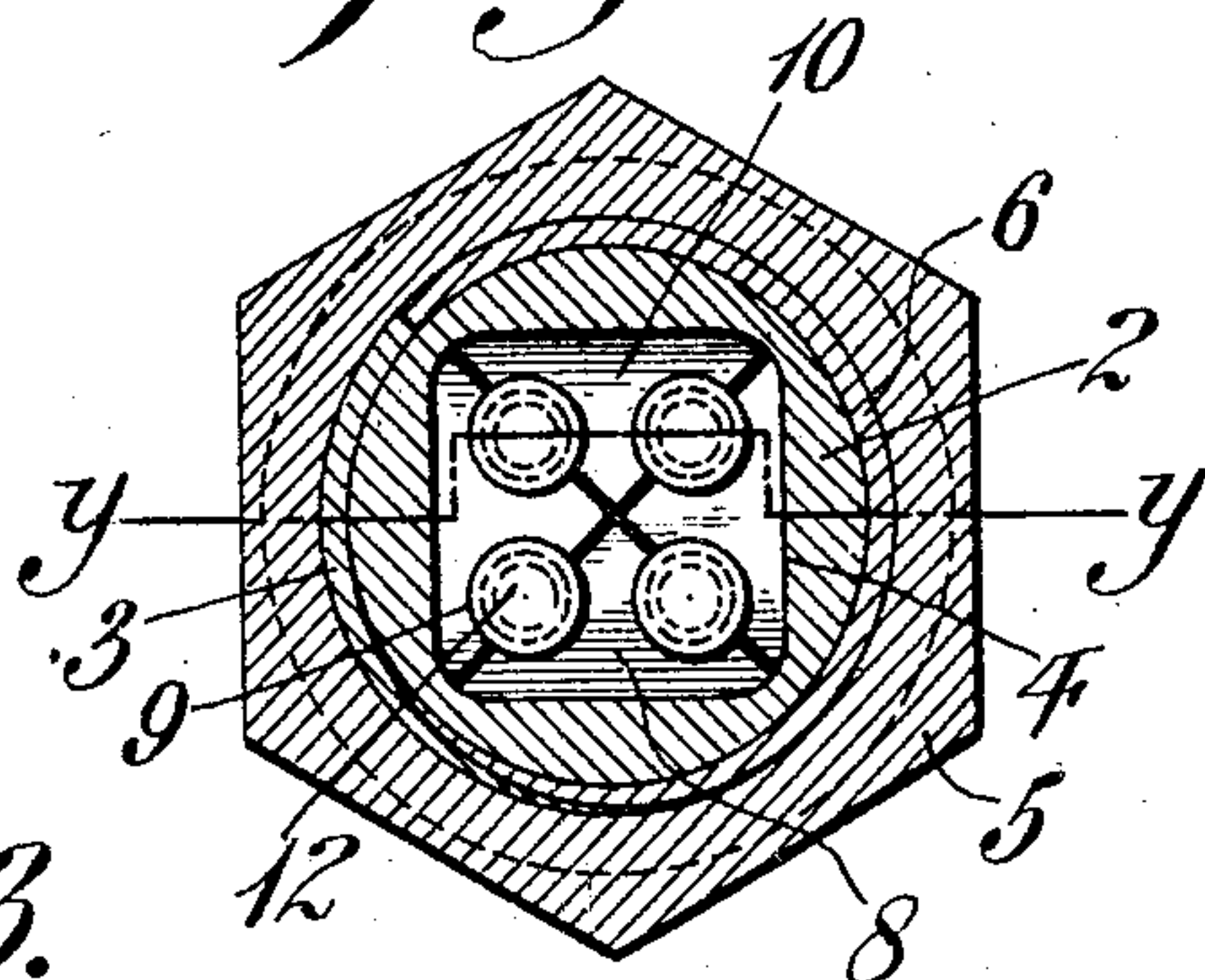


R. W. BARKER.  
PUNCH.

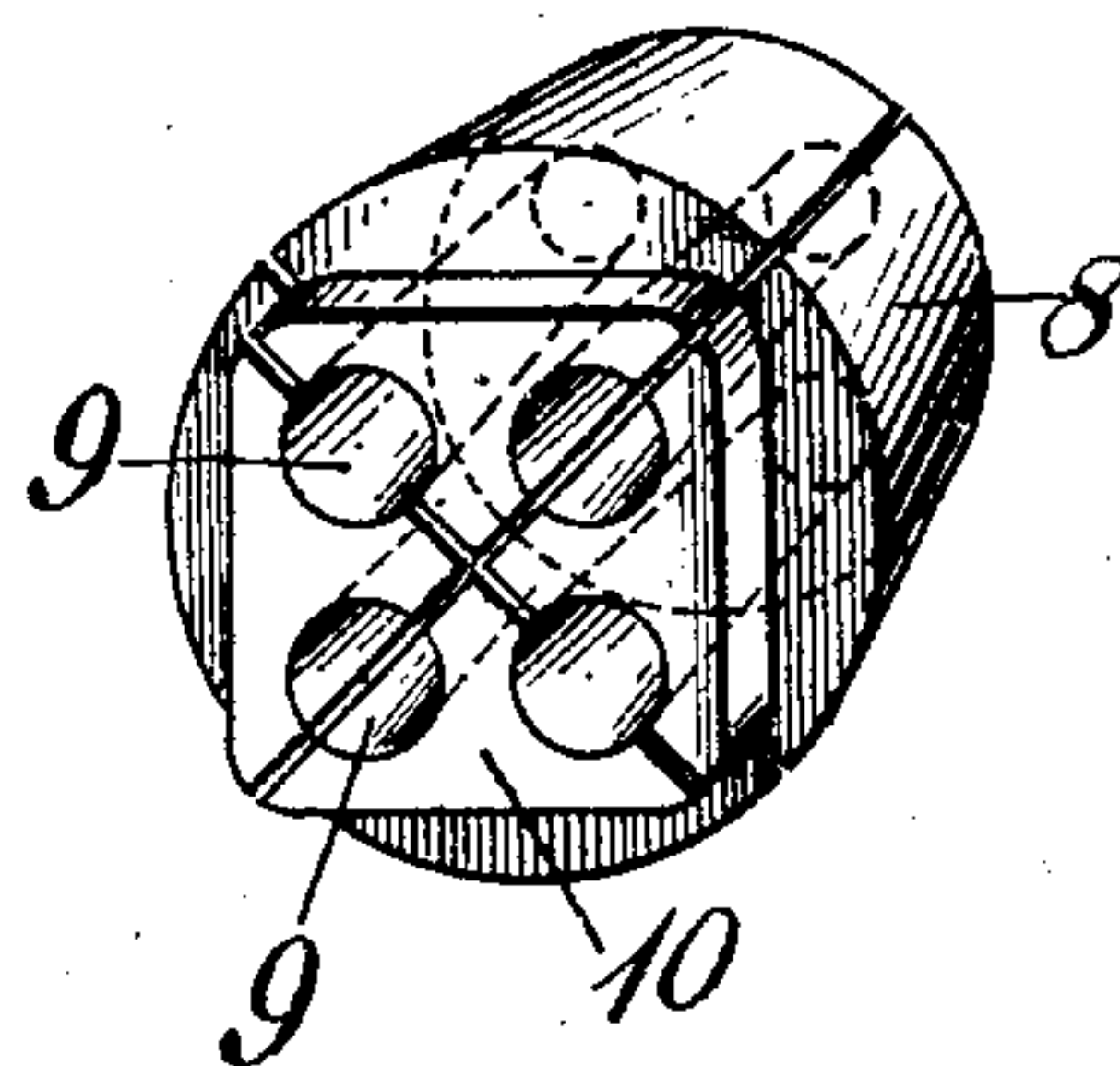
APPLICATION FILED MAY 28, 1904.

NO MODEL.

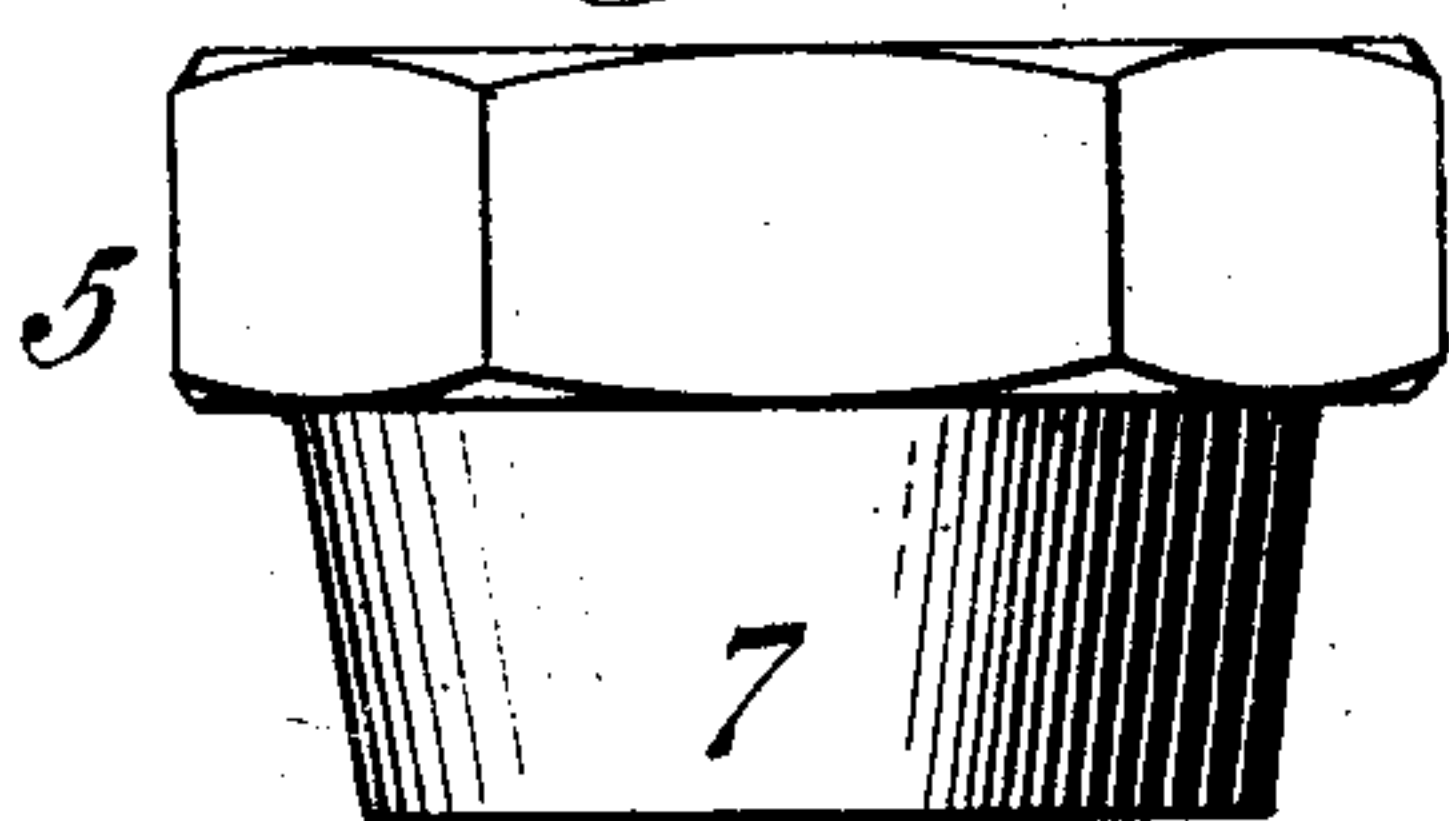
*fig. 1.*



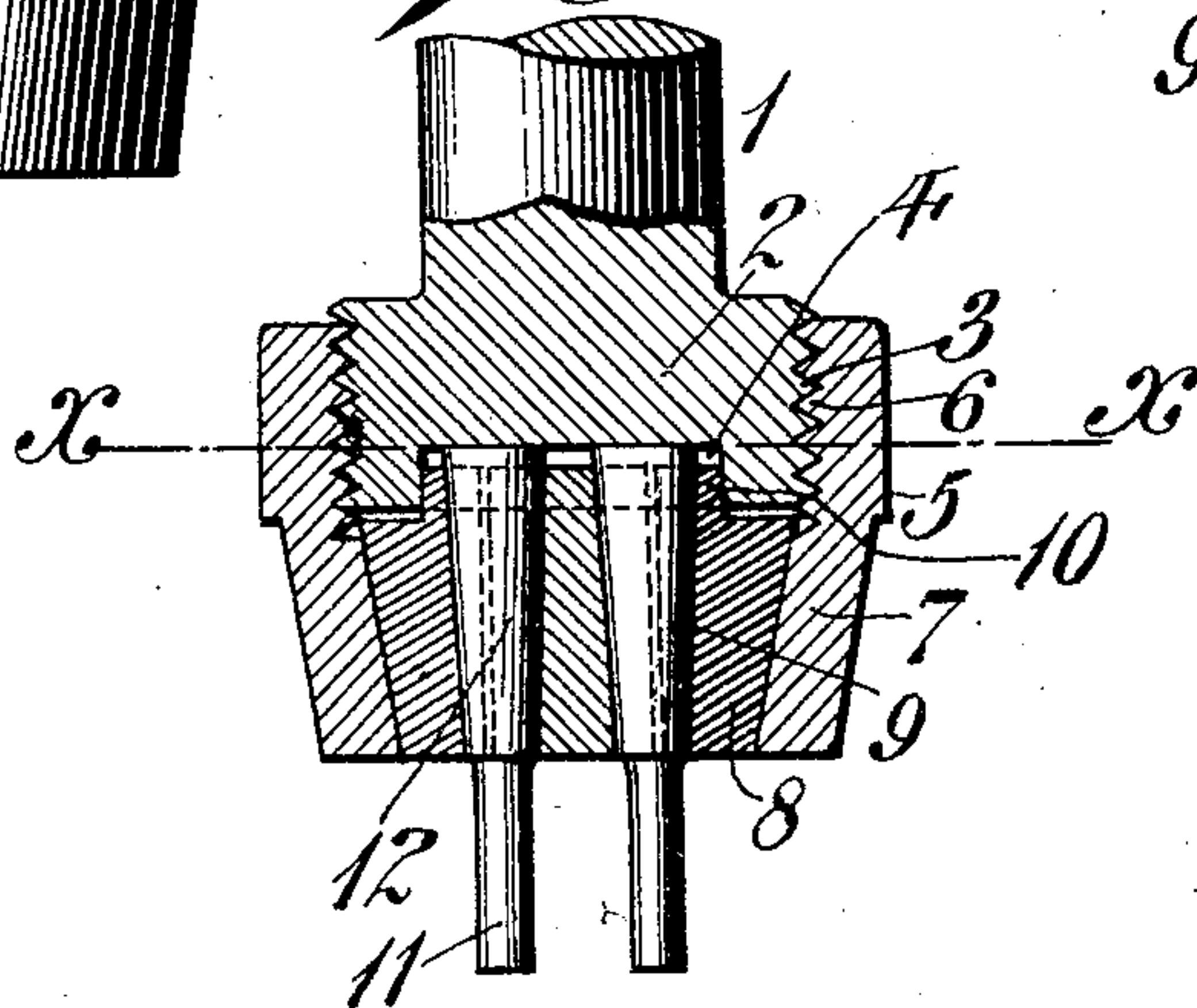
*fig. 4.*



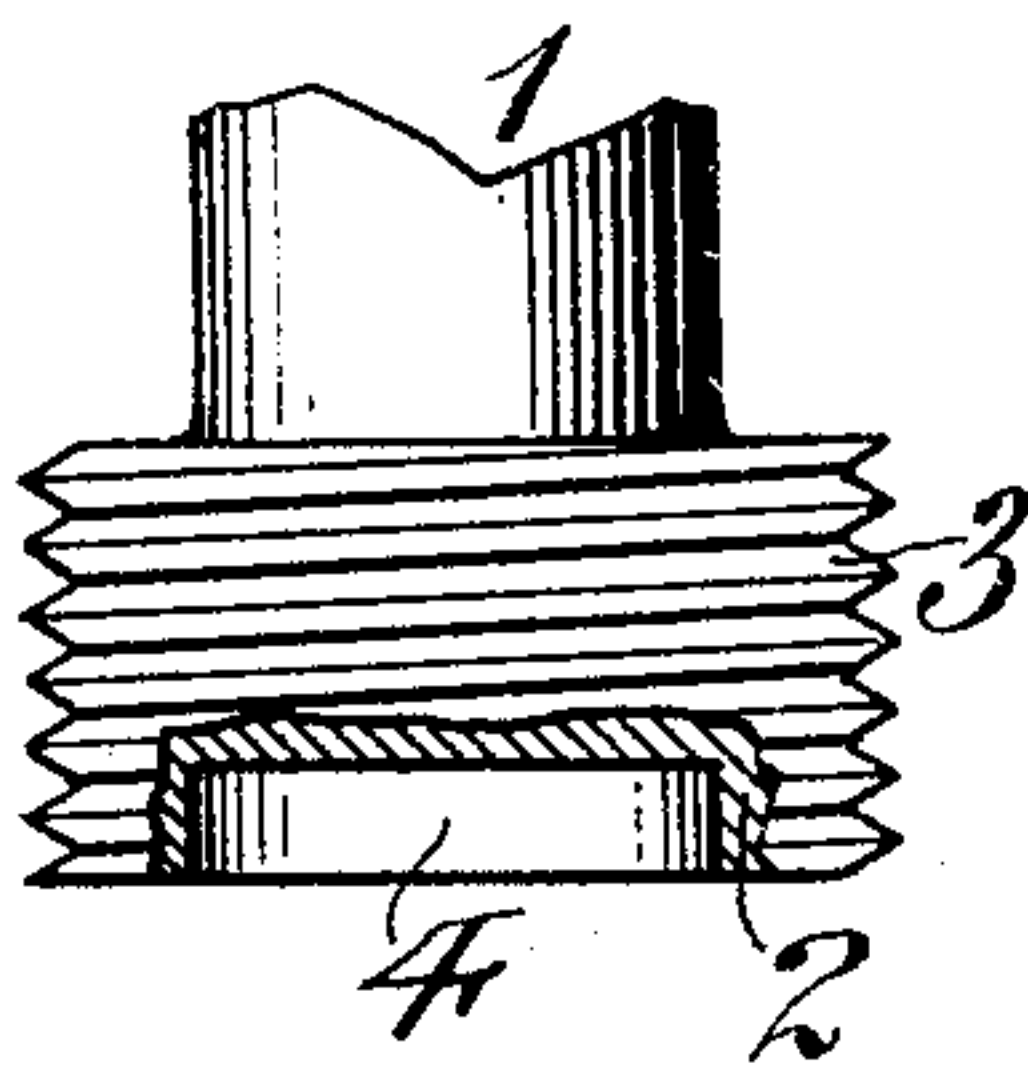
*fig. 3.*



*fig. 2.*



*fig. 5.*



Witnesses

*L. Douville,*  
*P. F. Hagler.*

Inventor

*Robert W. Barker.*  
By *Wiedersheim & Frick,*  
Attorneys.



# UNITED STATES PATENT OFFICE.

ROBERT W. BARKER, OF PHILADELPHIA, PENNSYLVANIA.

## PUNCH.

SPECIFICATION forming part of Letters Patent No. 771,694, dated October 4, 1904.

Application filed May 28, 1904. Serial No. 210,175. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT W. BARKER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Punches, of which the following is a specification.

My invention relates to punch-holders and punches such as are used on presses and the like. It provides novel means for securely holding a plurality of punches with their upper ends firmly abutting against the head of a holder, so that they have all the strength of a solid punch and are at the same time detachable, so that they may be readily replaced in case of breakage.

It further consists of novel features of construction, all as will be hereinafter fully set forth.

Figure 1 is a horizontal section through line *xx*, Fig. 2. Fig. 2 is a vertical section through line *yy*, Fig. 1. Fig. 3 is an elevation of a collar. Fig. 4 represents in reverse perspective the jaws. Fig. 5 is an elevation, partly broken away, of the head portion.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates the shank of a punch-holder, at the lower end of which is a head 2, provided with an external screw-thread 3 and having in its face a polygonal recess 4.

5 designates a ferrule having an internal thread 6 at its upper end, adapted to engage with the thread 3 on the head 2, and having its lower end 7 tapered, as shown.

8 designates one of a set of jaws, shown in Fig. 4 as four in number. These when united form a cone-frustum adapted to fit snugly in the taper portion 7 of the ferrule 5. As shown in Fig. 4, the meeting faces of the jaw 8 are provided with semiconical recesses, as 9, so disposed that when the four quadrantal sectors 8 of the jaw are united four conical or tapered sockets are produced therein. Each of the sockets 8 is provided at its larger end with a longitudinally-extending head 10, the four heads when united adapted to fit snugly within the recess 4 in the head 2.

11 designates a punch having a tapered por-

tion 12, adapted to fit within the sockets in the jaws 8.

The operation is as follows: The parts are assembled by bringing together the four sectors 8, (shown in Fig. 4,) dropping them within the ferrule 5, and slipping therein the punches 11, the tapered body portions 12 of which extend beyond the heads 10 of the sectors 8, as is clearly shown in Fig. 2 of the drawings. The thread 6 on the collar 5 is then engaged with the thread 3 on the head 2 and the collar turned until the upper ends of the punches 11 are firmly abutted against the lower wall of the head 2 within the recess 4. When the collar 5 is firmly screwed in position, the punches 11 will be firmly held between the jaws 8 with their upper ends abutting against the head 2 of the punch-holder, so that they are practically as firm as a solid punch.

In case the end of one of the punches 11 is clipped or sheared it may be easily replaced by another at a minimum expense of both labor and stock.

It will be noted that the heads 10 of the jaws 8 engage in the recess 4 of the head 2, so as to prevent any twisting of the jaws or punches when the ferrule 5 is being screwed home. By these means the accurate alignment of the punches is maintained and any danger of shearing them or the die is obviated. It will also be seen that both the bodies and the heads of the jaws 8 are spaced away from the face of the head 2, so that all the force of the ferrule is exerted to hold the punches 11 against the head. It is obvious that any number of jaw-sectors suitably recessed may be provided to hold two, three, or any desired number of punches.

It is obvious that by the term "punch" I include not merely a device for piercing a sheet of metal or other material, but any form of similar tool which may be used for setting down rivet-heads, bending or forming small articles of metal or the like, or any other well-known operation, and particularly for making tablets.

It will be evident that various changes may be made by those skilled in the art which may come within the scope of my invention, and

I do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

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

1. A punch comprising a head, a plurality of jaw portions having coacting recesses in their meeting faces forming a plurality of sockets when the jaw portions are assembled, a plurality of punches detachably engageable in said sockets and projecting beyond the inner end thereof, and a ferrule adapted to inclose said jaw portions and to secure them to said head.

2. A punch comprising a head, having a polygonal recess in its face, a plurality of jaw portions having coacting recesses in their meeting faces forming a plurality of sockets when said jaws are assembled, heads adapted to engage in said polygonal recesses, a plu-

rality of punches adapted to fit in said socket, and a ferrule the lower portion of the wall of which is tapered to inclose said jaw portion and the upper portion of the wall of which is adapted to engage said head.

3. A punch comprising a head having a polygonal recess in its face, a plurality of jaw portions having tapered coacting recesses in their meeting faces forming tapered sockets when the jaw portions are assembled, a plurality of tapered punches detachably engageable in said sockets and projecting thereabove and into said polygonal recess and a ferrule adapted to inclose said jaw portions to secure them to said head and to firmly hold the inner ends of said punches against the face of said head.

ROBERT W. BARKER.

Witnesses:

GEO. L. COOPER,  
C. D. McVAY.