June 12, 1923. 1,458,417

O. A. JOHNSON

PLATE PUNCHING MACHINE

Original Filed April 29, 1921 2 Sheets-Sheet 1

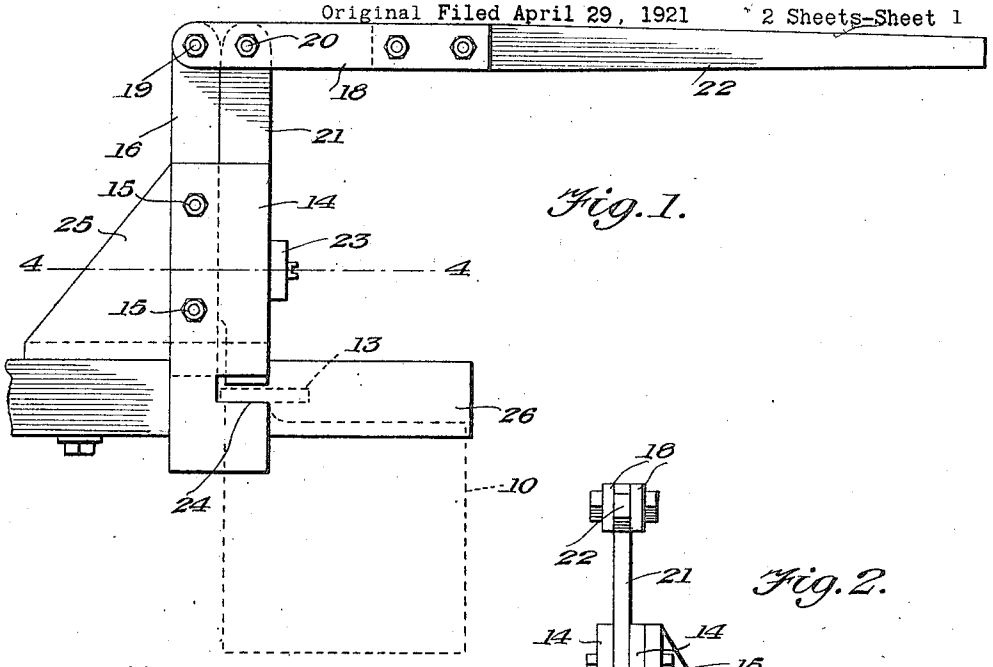


Fig. 1.

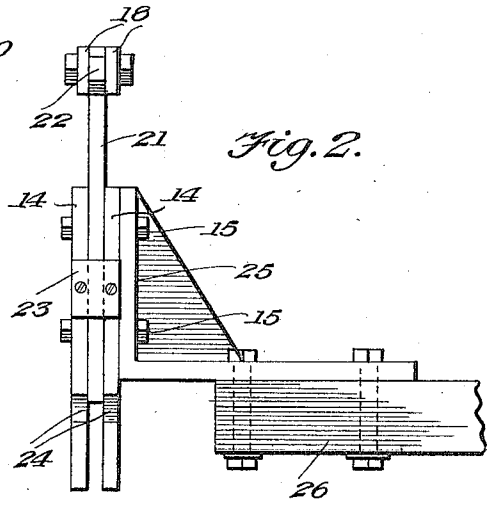
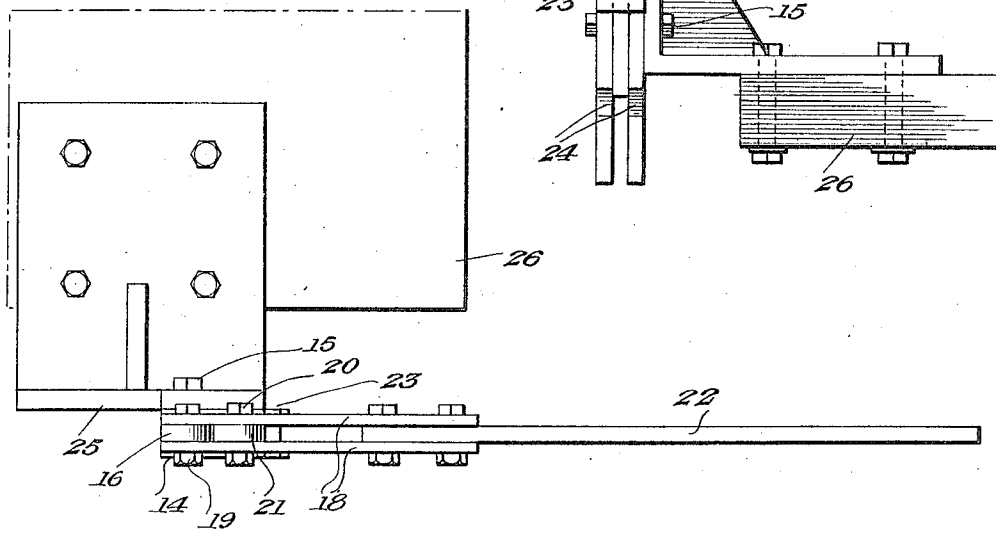


Fig. 2.

Fig. 3.



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WITNESS:

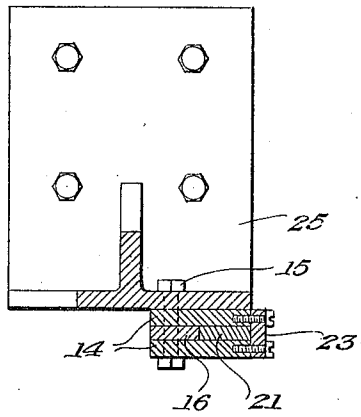
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PLATE PUNCHING MACHINE

Original Filed April 29, 1921 2 Sheets-Sheet 2

Fig. 4.



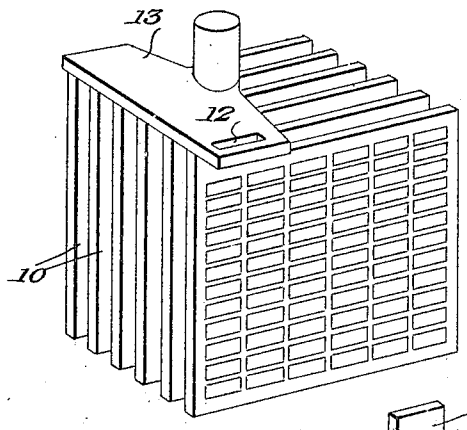
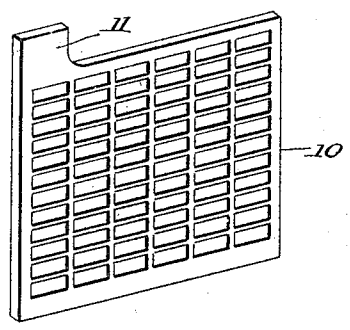


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE.

OSCAR A. JOHNSON, OF MINNEAPOLIS, MINNESOTA.

PLATE-PUNCHING MACHINE.

Application filed April 29, 1921, Serial No. 465,536. Renewed February 10, 1923.

To all whom it may concern:

Be it known that I, OSCAR A. JOHNSON, a citizen of the United States of America, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented new and useful Improvements in Plate-Punching Machines, of which the following is a specification.

In repairing storage batteries, such as are used in motor operated vehicles, it is often necessary to remove one or more of the plates of the group of the plates which are fitted and welded to the post strap. These plates are generally sawed out with a hack saw, which requires considerable time, and frequently other methods are employed which destroy the post strap.

It is therefore the purpose of this invention to provide a cheap and simply constructed device, by means of which the plates of the storage battery can be easily removed from the post strap without affecting the latter, and leaving a neat clean hole in which a new plate can be fitted and welded.

The invention embodies amongst other features a frame which can be bolted or otherwise suitably secured to a work-bench, and a plunger slidably mounted in the frame and operated by means of a lever, so that the plates can be singly removed from the post strap with a single stroke of the plunger.

The nature and advantages of the invention will be better understood when read in connection with the accompanying drawings, the invention residing in the combination, construction, and arrangement of parts as claimed.

In the drawings forming part of this application, like numerals of reference indicate similar parts in the several views and wherein:

Figure 1 is a side elevation of the device constructed in accordance with my invention.

Figure 2 is a front elevation.

Figure 3 is a top plan view.

Figure 4 is a sectional view taken on line 4—4 of Figure 1.

Figure 5 is a perspective view showing a group of plates associated with the post strap, such as used in storage batteries.

Figure 6 is a detail view of one of these plates.

Referring to the drawings in detail, and particularly Figures 5 and 6, I have illustrated a group of plates used in storage battery constructions, one of these plates being indicated at 10 and provided with a lug 11 which is received by an opening 12 in a post strap 13. When the plates are associated with the strap 13, they are grouped in spaced parallel relation as shown in Figure 5. In repairing storage batteries it is often necessary to remove one or more of these plates from the post strap 13, and methods are usually employed which requires considerable time and labor, and as above stated frequently destroys post straps.

The device forming the subject matter of this invention, is constructed to facilitate the removal of the plates 10 from the post strap, in a manner where a neat, clean hole or opening is left for the reception of the lug or a new battery plate, so that the plate can be easily fitted and subsequently welded to the post strap. The device embodies a frame which is preferably made up of spaced parallel members 14 of equal area, and these members are suitably connected together by fastening elements 15. Arranged between and secured to the respective members of the frame is a standard 16 which projects an appreciable distance above the upper end of the frame as shown. Links 18 are secured to the opposite sides of the standard 16 and pivotally associated therewith as at 19. These links are also connected as at 20 to a plunger 21 which slides between the members 14 of the frame, while the links have secured thereto an operating lever 22. The plunger is held in position between the members by means of a strap 23 which is secured to corresponding longitudinal edges of the frame 14 as illustrated. These members 14 are slotted as at 24 to receive the post strap 13, when the device is being used to remove one of the plates from the strap. Carried by one of the members 14 of the frame is a bracket 25 designed to be suitably connected to a work-bench or the like indicated at 26.

In use of the device, the post strap 13 is positioned within the slots 24 of the frame, after the lever 22 has been elevated to move the plunger 21 to its uppermost position. The plate 10 to be removed from the strap 13 is positioned immediately beneath the plunger 21 in the space between the members 14 of the frame, so that when the plunger is depressed through the instrumentality

of the lever 22, the particular plate is engaged by the plunger and forced out of the post strap 13 in a manner which leaves the hole or opening 12 in said strap neat and clean to accommodate the lug 11 of a new plate, so that the latter can be quickly and easily fitted and subsequently welded to the post strap 13. The device is preferably constructed of band iron and steel, although any suitable material may be employed in its manufacture. It is also very simple in construction and efficient in operation for the purpose intended.

While it is believed that from the foregoing description, the nature and advantages of the invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described, and that such changes may be resorted to when desired, as fall within the scope of what is claimed.

What I claim is:

In a device of the character described, a frame comprising spaced parallel members, said members having alined slots opening at one edge of the frame, a lever pivoted on said frame, a plunger operating between said members and actuated by said lever, and a supporting bracket carried by one of the members of said frame.

In testimony whereof I affix my signature.

OSCAR A. JOHNSON.