

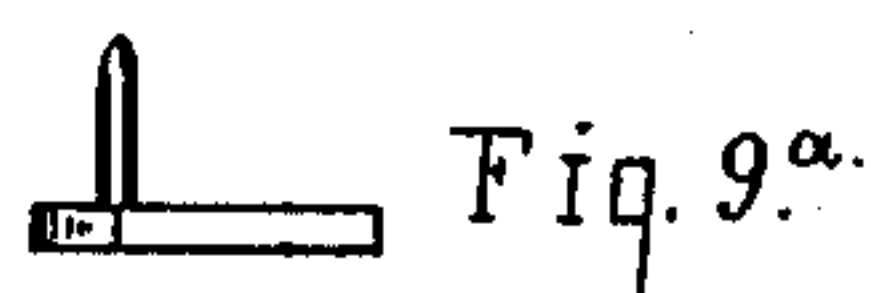
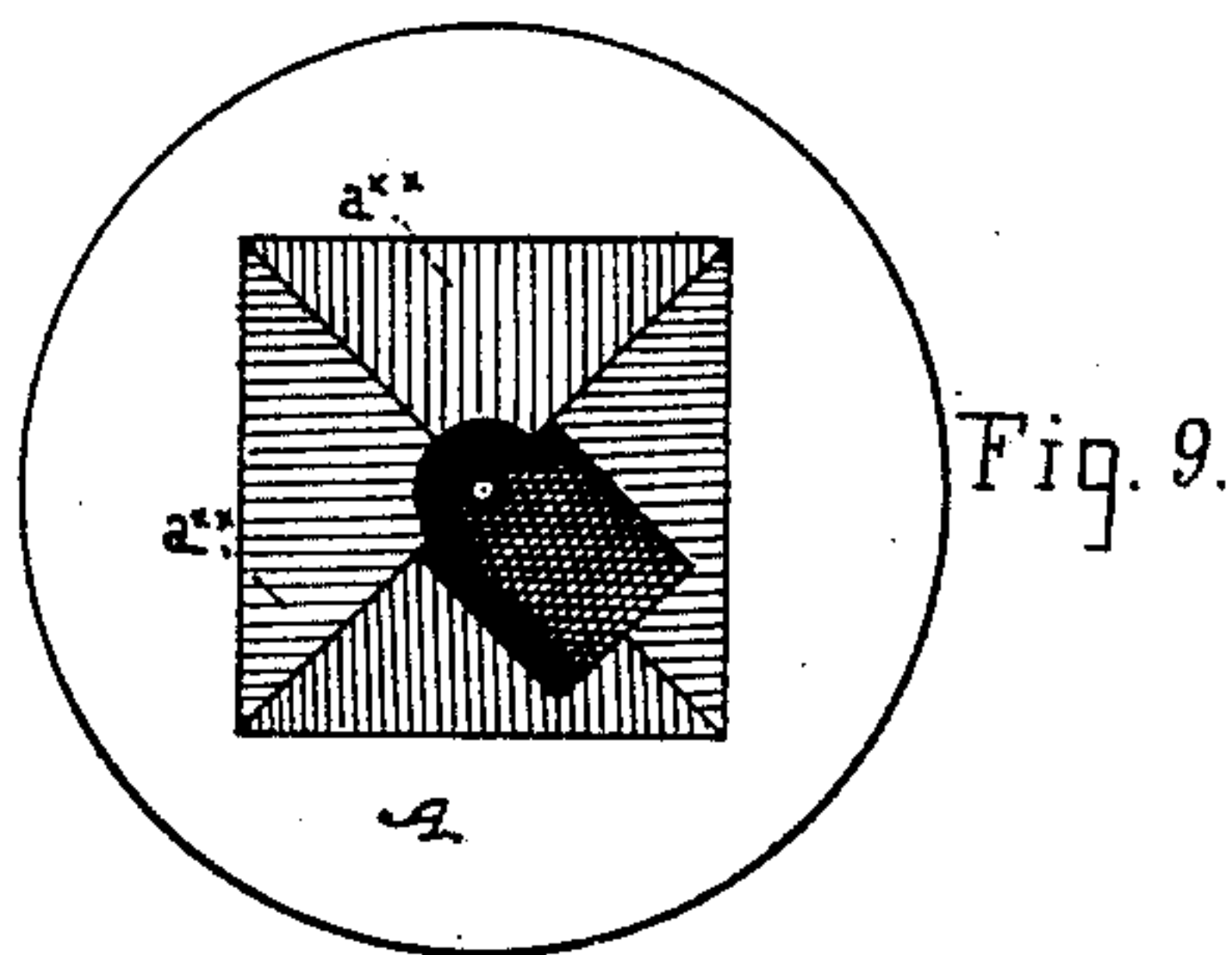
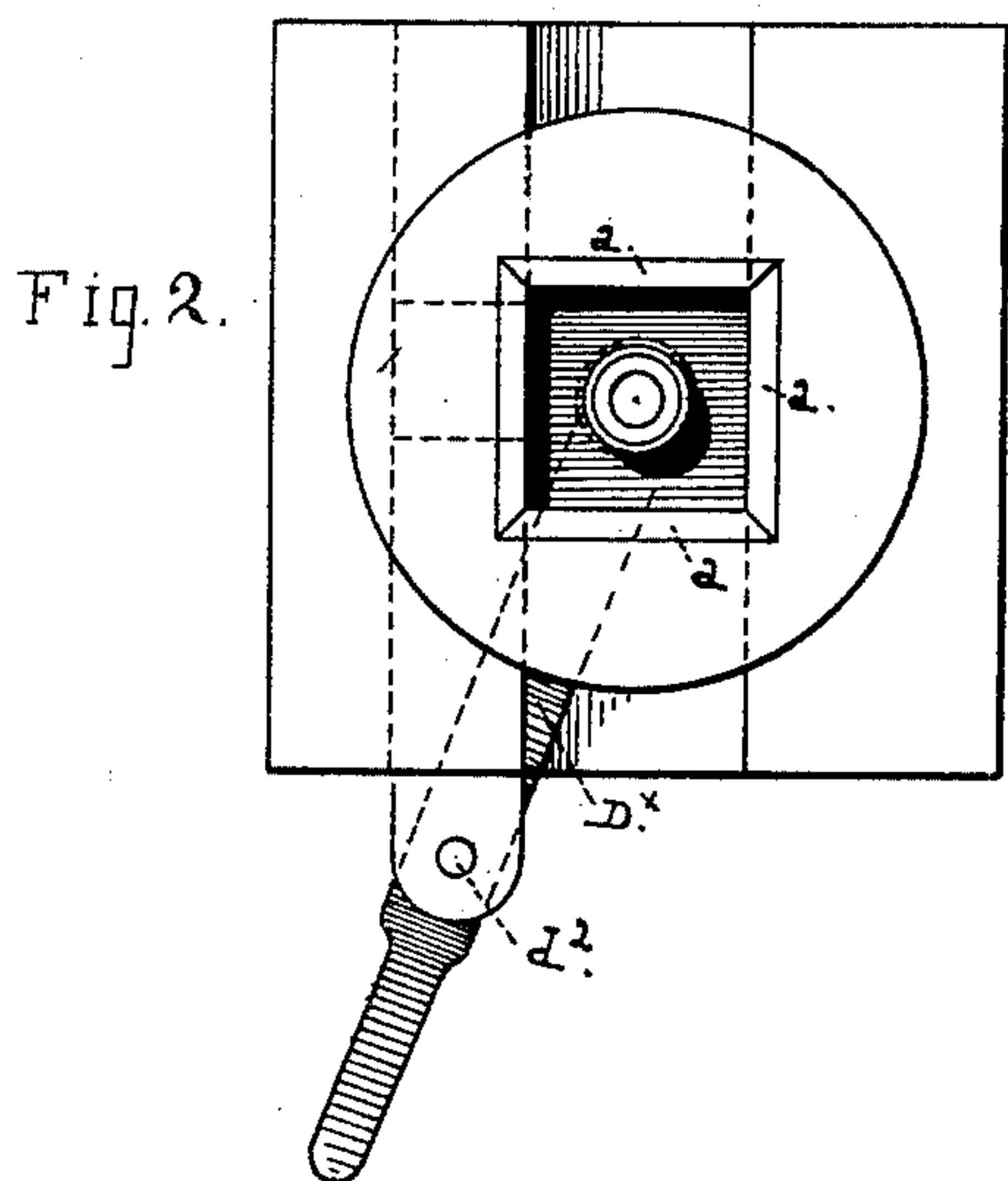
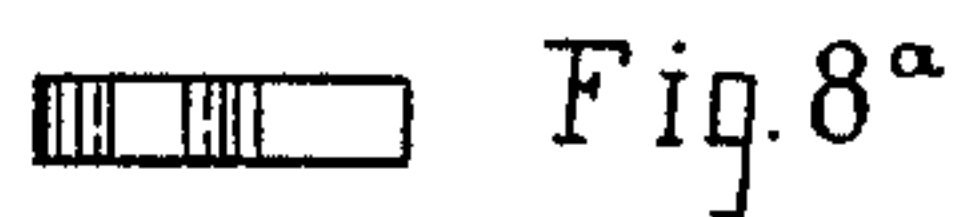
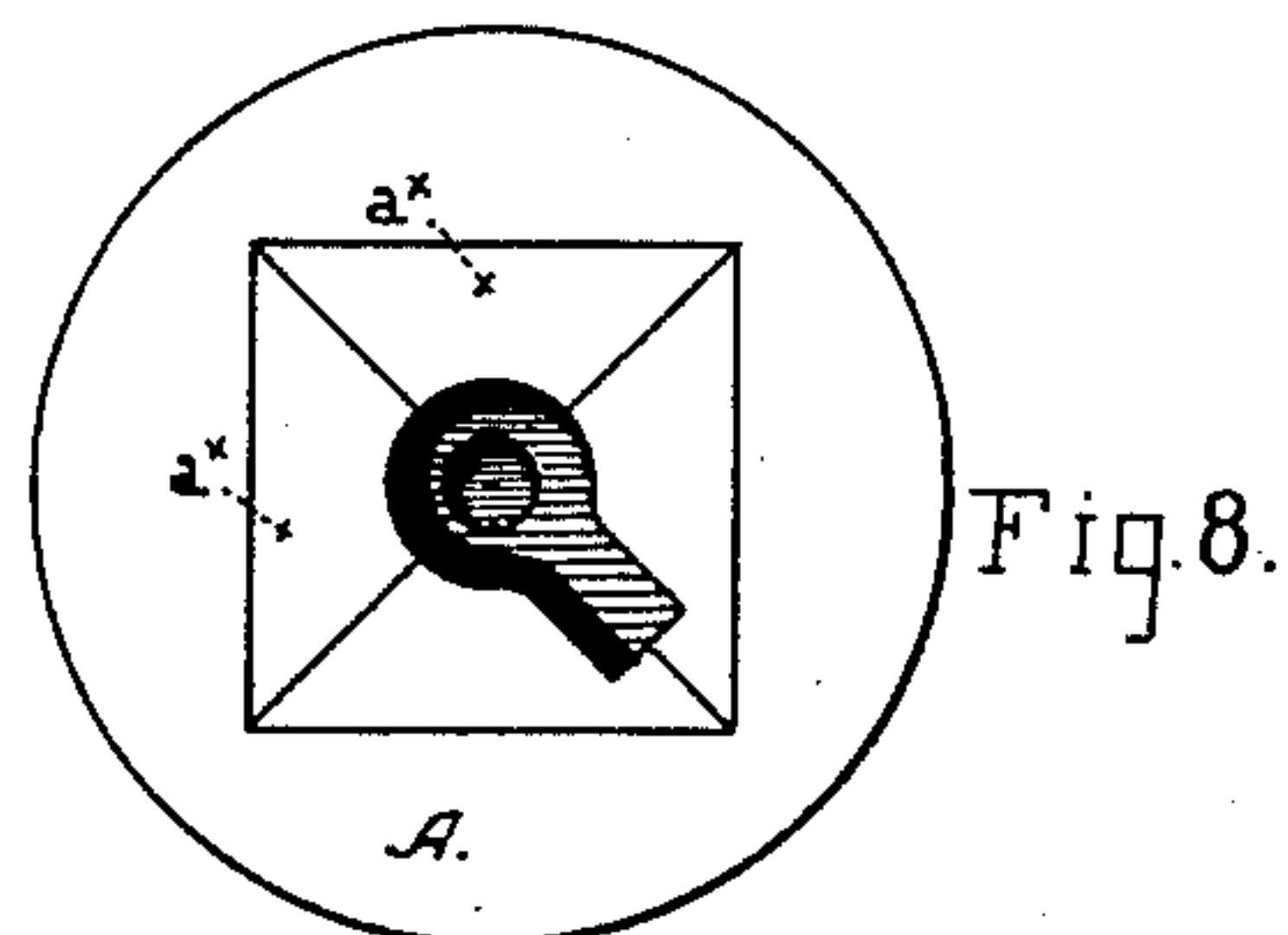
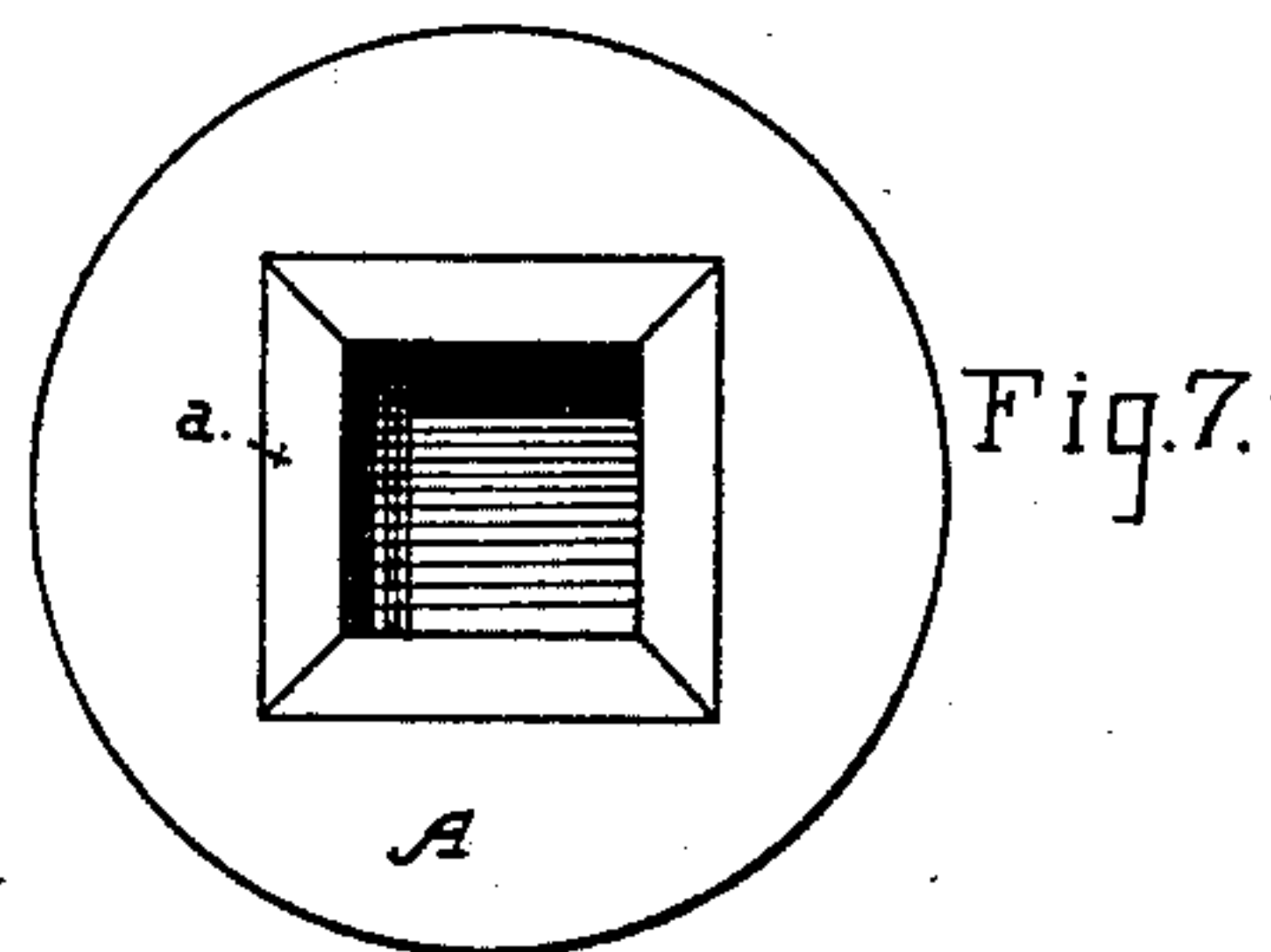
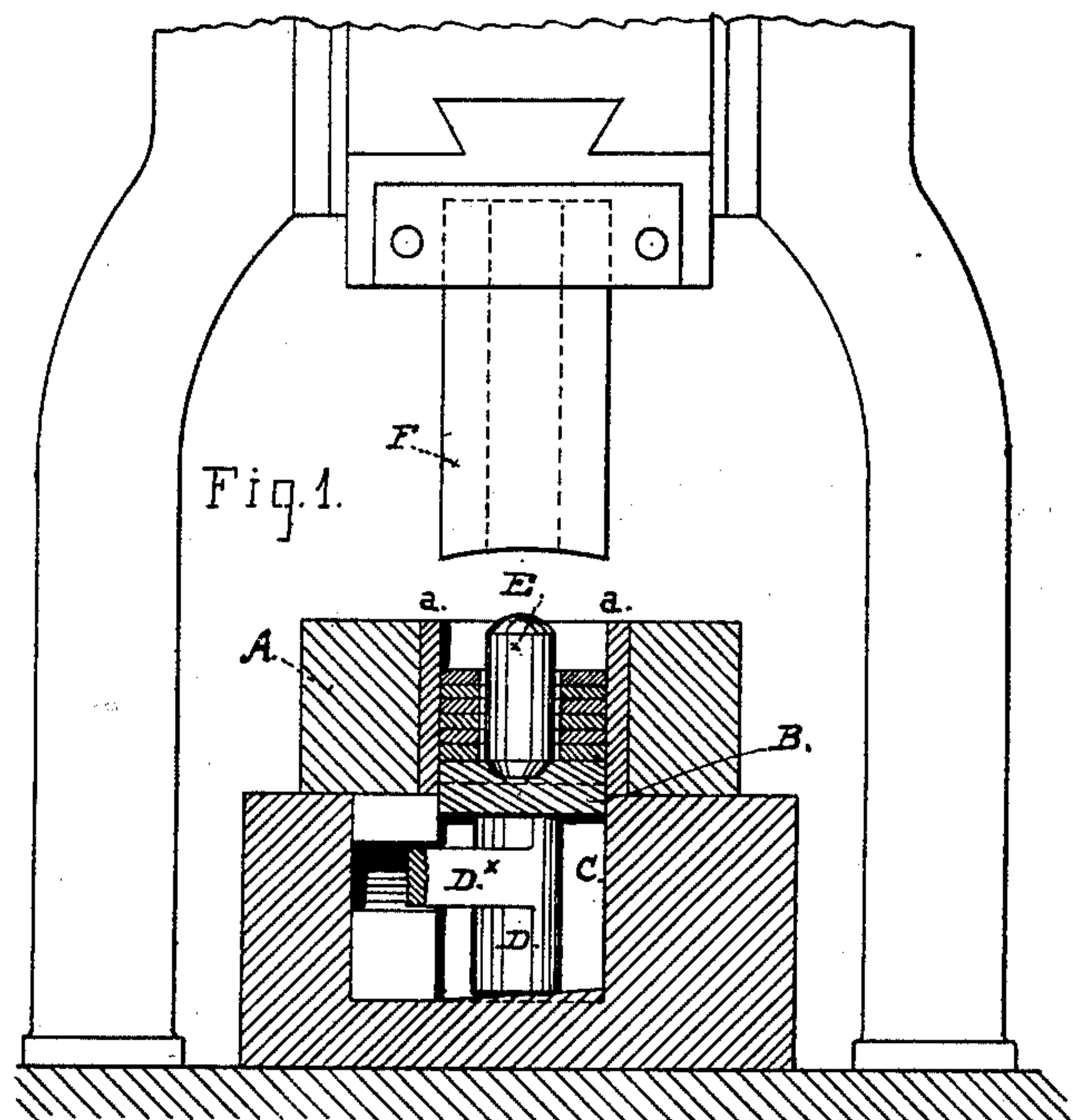
(No Model.)

2 Sheets—Sheet 1.

S. UREN.
MACHINE FOR MAKING NUTS.

No. 327,742.

Patented Oct. 6, 1885.



Witnesses:

Edwin H. McKee
W. B. Boring

Inventor:

Stephen Uren
By his Atty. *E. B. Boring*

(No Model.)

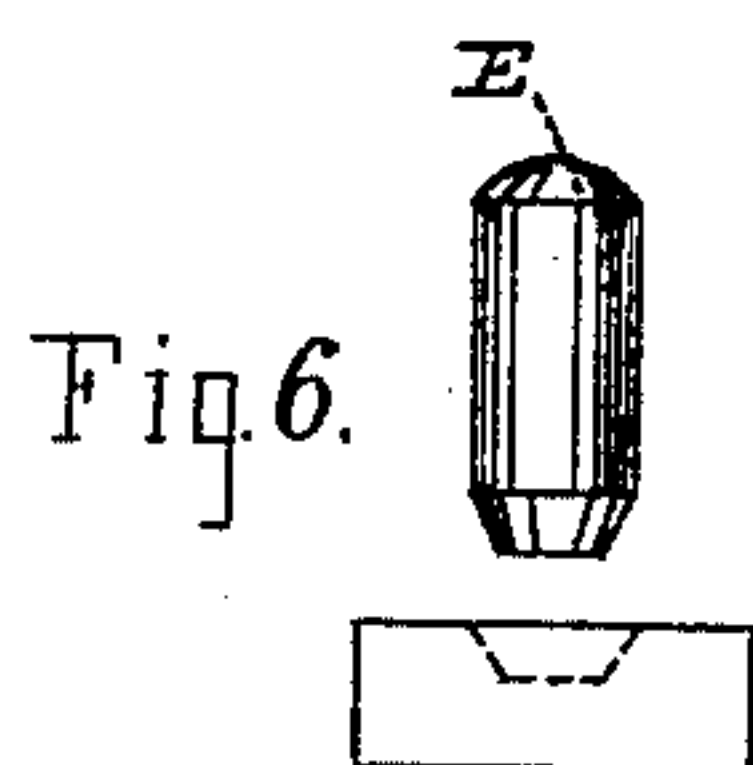
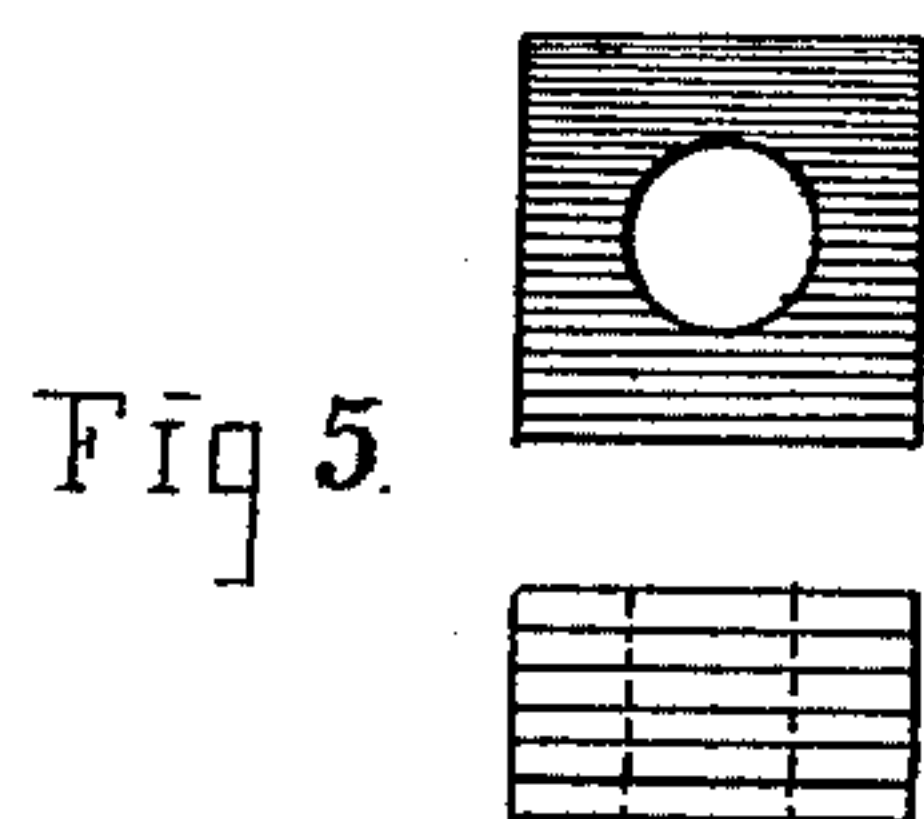
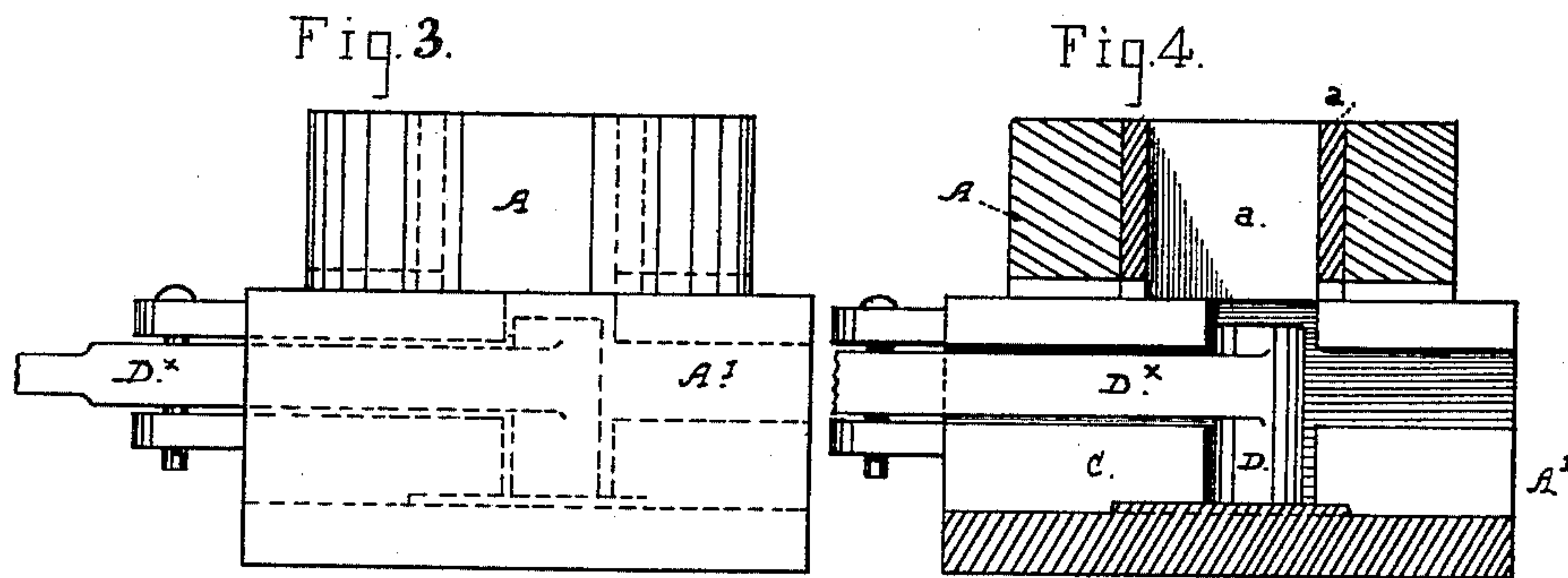
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

STEPHEN UREN, OF SACRAMENTO, CALIFORNIA.

MACHINE FOR MAKING NUTS.

SPECIFICATION forming part of Letters Patent No. 327,742, dated October 6, 1885.

Application filed November 28, 1884. Serial No. 148,936. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN UREN, a citizen of the United States, residing in Sacramento, Sacramento county, and in the State of California, have invented certain new and useful Improvements in Machines for Forming Nut-Blanks; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the drawings that accompany and form part of this specification.

The object of my invention is to produce a machine for manufacturing nut-blanks and other articles from scrap-metal according to an improved method or process invented by me, and made the subject of a separate application for Letters Patent simultaneously herewith, Serial No. 149,074. In that invention I have in view the utilization of much waste material hitherto consigned to the scrap-heap, while in this invention I aim to provide special machinery for carrying on the manufacture of nut-blanks and various articles and staple parts of machines from such material in a rapid and economical manner. To such end my said invention consists in certain novel construction, combination, and employment of parts, as herein fully described, both to form such articles as nut-blanks with eyes or apertures and to produce forms and articles without such apertures.

Referring to the accompanying drawings, Figure 1 is a view in elevation of a portion of the bed and frame of a power-hammer or drop-press with my improvements combined and applied for operation, the die-box being set over an open support and the die or plunger fixed to the hammer-head. The die-box and support are shown in section. Fig. 2 is a plan of the die-box and supporting-block. Fig. 3 is a side elevation; Fig. 4, a vertical section taken at right angles to that in Fig. 1. Fig. 5 is a view of the pile to form a nut-blank. Fig. 6 shows the loose bottom or drop of the die-box and the center-pin employed for the core of the aperture through the blank. Figs. 7, 8, and 9 illustrate different forms of die-box cavities and the manner of producing them by the use of removable plates or cheek-pieces. Figs. 8^a and 9^a represent finished articles produced with the aid of the dies, Figs. 8 and 9.

In the manufacture of nuts for bolts and

other forms and pieces from waste wrought metal, I proceed to cut up the material at hand into slabs or plates of the size and outline of the piece or article to be produced, and then forming a pile of the size required by placing the slabs to the requisite number one upon another. For a nut-blank this pile would have the form represented in Fig. 3, and would contain sufficient metal to give proper thickness to the blank when finished. This pile, being brought to a welding heat in a suitable fire, is then shaped and finished by a single blow of a drop-hammer while confined in a die-box having a cavity of the shape and size of the article to be made.

The machine I have produced for the manufacture of nut-blanks consists of a die-box, A, with a dropping bottom, B, set over a passage or opening, C, through a bed or base, A', in which is a swinging or removable support, D, to hold up the loose bottom, and also permit it to be dropped for discharging the finished work from the die. The cavity in the die-box is a square aperture fitted with plates or cheek-pieces *a a*, that constitute the sides, while the loose block B forms the bottom of the cavity. This block has the same shape in outline as the cavity or space inclosed between the faces of the plates *a*, so that it is readily inserted into position by being dropped in from above, and is discharged with the finished pieces into the space afforded below the cavity.

Different shapes as well as different sizes of the same shape can be produced in the same press and die-box by providing side pieces or cheeks, *a* a***, of required form and of different sizes also, and then providing for each shape and size of cavity thus made in the die-box by means of these removable pieces, a loose bottom block, B, of the same shape, and a die or plunger, F, to fit the cavity. The die or plunger is secured to the head in any suitable manner that affords convenient detaching when one die is to be replaced by another, and the dropping bottom B is held up by the swinging support D. This part is fixed to the end of a lever, D*, that is pivoted at *d*², and is provided with a handle at the front. This construction enables the operation to be rapidly carried on, and also greatly simplifies the character of the die-box, for while a sliding bottom could be applied to the

die-box, and would then serve for all different shapes and sizes of cavity, I consider that the use of a separate block to be dropped in from above will be less complicated.

5 In proceeding to produce a nut-blank from either of the piles, Figs. 3, 4, 5, or 6, the pile is first brought to the required heat in a suitable furnace, and the movable bottom being in place this heated pile is dropped into the
10 cavity of the die-box and the center-pin is inserted in upright position into the center. The die is then brought into action, and the pile welded and formed, usually by a single blow or pressure. After this operation the
15 support is withdrawn from beneath the die-box bottom and the finished blank is discharged with the die-box bottom and the center-pin into the space under the box, whenever they are drawn out and allowed to cool off.
20 Having thus fully described my invention,

what I claim, and desire to secure by Letters Patent, is—

1. The combination of the die-box, movable support, removable bottom, center pin, and die or plunger, substantially as herein 25 described.

2. The combination, with a die-box having a cavity of suitable form the bottom of which is composed of a removable block, of the center pin, and the die or plunger. 30

3. The combination, with the die-box A, of the removable side pieces or cheek-pieces *a a*, the loose block B, of corresponding shape to the cavity, inclosed between the faces of the die-box, and the die or plunger F, substantially 35 as herein described.

STEPHEN UREN. [L. S.]

Witnesses:

EDWIN H. MCKEE,
W. S. BENING.