

No. 805,578.

PATENTED NOV. 28, 1905.

A. T. PARKER.
DIE FOR FORMING LACING TIPS.
APPLICATION FILED MAR. 24, 1905.

Fig. 1.

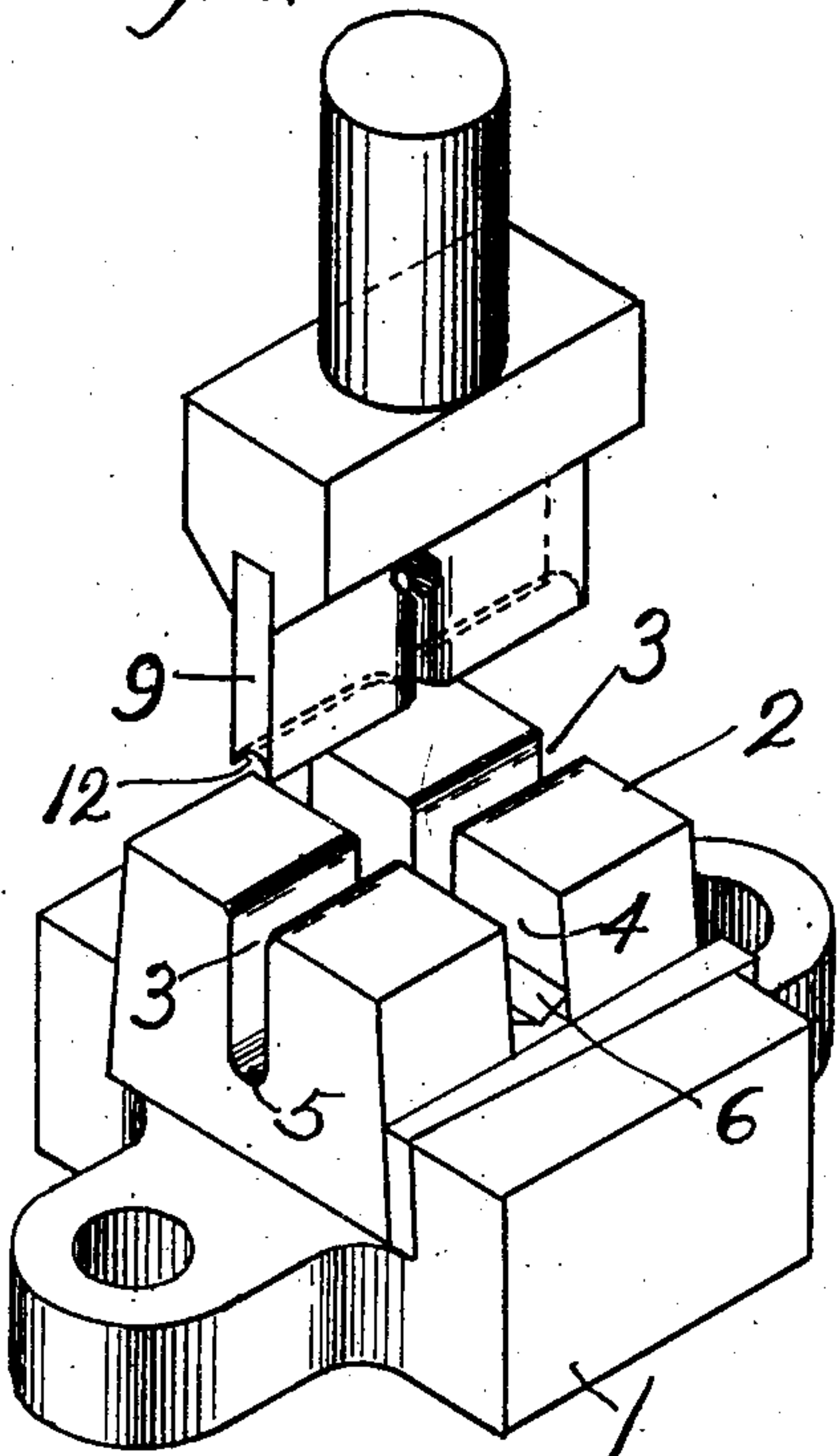


Fig. 2.

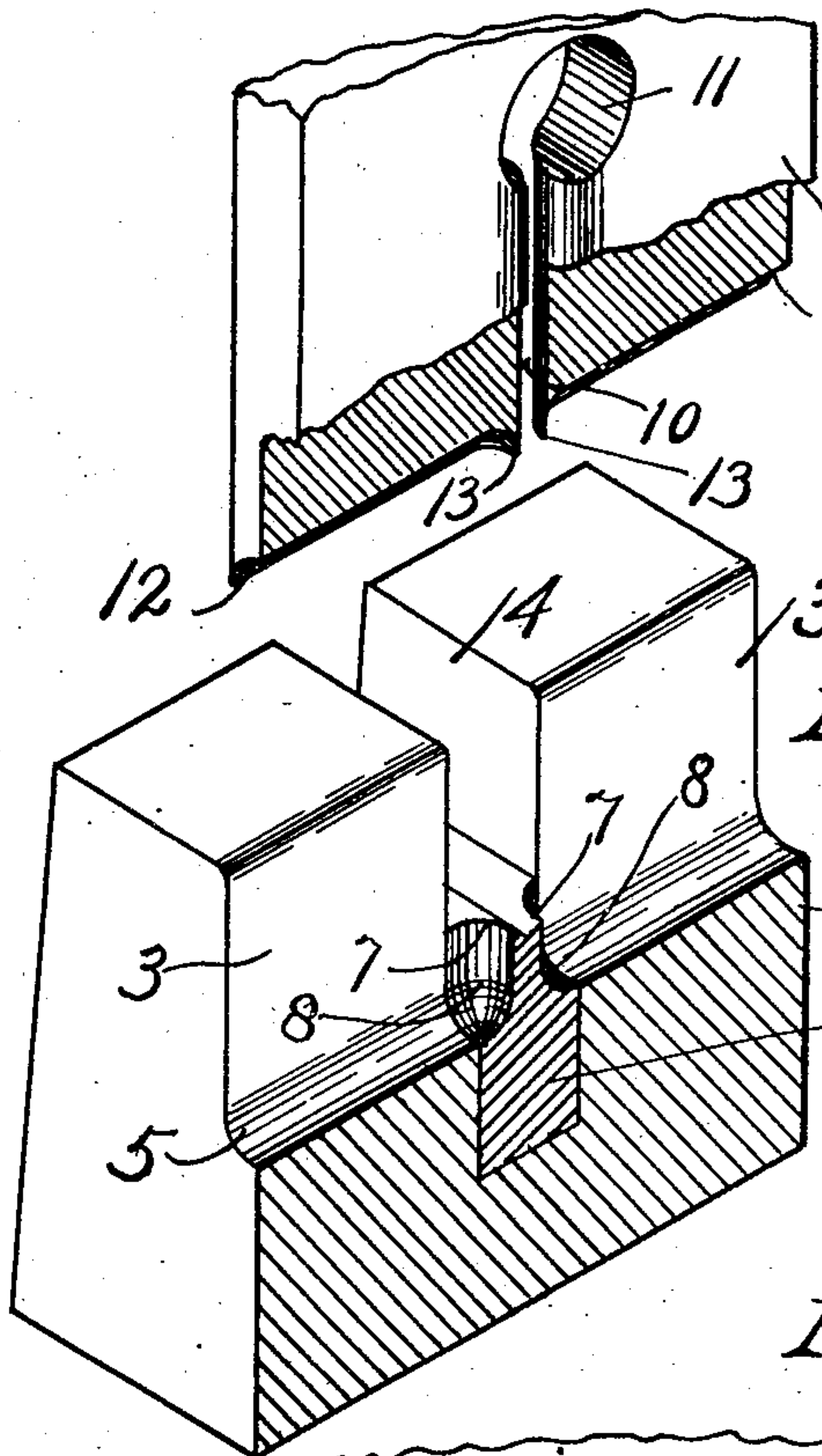


Fig. 3.

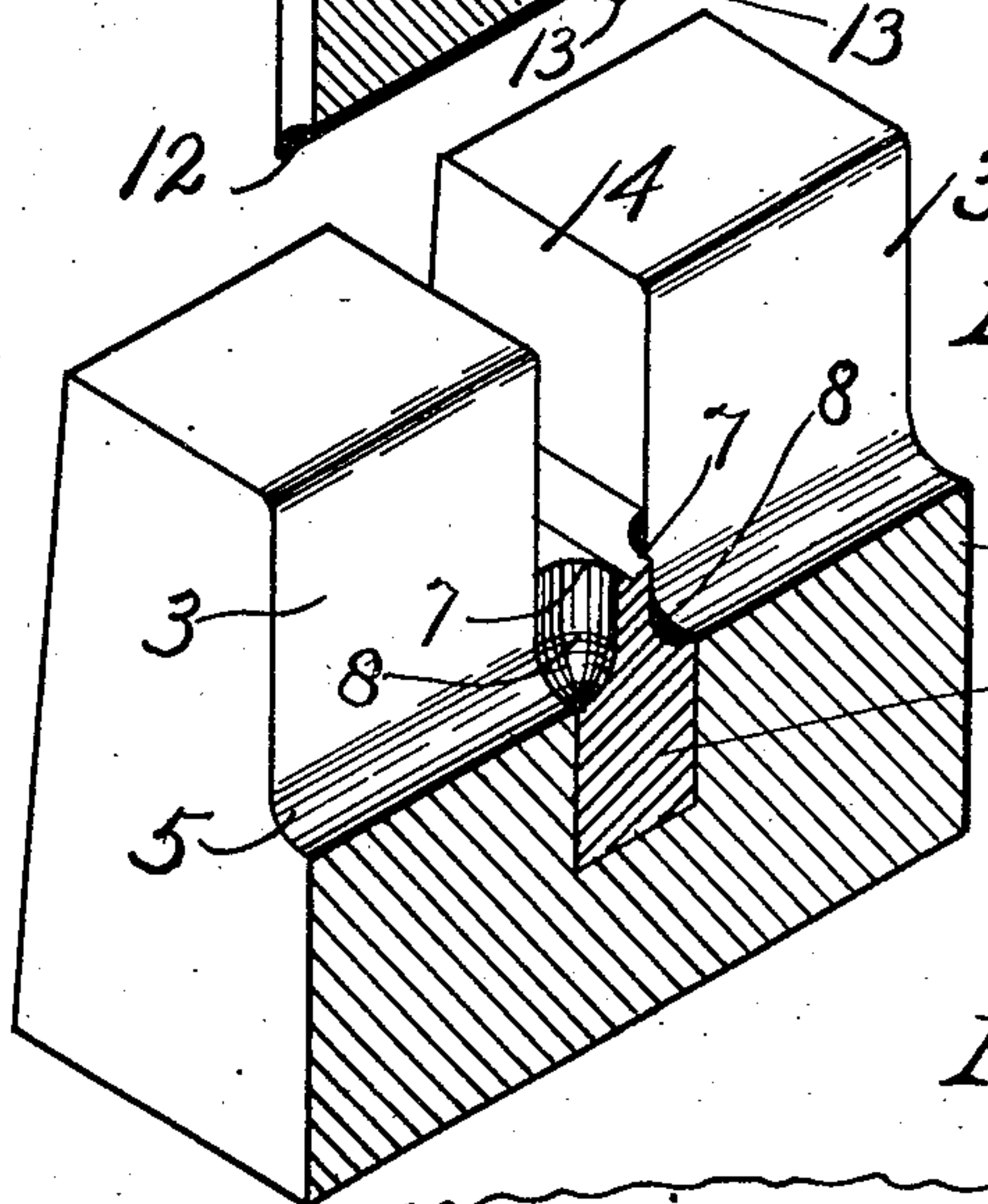


Fig. 7.

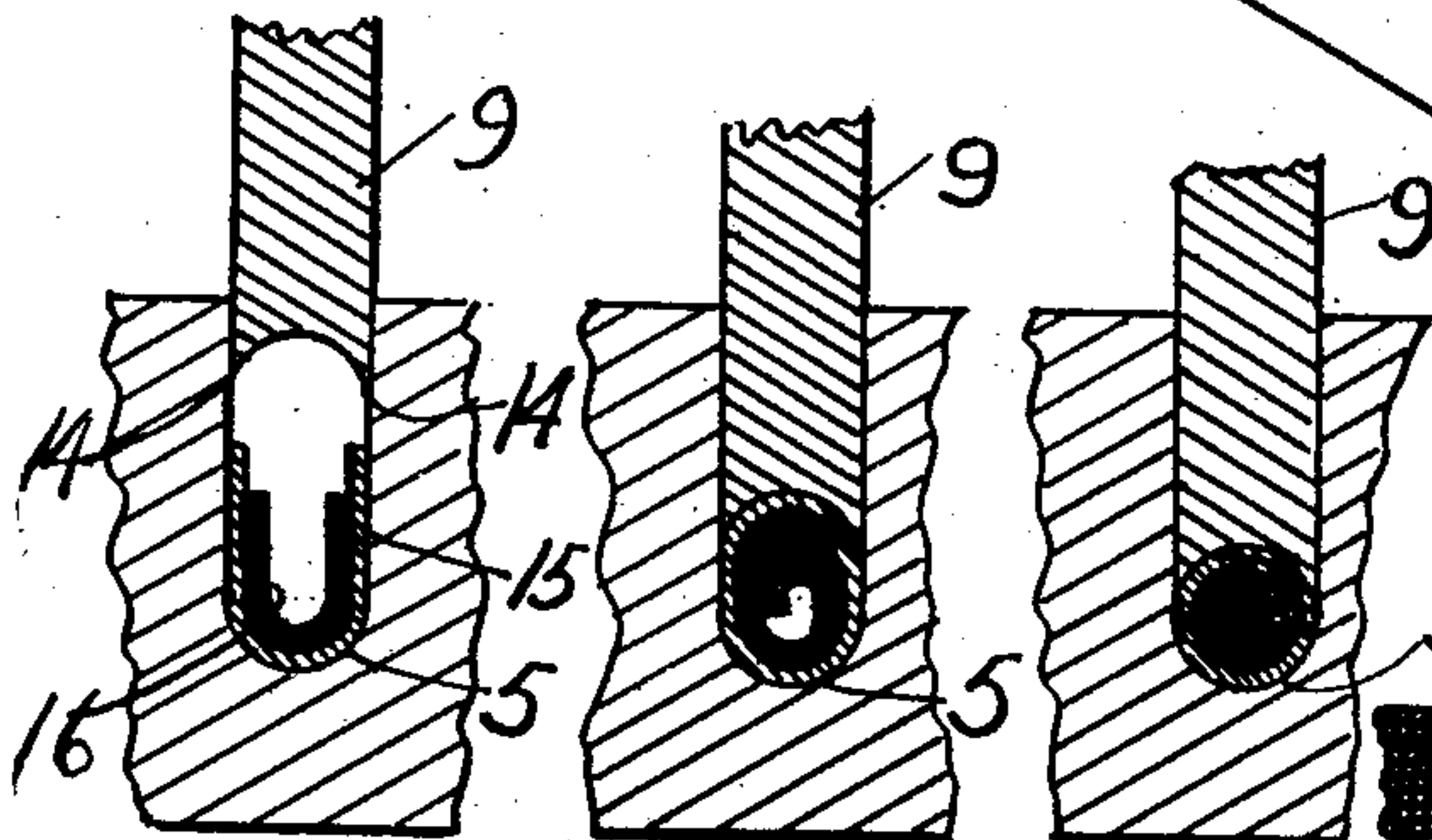


Fig. 4.

Fig. 5.

Fig. 6.

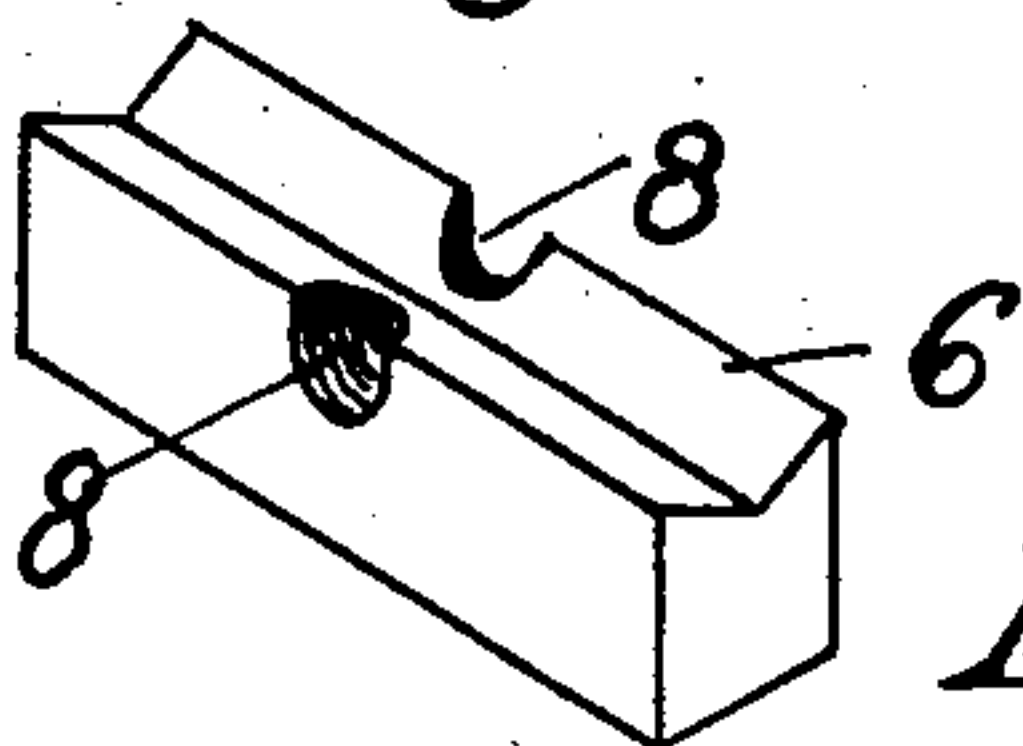
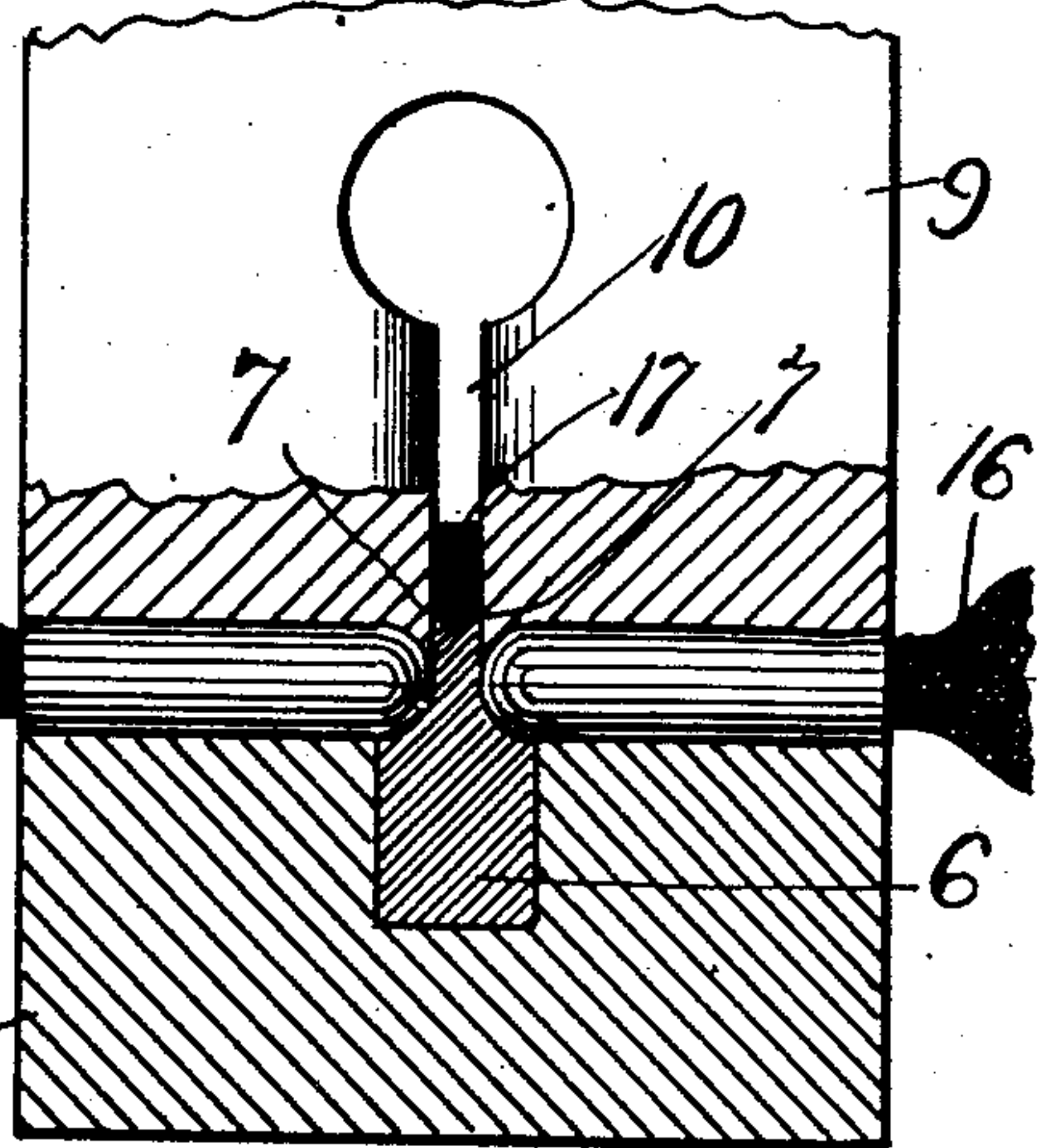


Fig. 8.



Witnesses

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ARTHUR T. PARKER, OF NORTH ATTLEBORO, MASSACHUSETTS.

DIE FOR FORMING LACING-TIPS.

No. 805,578.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed March 24, 1905. Serial No. 251,795.

To all whom it may concern:

Be it known that I, ARTHUR T. PARKER, a resident of the town of North Attleboro, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Dies for Forming Lacing-Tips; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to means for forming tips on lacings, and has for its object to provide a punch and die that will act upon the lacing to condense a portion of the same and wrap a covering around the said condensed portion.

To form and cover a tip in this die, the covering, which may be of paper, fabric, or other suitable flexible material, is coated with a layer of cement and placed on the recessed portion of the die. The lacing is next placed onto this covering material, and both are then carried down into the recessed portion of the die by any suitable means. The plunger or punch is then driven down into the recess and on account of its concaved face rolls the lacing up inside of the covering, the whole being tightly forced together and held by the cement. The die and plunger are so arranged that just before the plunger reaches the end of its downward stroke the braid and covering are both severed, and as the die proceeds it turns the covering nicely over the end of the lacing, leaving a smooth and handsome finished tip with a round end.

The invention is fully set forth in this specification and more particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view showing the die with the punch withdrawn therefrom. Fig. 2 is an enlarged view representing a portion of the punch withdrawn from the die and partly in section illustrating the concaved or rounded portion for cutting the lacing and covering in two. Fig. 3 represents the die in section and the rounded portions, which, together with the concaved portion of the plunger, forms the tip with the rounded ends. Fig. 4 shows an end elevation of the punch and die, showing the covering and lacing drawn into the slot in the die and the punch entering said slot. Fig. 5 illustrates the punch as having engaged the covering and in the act of rolling

the lacing up inside of the same. Fig. 6 illustrates the punch in the down position and having rolled the lacing and compressed the covering around the same. Fig. 7 is a side elevation, partly in section, illustrating the punch as having covered and formed the tip with nicely-rounded ends. Fig. 8 is a detail perspective view of the cutting and shaping block.

Referring to the drawings, at 1 is the die-holder, that may be secured in any suitable manner to the bed of the press or other operating mechanism. In this holder is preferably keyed the die-block 2. Into the face of this block are cut two deep slots 3 and 4, running at right angles one to the other. The bottom of slot 3 is preferably made rounding or semicircular in form, as shown at 5. The slot 4 in this block is made much deeper than slot 3 and square at its bottom. Into this last-mentioned slot is set and fixed the cutting and end-forming block 6, the said slot 4 being made exclusively for its reception. The upper edge of this block when in position in its slot extends a short distance above the bottom of slot 3, and this upper edge is preferably formed with an inwardly-cut V, leaving said edges 7 7 sharp for severing the lace and covering when forced down upon said edges. The portion of this block where it crosses the slot 3 is cut away and rounded out on both sides thereof at 8 8 into a semicircular form to conform in width to slot 3. The bottom of both of these cut-out portions are made quadrispherical in form, as illustrated in the drawings. The punch or plunger 9 is made to fit the said slot 3 in the die. Said plunger is divided or slotted at 10 for a portion of its height. The edges of this slotted portion are rounded off so as to straddle and fit the cut-out portion 8 8 of the cutter-block. The upper end of this slotted portion 10 terminates in an enlarged hole 11, which hole serves to free the pieces that are carried up said slot after they are cut from the laces. The lower edges of this bifurcated punch are formed concaved or half round at 12 12, except at the points adjacent the slot, where the semicircular portion is rounded into a quadrispherical form, thereby providing cutting edges 13 13 on the punch, and at the same time completing the rounding form, which, together with that in the cutter-block, forms the rounded end of the tip, as best illustrated in Fig. 7.

The shape of the bottom of the slots 3, as well as the groove 12 in the punch-blade, may

be made square, oval, hexagonal, octagonal, or of any other form into which it may be desired to press the tip.

The action of this punch and die may be further described as follows: The die 2 may be held to the bed of the press or other operating-machine in any desired manner and the punch reciprocated in the usual way by a sliding head, if desired. The flexible covering is cut about the length of two tips and wide enough to be conveniently wrapped around the lacing after the same has been condensed. This covering, after it has received a layer of cement on its inner surface, is placed either by hand or mechanically over the slot 3 on the die. The lacing is then carried in any convenient manner over the covering. The whole is then forced or carried down into the die, where it is drawn up into the form illustrated in Fig. 4. The plunger 9 then enters the die, and the edges 14 14 of the concaved portion engage the covering 15 and roll it inward over and around the lacing 16. As the plunger 9 nears the bottom of the groove 3 the cutting edges 13 13 of said plunger coacting with those on the cutter-block 7 7 shear out a small piece 17 (see Fig. 7) of the lacing and the covering, and as the plunger continues to move downward the covering is rolled closer and closer around the lacing until the whole is compressed into a cylindrical form, and on account of the semispherical shape of the dies the ends of both of the tips are nicely rounded, thereby producing two lacing-tips of a handsome and finished appearance in one operation of the punch and die.

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

1. A punch or die for forming lacing-tips, comprising a die that is provided with a slot in which the tips may be molded, a punch arranged to enter said slot to compress and mold the said tip therein into the desired form and means in said punch and die for cutting the tip in two.

2. A punch and die for forming lacing-tips, comprising a die that is provided with a slot in which the said tips may be molded, a punch arranged to enter said slot, cut the tip in two, compress the same and press and mold the severed ends.

3. In a punch or die for forming lacing-tips, said die being provided with a slot in which the lower portion of the tips may be molded, a punch arranged to enter said slot to compress and mold the said tip therein into the desired form, means in said punch and die for cutting the tip in two, and means in said punch and die for severing the tip and pressing and molding the severed ends of the same.

4. In a punch or die for forming lacing-tips,

said die being provided with a slot in which the lower portion of the tips may be molded, a punch arranged to enter said slot to compress and mold the said tip therein into the desired form, and means whereby the tip is severed and its severed ends pressed and molded by said punch and die.

5. A punch and die for forming lacing-tips, comprising a die that is provided with a slot in which the said tips may be molded, a bifurcated punch arranged to enter said slot, cut the tip in two, compress the same and press and mold the severed ends.

6. In a punch and die for forming lacing-tips, said die being provided with a slotted portion, the stock at the bottom of said slot being shaped to form the lower half of the tip, said punch-blade arranged to enter the slot in said die the lower edge of said punch-blade being grooved to form the upper half of the tip.

7. In a punch and die for forming lacing-tips, said die being provided with a slotted portion the stock at the bottom of said slot being shaped to form the lower half of this tip, said punch-blade arranged to enter the slot in said die, the lower edges of said punch-blade being grooved to form the upper half of the tip, and means for cutting the tip in two.

8. In a punch or die for forming lacing-tips, said die being provided with a slotted portion, the stock at the bottom of said slot being shaped to form the lower half of this tip, said punch-blade arranged to enter the slot in said die, the lower edges of said punch-blade being grooved to form the upper half of the tip, and means whereby the tip is severed by the downward stroke of the punch.

9. In a punch or die for forming lacing-tips, said die being provided with a slotted portion, the stock at the bottom of said slot being shaped to form the lower half of this tip, said punch-blade arranged to enter the slot in said die, the lower edges of said punch-blade being grooved to form the upper half of the tip, and means whereby the tip is severed and its severed ends pressed and molded by said punch and die.

10. A punch and die for forming lacing-tips comprising the die that is provided with a slot in which the said tips may be molded, a bridge or bar in said slot, a bifurcated punch arranged to enter said slot, straddle said bridge and cooperate therewith to cut the tip in two, compress the same and press and mold the severed ends.

In testimony whereof I have hereunto set my hand this 22d day of March, A. D. 1905.

ARTHUR T. PARKER.

In presence of—

FRED. B. BYRAM,

S. E. McCAMBRIDGE.