connector 11, if preferred. The clamp ring 12 is formed to conform substantially in size to the binding post of a battery and to surround the binding post largely throughout its diameter. The ring 12 is formed with two parallel spaced ears 13 and 14 respectively, in which the ear 13 is bored and screw-threaded to receive a headless screw 15 threaded its entire length and which may be kerfed at one end as 16 to admit the blade of a screwdriver or similar instrument.

The ear 14 has an enlarged bore for supporting a nut 17 which is formed with either a square or hexagonal head abutting against the outside edge of the ear and which has, adjacent to the head 17, a groove 18 and a collar 19 against the inside edge of the ear 14. The nut is so associated with the ear 14 that it can not move longitudinally with respect thereto and since at times it may be preferable to use different constructions in the formation of the ear 14, reference is now made to several alternate forms for adjusting the nut 17 to the head and/or ear 14.

In Figure 4 the ear may be formed with the two parallel and extending legs 21 which may be pressed or formed around the nut 17 or the ends may be formed similar to Figure 5, in which the extended legs 22 are fixed and form a recess to hold the nut and permit of action of both the nut head and of the collar 19 to either draw the clamp through the agency of the screw 15 tightly around the battery post or to expand the clamp and so extend it as to free the contact with the binding post.

The nut 17 is interiorly bored and threaded to receive the screw 15 and the screw 15 is freely threaded therein and also in the ear 13. When adjusting the clamp on a battery post the nut 17 is turned. This will cause the nut to turn on the screw 15 to draw the clamp tight or the screw 15 will turn in the ear 13 and accomplish the same object of tightening the clamp about the post.

Likewise, when it is desired to remove the ter-

minal from the post the nut 17 is turned in the opposite direction in which case the screw 15 will turn to separate the ears and hence loosen the clamp and in this case, likewise, the screw may turn in the nut or turn in the ear 13 in which in either event the clamp will be increased in diameter and separated from the battery post so that it may be freely lifted therefrom.

It is a well known fact that in battery terminal connections and clamps, corrosion frequently takes place causing the fastening means to become cemented or frozen together and to accomplish release oftentimes causes breakage of the battery post from the battery or a breakage away from the plates within the battery causing costly repairs or destruction of the battery.

In the utilization of the invention herein set forth I have provided means whereby if the screw becomes frozen to the nut or ear 13, either one, whichever connection will release the easiest will be the one that will become active in unclamping the fixture from the battery post. If corrosion has been too great a new screw may be readily inserted at a minimum of expense and the clamp will be renewed and in good order for future use saving, in many instances, the complete installation of a new clamping unit, and the furnishing of a new cable as well as the expense of welding the cable to the clamp.

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

1. A battery clamp comprising a split ring having a pair of spaced ears extending therefrom, one of said ears having a threaded opening there-through, a screw threaded in said opening, a nut having internal threads for engagement with the screw and formed with a head and a collar and an intermediate annular groove, and the other ear having portions co-acting with the groove to prevent relative axial movement of the nut, whereby rotation of the nut on the screw or rotation of the nut when rigid with the screw will vary the space between the ears.

2. A battery clamp comprising a split ring having a pair of spaced ears extending therefrom, one of said ears having a threaded opening there-through, a screw threaded in said opening, a nut having internal threads for engagement with the screw and formed with a head and a collar and an intermediate annular groove, and the other ear having a pair of legs co-acting with said groove to prevent relative axial movement of the nut, whereby rotation of the nut on the screw or rotation of the nut when rigid with the screw will vary the space between the ears.

JOHN H. REDINGER.