D. W. BAER.

Metal-Punching Machine.

No. 165,466. Patented July 13, 1875.

Fig. 1.

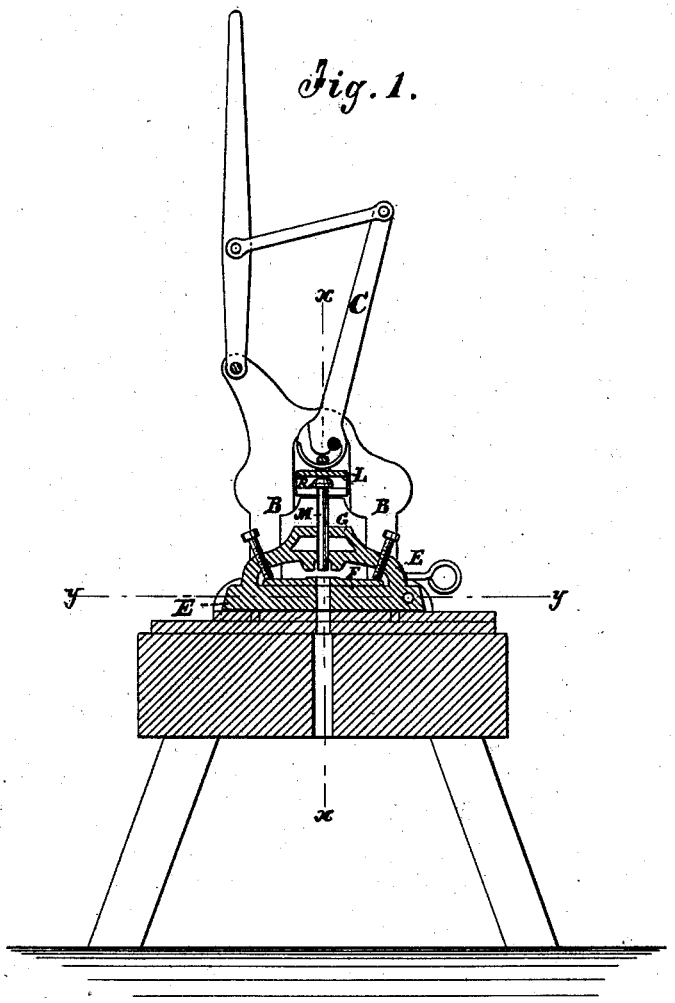


Fig. 2.

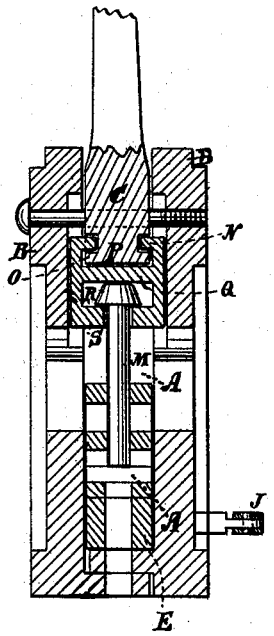
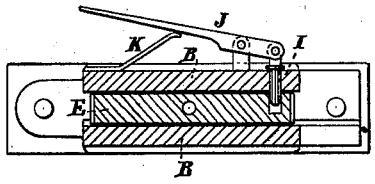


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DANIEL W. BAER, OF RICHLAND CENTRE, WISCONSIN, ASSIGNOR TO WILLIAM T. MILLER, OF SAME PLACE.

IMPROVEMENT IN METAL PUNCHING-MACHINES.

Specification forming part of Letters Patent No. **165,466**, dated July 13, 1875; application filed April 10, 1875.

To all whom it may concern:

Be it known that I, DANIEL W. BAER, of Richland Centre, in the county of Richland and State of Wisconsin, have invented a new and Improved Punching-Machine, of which the following is a specification:

The object of this invention is to provide a simple and efficient arrangement for putting in and taking out interchangeable dies and punches of different sizes.

It consists of a channel between housings, in which the cam-lever for forcing down the punch is pivoted, which the die-block containing the die slides in and out of, and the combination therewith of a locking-pin lever and spring, so that the spring forces the pin in a hole in the die to fasten it in its proper place. It also consists of a slotted head-block, connected with the cam-lever, and contrived so that the punches which have a head on one end can slide in and out freely, being held by the head, while the lower end is guided to the die by a guide-plate of the die-block above the die, all as hereinafter described.

Figure 1 is a longitudinal sectional elevation of a punch constructed according to my invention. Fig. 2 is a transverse section taken on the line *x x* of Fig 1, and Fig. 3 is a horizontal section of the die-block on the line *y y* of Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the channel between the housings B, near the top of which the cam-lever C is pivoted to force down the punches. E is the die-block containing the die F, and having guide-plates G for the punch over the die. This block slides in between the housings freely, and is locked by the pin I, connected to lever J, which is actuated by spring K. L is the head-block for connecting the punches M to the cam-lever, itself being connected by its lugs N, which engage the lever by its grooves O, so that the head P bears on the top Q of the block. The punch is connected by sliding the head in the channel R, above the slotted plate S, through which the shank hangs, the lower end being in the guide-plates of the die-block E.

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

1. The die-block E, fitted in the channel A, between the housings B, and having a stop-pin I, lever J, and spring K, combined with it, substantially as specified.

2. The combination, in a punching-machine, of the head-block L having an open-ended channel, R, and the housings B provided with a channel, A, with the removable die-block E, headed punch M, and cam-lever C, as and for the purpose set forth.

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Witnesses:

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