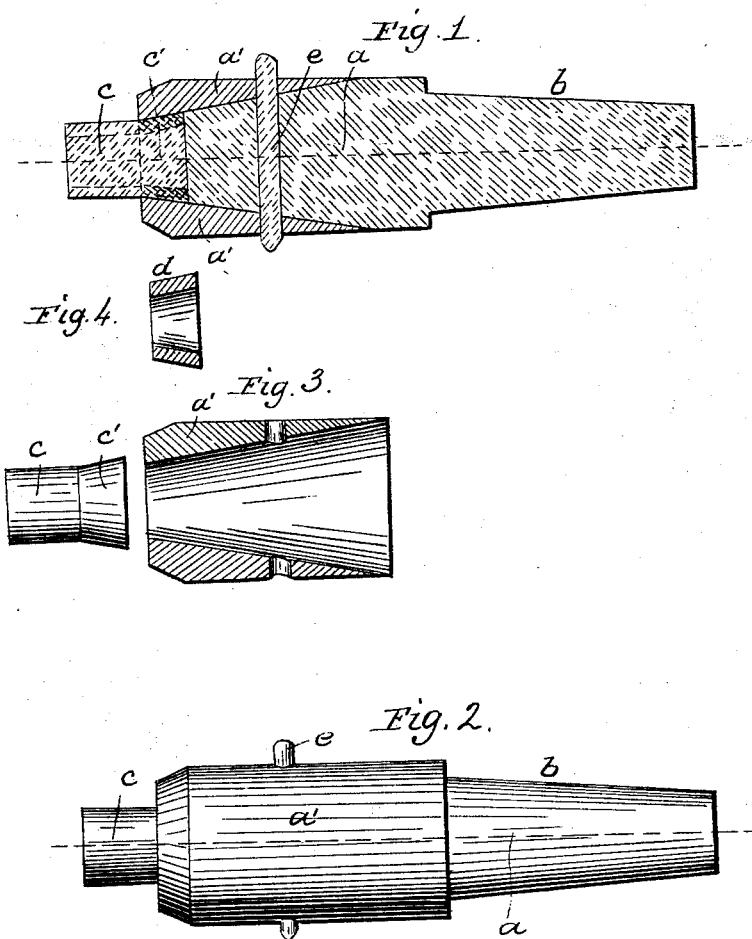


D. T. WALKER.

Metal Punch.

No. 49,937.

Patented Sept. 12, 1865.



witnesses:
J. C. Readwell
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Inventor:
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UNITED STATES PATENT OFFICE.

DANIEL T. WALKER, OF BROOKLYN, E. D., NEW YORK.

IMPROVEMENT IN MACHINERY FOR PUNCHING METALS.

Specification forming part of Letters Patent No. 49,937, dated September 12, 1865.

To all whom it may concern:

Be it known that I, DANIEL T. WALKER, of the city of Brooklyn, Eastern District, county of Kings, and State of New York, have invented Improved Machinery for Punching Metals; and I do hereby declare that the following is a full and correct description thereof, reference being had to the accompanying drawings, and to the letters of reference thereon.

My said invention consists in an improved punch-holder, and also of a peculiar form of punch to be used in the punch-holder.

In order to particularly describe my invention I will refer to the drawings, of which—

Figure 1 is a longitudinal section, showing punch and holder, the red lines showing a modification of construction which adapts the holder to different-sized punches; Fig. 2, a perspective outside view of punch and holder as used; Fig. 3, a section of the cone or socket of the punch-holder; Fig. 4, detached view of punch; Fig. 5, section of bush used for small punch.

The punch-holder consists of two parts, *a* and *a'*. The large solid part, *a*, has a taper-shank, *b*, of suitable size to fit a taper hole or recess in the sliding bolster or head of a punching-machine. Below the shoulder *c* of the taper-shank the piece *a* tapers down to a diameter equal to the largest punch-head for which it is intended. The hollow part *a'* of the punch-holder is also interiorly of a taper corresponding to that of the solid part *a* and the head of the punch *c*, which, it will be observed, is also conical or tapering in form.

The punch *c* is a short cylinder of steel, having a head, *c'*, of a taper corresponding to that of the hollow part, *a'*.

When punches of a smaller size are to be used a conical bush, *d*, is necessary, unless the punch-head be made with a shoulder, which would be a waste of metal and work, as one bush will outlast many punches.

The parts are put together as shown in the drawings, and secured by a pin or key, *e*, driven through holes in the parts.

By this mode of construction the punch itself is reduced to a very small piece of metal and can be renewed at a trifling expense, and yet a firm and sufficiently-solid connection with a punching-machine is obtained to punch boiler-plate and other heavy plate metal. The solid part *a* being in contact with the head of the punch becomes a driver of the punch in all cases, whether the punch is large or small. The hollow or conical part *a'* is the cap to hold the punch to the driver, and also to hold the bushes when used. The red lines, Fig. 1, show the arrangement of bush and small punch.

I claim—

1. The improved punch-holder, consisting of the driver *a*, the cap *a'*, and a fastening, substantially as described.

2. The driver, conical cap, fastening, and punch, in combination, substantially as described.

3. The conical bush, in combination with the cap and driver, for the purpose of holding various-sized punches in the same punch-holder, substantially as described.

DANIEL T. WALKER.

Witnesses:

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