Nov. 10, 1931. L. C. THAYER ET AL 1,831,149

BATTERY TERMINAL REMOVER

Filed Aug. 15, 1929

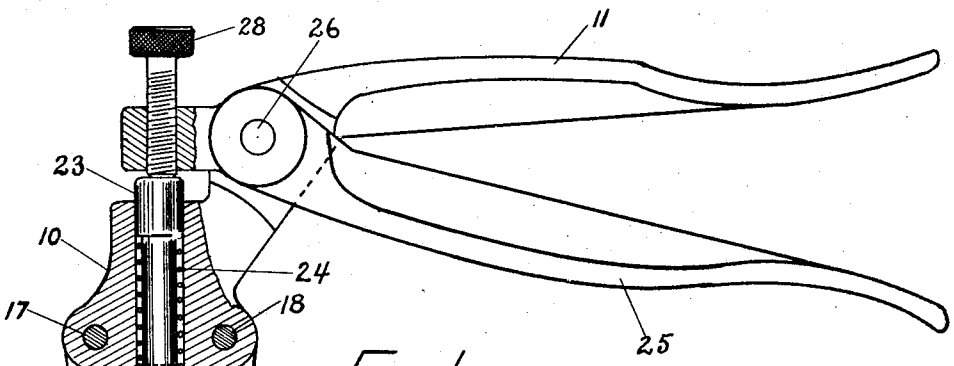


Fig. 1.

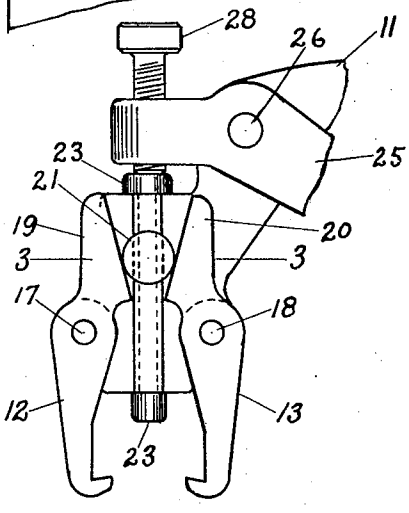


Fig. 2.

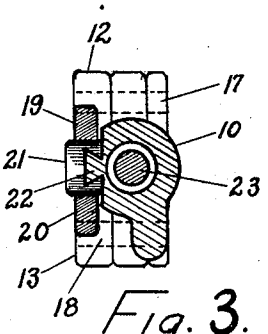


Fig. 3.

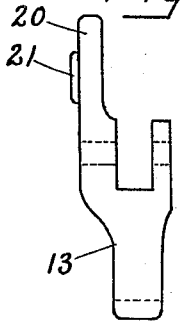


Fig. 4.

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UNITED STATES PATENT OFFICE

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BATTERY TERMINAL REMOVER

Application filed August 15, 1929. Serial No. 386,059.

Our invention relates to a battery terminal remover and it is an object of the same to provide a tool for removing terminals from storage batteries, particularly such batteries as are used in connection with automobiles and radio apparatus. It is an object of the invention to provide means for engaging at opposite sides of the battery post with the battery terminal and to pull upward equally at both sides of the same for ready removal of the terminal.

Another object of the invention is to provide automatic locking or holding means for fixedly and securely holding the jaws with their hooked ends underneath the terminal.

Another object of the invention is to provide adjustable means for setting the device so that it may act effectively on a terminal whatever may be its position on the post.

Another object of the invention is to provide means whereby a terminal which is extremely tight may be loosened by light blows of a hammer or the like at the same time that pressure is being applied to lift the same by means of the tool.

Referring to the drawings which are made a part hereof and in which similar reference characters indicate similar parts:

Fig. 1 is a side elevation of our device, partly in section,

Fig. 2, a fragmentary side elevation of the device,

Fig. 3, a vertical section substantially in the plane of line 3—3 on Fig. 2, and

Fig. 4, a side elevation of a jaw.

In the drawings reference character 10 indicates the body of our device which is preferably made in one piece with the handle 11. Jaws 12 and 13 are mounted on the body in position to engage under a terminal 14 at opposite sides of a post 15 on battery 16, these jaws being pivoted respectively at 17 and 18. The jaws have upwardly extended arms 19 and 20 between which is located a button 21. It will be noted that the inner faces of the upwardly extending parts 19 and 20 are inclined with relation to each other so that the button 21 may have a wedging action upon them at an altitude depending on the distance between the lower ends of the jaws, i. e., depending on the thickness of the post 15 by which the jaws are separated. The button 21 has a dovetail slot at the inner side to receive a tongue 22 on the body 10 and the button is guided for vertical movement with reference to the body by means of said tongue and slot.

The body has an upwardly extending bore in which the plunger 23 is located, said plunger being normally forced upward by a spring 24 engaging at one end with a shoulder on the plunger and at the other end with a shoulder on the body. A handle 25 is pivoted at 26 on the handle 11 and carries a screw 28 positioned to engage the upper end of the plunger 23.

In the operation of our said device the button 21 is lifted to allow the jaws 12 and 13 to swing freely and the jaws are positioned with their lower hooked ends underneath a terminal 14 after which the button is released and is carried down by gravity into locking relation with the upper arms of the jaws, or it may be forced down by hand if necessary, the plunger 23 at its lower end resting on the post and assisting in holding the tool in place. The screw 28 may now be adjusted if necessary so as to bring the handles 11 and 25 into position wherein they can be gripped most effectively for lifting the terminal off the post, it being obvious that by forcing the handles together equal pressure will be exerted on the terminal at opposite sides of the post for lifting the terminal off the post. If the terminal fits very tight on the post or if the parts are held together on account of corrosion a few light taps of a hammer on the head of screw 28 will help to loosen the terminal. The tool has been found effective for removing the most obstinate battery terminals. As best shown in Figs. 3 and 4 each jaw has upwardly extending forks 29 and 30 straddling lateral lugs 31, 31 on the body, thus providing a strong and rigid mounting for the jaws which fits them for the heavy work of lifting a battery terminal off the post to which it usually adheres strongly, the post and the terminal being often fixed together very securely due to corrosion because of the sulphuric acid used in the battery.

It will be obvious to those skilled in the art that numerous changes may be made in our device and therefore we do not limit ourselves to the specific details shown in the drawings and described in the specification but only as indicated in the appended claims.

Having thus fully described our said invention, what we claim as new and desire to secure by Letters Patent, is:

1. In a tool for removing battery terminals, a body, jaws on the body in position to engage under a terminal at opposite sides of a battery post, said jaws being pivoted on the body and having oppositely inclined adjacent faces above their pivots, a tongue at one side of the body and a button slidable on the tongue for vertical movement between said faces whereby said button may lock said jaws in operative position, substantially as set forth.

2. In a tool for removing battery terminals, a pair of handles pivotally connected to each other, jaws on one handle for engagement with a battery terminal, and a plunger carried by one handle for engagement with a battery post, a setscrew on the other handle for bearing on the top of said plunger, substantially as set forth.

3. In a tool for removing battery terminals, a pair of handles pivotally connected to each other, jaws on one handle for engagement with a battery terminal, a plunger, means for supporting the plunger in vertical position on a battery post, and a rod-like member on the other handle adapted to be engaged by said plunger approximately in vertical alinement therewith whereby a blow on said rod-like member is transmitted to the post for loosening a terminal.

4. In a tool of the character described, a body having a handle rigid therewith, a pair of opposed jaws hinged to the body for engagement under a battery terminal, means for holding said jaws fixedly in engagement with a terminal, a plunger slidable vertically in the body and adapted to engage a battery post, a handle pivotally connected to the first-named handle, an adjusting screw in said pivoted handle positioned to engage said plunger, and a spring for holding the plunger in contact with said screw.

5. A battery terminal remover having a body, a handle on the body with lateral lugs, jaws on the body for engaging under a battery terminal, said jaws having forks straddling the respective lugs adjacent thereto, pivot pins each extending through a lug and the forks of a jaw, a plunger adapted to bear on a battery post, and a handle engaging said plunger, substantially as set forth.

6. A battery terminal remover having a body, a handle on the body with lateral lugs, jaws on the body for engaging under a battery terminal, said jaws having forks straddling the respective lugs adjacent thereto, pivot pins each extending through a lug and the forks of a jaw, a plunger adapted to bear on a battery post, and a handle engaging said plunger, the relation of the two handles being such that both may be grasped in one hand.

In testimony whereof we affix our signatures.

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