

Aug. 24, 1937.

P. A. LAMB

2,090,872

BATTERY TERMINAL PULLER

Filed March 30, 1936

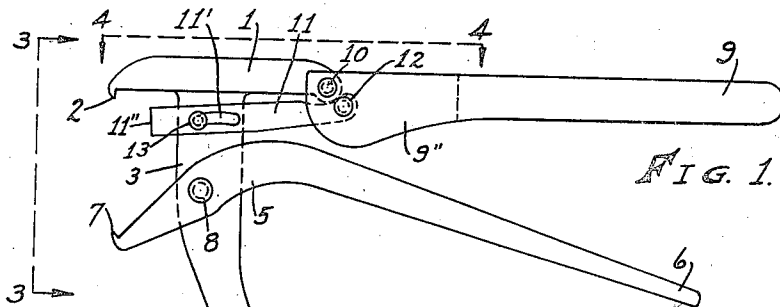


FIG. 1.

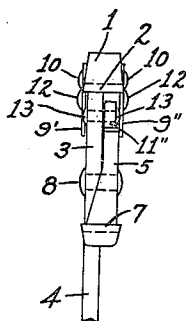


FIG. 3.

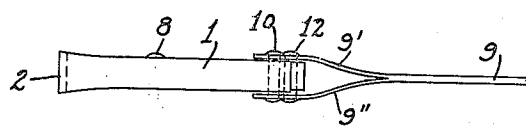


FIG. 4.

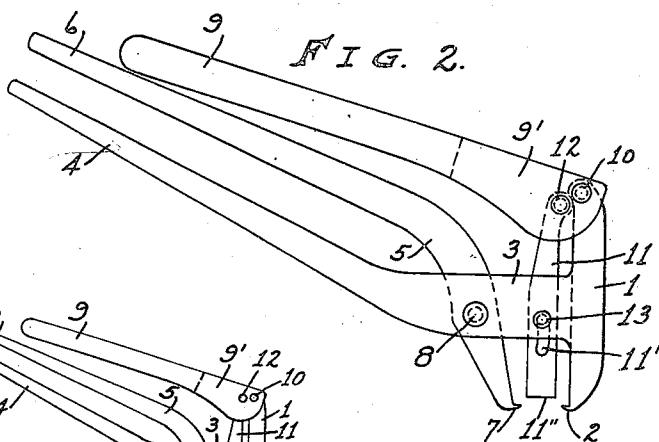


FIG. 2.

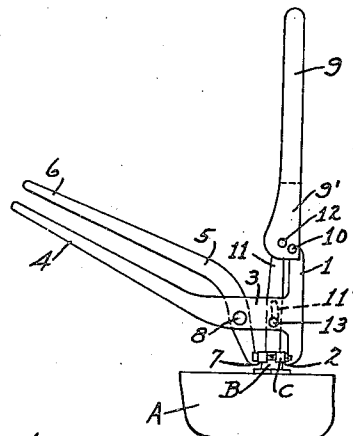


FIG. 5.

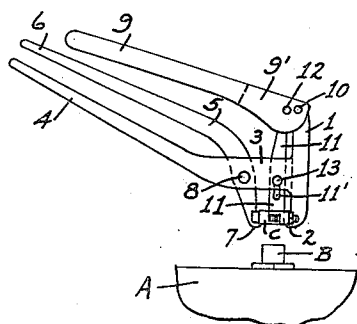


FIG. 6.

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UNITED STATES PATENT OFFICE

2,090,872

BATTERY TERMINAL PULLER

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Application March 30, 1936, Serial No. 71,610

1 Claim. (Cl. 29—85)

This invention relates to a pulling device for use in removing terminal clamps from storage batteries.

The principal object of the invention is to provide a puller which will efficiently remove clamps from battery terminals, even though the clamps may be badly corroded and impossible to remove by the usual methods.

Another object of the invention is the provision of a pulling device which has an extreme amount of leverage, whereby the operator thereof may easily manipulate the same.

Still another object of the invention is the provision of a pulling tool which is comprised of a minimum number of parts, which is simple of construction, and which is economical to manufacture.

Other objects and advantages of the invention will suggest themselves in the course of the following description, and that which is new will be correlated in the appended claim.

The most satisfactory manner of carrying out the principles of the invention in a practical and efficient manner is shown in the accompanying sheet of drawings, in which—

Figure 1 is a side elevation of the device with the same being shown in fully open position.

Figure 2 is a side elevation of the device with the same being shown in the position assumed thereby when a terminal clamp (not shown) is removed.

Figure 3 is a partial end view of the device, taken from line 3—3 of Figure 1.

Figure 4 is a partial plan view of the device, taken from line 4—4 of Figure 1.

Figure 5 is a side elevation of the device, showing the same in engaged position with a terminal clamp.

Figure 6 is a side elevation, showing the device after the clamp has been removed from the terminal.

Like characters designate like parts throughout the several views.

In order that the construction, the utilization, and the advantages of the invention may be more fully understood and appreciated, I will now take up a detailed description thereof, in which I will set forth the same as fully and as comprehensively as I may.

1 designates the main clamping member which has the inwardly projecting jaw portion 2 formed integrally with one end thereof, and with an aperture formed through the opposite end thereof. 3 designates a shank which is formed integral with the main clamping member 1, and

extends at a right angle therefrom. 4 designates an extended portion of the shank 3, which forms a handle portion thereby.

A second clamping member 5 is pivotally secured to the shank 3 by means of the rivet 8. One end portion of the second clamping member forms the handle 6, and with the jaw portion 7 being formed at the opposite end thereof.

A plunger handle 9 is pivotally secured at one of its ends to one end of the main clamping member 1 by means of the rivet 10. The pivotally secured end of the plunger handle is formed by the members 9' and 9'' which are formed integrally with the handle 9, with the portions 9' and 9'' forming a fork at the pivoted end thereof. Each of the portions 9' and 9'' extends on opposite sides of the main clamping member 1, and the rivet 10 extends through each of the portions 9' and 9'' and the end portion of the member 1.

The plunger 11 is elongated in shape and has an aperture formed through one end thereof, with the rivet 12 extending therethrough. The rivet 12 also extends through each of the end portions 9' and 9'' of the handle 9, and the plunger 11 is thereby pivotally secured at one of its ends to the handle member 9. A slightly curved, elongated slot 11' is formed through the plunger 11, and is centrally located between two opposite sides of the plunger 11. A rivet 13 is rigidly secured in the shank 3, and extends outwardly from one side thereof, the same extending through the elongated slot or aperture 11' of the plunger 11. The plunger 11 is thereby slidably positioned on the shank 3. The surface of the end 11'' is adapted to press against the end of a battery terminal, as shown in Figure 5.

A designates a battery case, B designates a battery terminal, and C designates a battery terminal clamp.

The operation and utilization of the invention is substantially as follows:

With the several parts assembled as shown in the various figures, the device is opened as shown in Figure 1. The jaws 2 and 7, thus spread apart, are then extended downwardly over the sides of the terminal clamp C, after which the handles 4 and 6 are brought together as shown in Figure 5, thereby forcing the jaw portions 2 and 7 under the lower edges of the clamp C. After the jaws 2 and 7 are securely positioned with relation to the clamp C, the plunger handle 9 is then moved from the position as shown in Figure 5 to the position as shown in Figure 6. As the plunger handle 9 is moved toward the handles 4 and 6,

the end portion 11', of the plunger 11, is firmly seated against the top surface of the battery terminal B. With a continuation of the movement of the plunger handle 9 toward the handles 4 and 5 6, an upward pull is exerted thereby through the jaw members 2 and 7 to the terminal clamp C, and the same is thereby forced upwardly from the terminal B.

10 The most important feature of the invention lies in the manner in which the member 9 and the members 1 and 11 are connected, the same giving very great leverage with very little effort on the part of the user of the tool.

15 I desire that it be understood that minor changes may be made in the several details, and in the arrangement of the parts herein shown and described, so far as the changes may fall within the scope of the appended claim.

20 Having now fully shown and described the invention, what I claim and desire to secure by Letters Patent of the United States, is:

In a terminal clamp puller, the combination of a main clamping member having a jaw portion formed at one end thereof, a shank formed integrally with said main clamping member and extending at right angles therefrom with an extension of the shank forming a handle, a second 5 clamping member pivotally secured to the shank and with a jaw formed integrally with one end thereof and with the opposite end thereof forming a handle, a plunger handle pivotally secured 10 at one of its ends to the main clamping member, a plunger pivotally secured at one of its end portions to the plunger handle, with a slightly curved, elongated aperture formed through the central portion of the plunger, and means secured 15 through the shank and the elongated aperture of the plunger and guiding the plunger in the travel of its longitudinal movements.

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