

**J. BRAUN.**  
**Nut-Machines.**

No. 138,066.

Patented April 22, 1873.

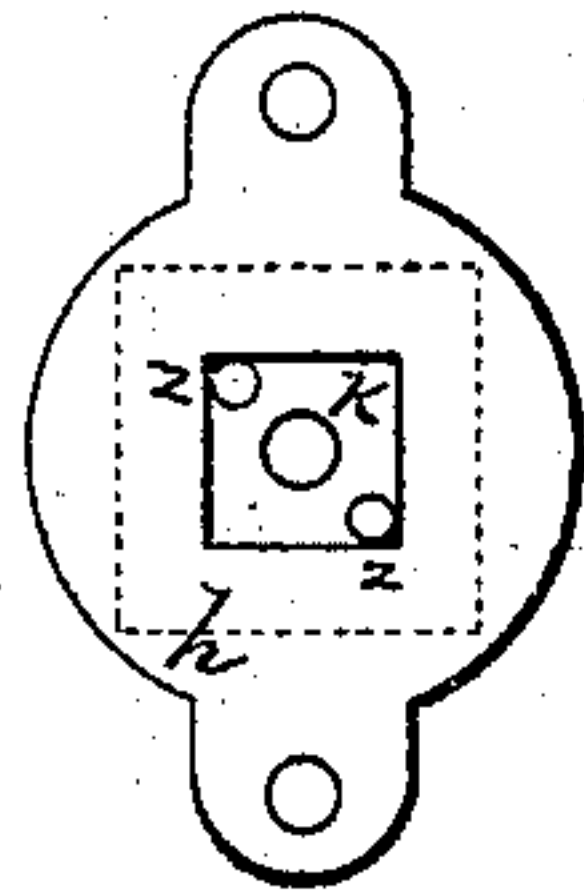


Fig. 3.

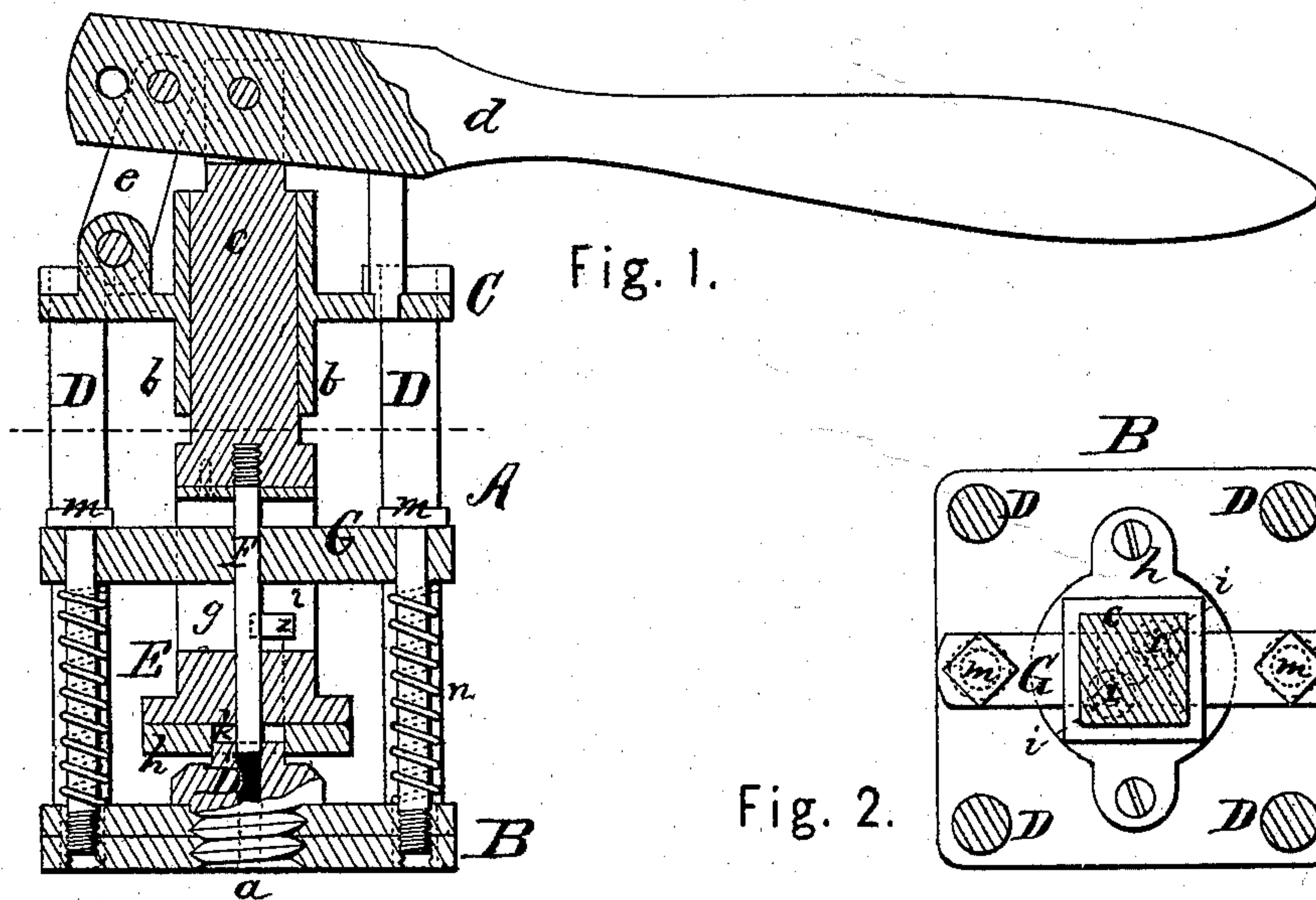


Fig. 1.

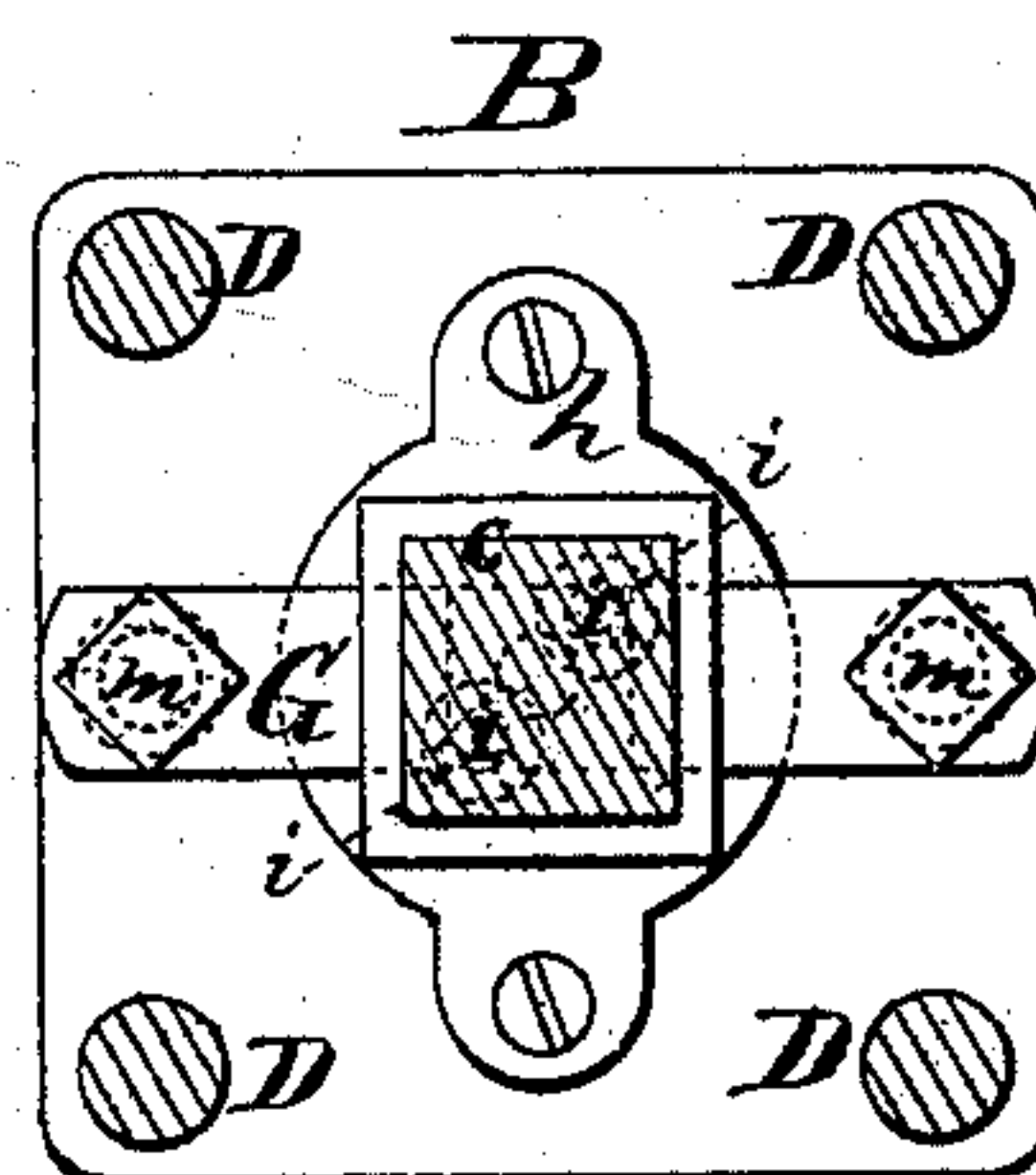


Fig. 2.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN NUT-MACHINES.

Specification forming part of Letters Patent No. **138,066**, dated April 22, 1873; application filed  
January 4, 1873.

*To all whom it may concern:*

Be it known that I, JOHN BRAUN, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and valuable Improvement in the Manufacture of Nuts and Washers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a vertical section of my invention. Fig. 2 is a horizontal section of the same. Fig. 3 is a detail view.

This invention has relation to machines for making nuts and washers; and consists in the construction and novel arrangement of devices for forcing the nut or washer out of the die-socket after it has been stamped and punched, substantially as hereinafter described.

In the accompanying drawing, the letter A designates a strong frame-work, consisting of the bed-plate B, the top plate C, and the connecting-rods or bolts D. The bed-plate is perforated centrally, and provided with a female screw-thread for the reception of the screw-base *a* of the square punch D', which is, therefore, easily adjusted vertically or about its axis, and can readily be removed when this is necessary for sharpening or renewal. The top plate is provided at its central portion with a square vertical sleeve or socket, *b*, which usually extends both above and below this plate, and serves as a guide to the sliding-stem *c* of the die-piece. For small work this stem may be pivoted to a lever, *d*, connected with the top plate by means of a link, *e*; but usually steam-power will be applied to this stem by proper couplings. The die-piece E consists of a slotted body, *g*, and the square stem *c* above referred to. To the lower end of the body *g* is attached the removable die-plate *h*, having at its center the square aperture or die-socket *k*, made just large enough to receive the nut-blank, which is cut from the bar by its lower or cutting edges as it descends upon the square base-punch D'. F indicates the center punch, which consists of a steel rod screwed vertically and centrally into the body of the die-piece above the slot of said body,

and extending downward until its lower end is flush with the lower face of the die-plate *h*. This end extends centrally and vertically through the die-socket *k*, and is, therefore, in position to punch the blank as it is forced up into the socket by the base-punch D'. As the end of the center punch is even with the cutting-edges of the die-socket, both operations take place simultaneously.

The nut-blank is formed clean; therefore the extra metal is driven out by the center punch being carried downward.

Transversely through the slot *l* of the body of the die-piece extends a rectangular horizontal stop-bar, G, which is connected to the base-plate by screw-bolts *m*, and supported upon spiral springs *n* placed around said bolts. The stop-bar G can thus be adjusted up or down, and will be kept in the horizontal position by the action of the supporting-springs.

On each side of the vertical central perforation in the lower part of the body of the die-piece, through which the center punch passes, are formed two perforations for the reception of the slide-pins *z*. These are provided, at their upper ends, with heads, which prevent them from falling through the perforations; and which, coming in contact with the stop-bar G when the die-piece is raised, serve to force out the nut-blank from the die-socket.

By means of the screw-bolts *m* the stop G can be adjusted to suit the thickness of the blank.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The sliding pins *z*, in combination with the die-piece E, slotted at *g*, and the stop-bar G, substantially as and for the purpose specified.

2. The combination, of the die-piece E, slotted at *g*, and holding the sliding pins *z* and die-socket *k*, with the horizontal stop-bar G, bolts *m*, and springs *n*, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN BRAUN.

Witnesses:

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M. DANL. CONNOLLY.