

H. T. DUKET.

PLIERS.

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1,346,306.

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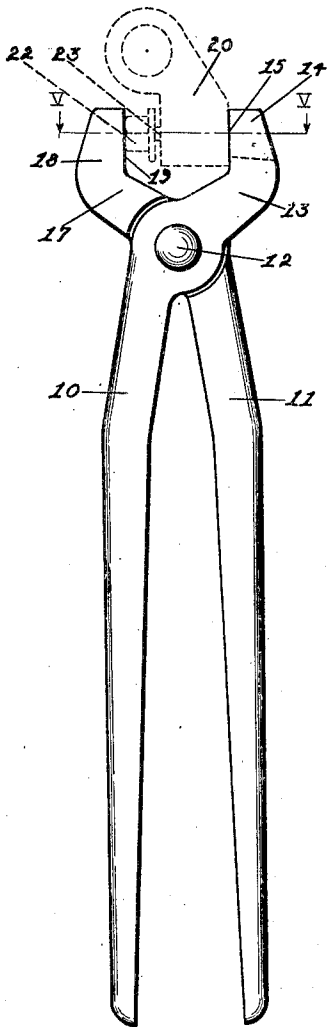


Fig. I.

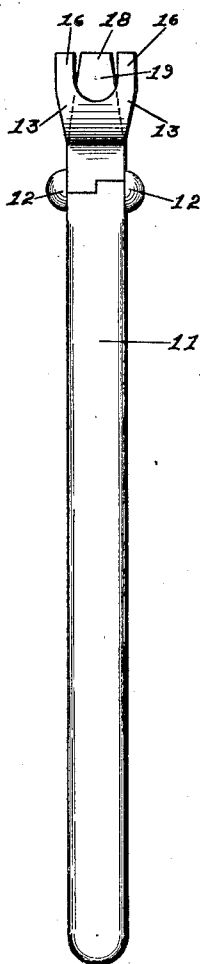


Fig. II.

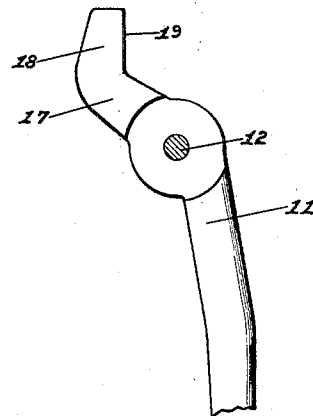


Fig. III.

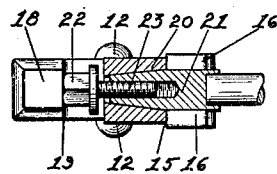


Fig. IV.

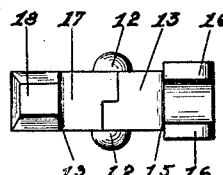


Fig. V.

Inventor
Henry T. Duket

By

Chester H. Braselton
Attorney

UNITED STATES PATENT OFFICE.

HENRY T. DUKET, OF TOLEDO, OHIO.

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To all whom it may concern:

Be it known that I, HENRY T. DUKET, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Pliers, of which I declare the following to be a full, clear, and exact description.

This invention relates to improvements in pliers and more particularly to pliers for use in removing the terminals of storage batteries.

The principal object of my invention is to provide an improved tool by means of which the terminals of a storage battery may be quickly and easily disconnected without the danger of breakage to the storage battery connection.

Further objects, and objects relative to economies of manufacture and details of construction, will definitely appear from the detailed description to follow:

I accomplish the objects of my invention by the devices and means described in the following specifications. My invention is clearly defined and pointed out in the appended claim.

A structure constituting a preferred embodiment of my invention is illustrated in the accompanying drawings, forming a part of this specification, in which:

Figure I is a view in side elevation of a tool constructed in accordance with my invention, storage battery connection and terminal being shown in dotted lines.

Fig. II is an edge view of the tool shown in Fig. I.

Fig. III is a top plan view of the same.

Fig. IV is a detail fragmentary view in side elevation of the upper end of one of the levers.

Fig. V is a detail sectional view, taken substantially on the line V—V of Fig. I, the battery terminal and battery connection being shown in section.

In the drawings, similar reference numerals refer to similar parts throughout the several views, and the sectional view is taken looking in the direction of the little arrows at the end of the section lines.

Considering the numbered parts of the drawings, my improved pliers for removing battery terminal connections comprise the levers 10 and 11, which are pivotally connected together at 12, and are provided with the offset heads 14 and 18 connected

with the body of the levers 10 and 11 respectively, by the portions 13 and 17. The offset head 14 is forked to provide the parallel spaced arms 16 and the inner face 15 of said head lies in a plane, which is parallel to the inner face of the head 18. The head 18 is narrow and is in line with the space between the spaced arms 16.

The battery connection is indicated by dotted lines at 20 in Fig. I, and in section in Fig. V, and is provided with a tapered socket, which is adapted to receive the tapered upper end of the terminal connection 21. A terminal nut 22 has a stem 23 threaded into a socket in the terminal 21. Due to the engagement of the tapered end of the terminal in the battery connection, 20, these connections very often stick, and it has been quite difficult to remove the terminals without danger of breaking the battery connections, and putting the battery out of business. I have found that by the use of pliers constructed in accordance with my invention, this removal of the battery terminals can be very easily and quickly effected without any danger of breaking the parts. The terminal nut 22 is unscrewed slightly, so as to back the stem 23 out of the socket in the connection, and the tool is then brought into play with the spaced arms 16, engaging beneath the battery connections 20, so that the terminal 21 passes up through the space between the arms 18, as shown in Fig. V. The inner face 19 of the head 18, engages the end of the terminal nut 22, and when the tongs are operated by bringing the handle ends of the levers 10 and 11 toward each other, pressure will be applied on the end of the terminal nut 22, and in the opposite direction on the battery connection 20, so that the terminal 21 will be forced out of its socket. This can be very quickly and conveniently done and there is no danger of breaking the battery connections or otherwise injuring the battery.

It will be seen that the head 18 is in line with the space between the arms 16 of the forked head 14, and that the inner faces 19 and 15 of the heads 14 and 18 are parallel and lie in planes parallel to the general plane of the tools, that is, to a plane extending through the pivot 12 in a line parallel to the general extent of the pliers. When the pliers are operated, force will thus be exerted by the heads 14 and 18, in line with the battery terminal, so as to force the ter-

minal, 21 out of its socket in the connection 20.

What I claim is:

A tool for removing battery terminal
5 connections comprising a pair of lever arms
pivotaly connected together, each of said
lever arms being provided with an angular
portion located adjacent its point of pivotal
10 offset head extending from the angular, por-

tion, the inner face of one head comprising
a continuous flat surface while the other
head is provided with a pair of forked arms
adapted to releasably engage a portion of a
battery terminal connection, the inner faces 15
of said heads being substantially parallel
when in operative position.

In testimony whereof I affix my signature.

HENRY T. DUKET.