

C. A. OLSON & G. W. HAYDEN.
INTERCHANGEABLE SECTIONAL DIE BLOCK.
APPLICATION FILED MAR. 3, 1905.

919,936.

Patented Apr. 27, 1909.

FIG. 1.

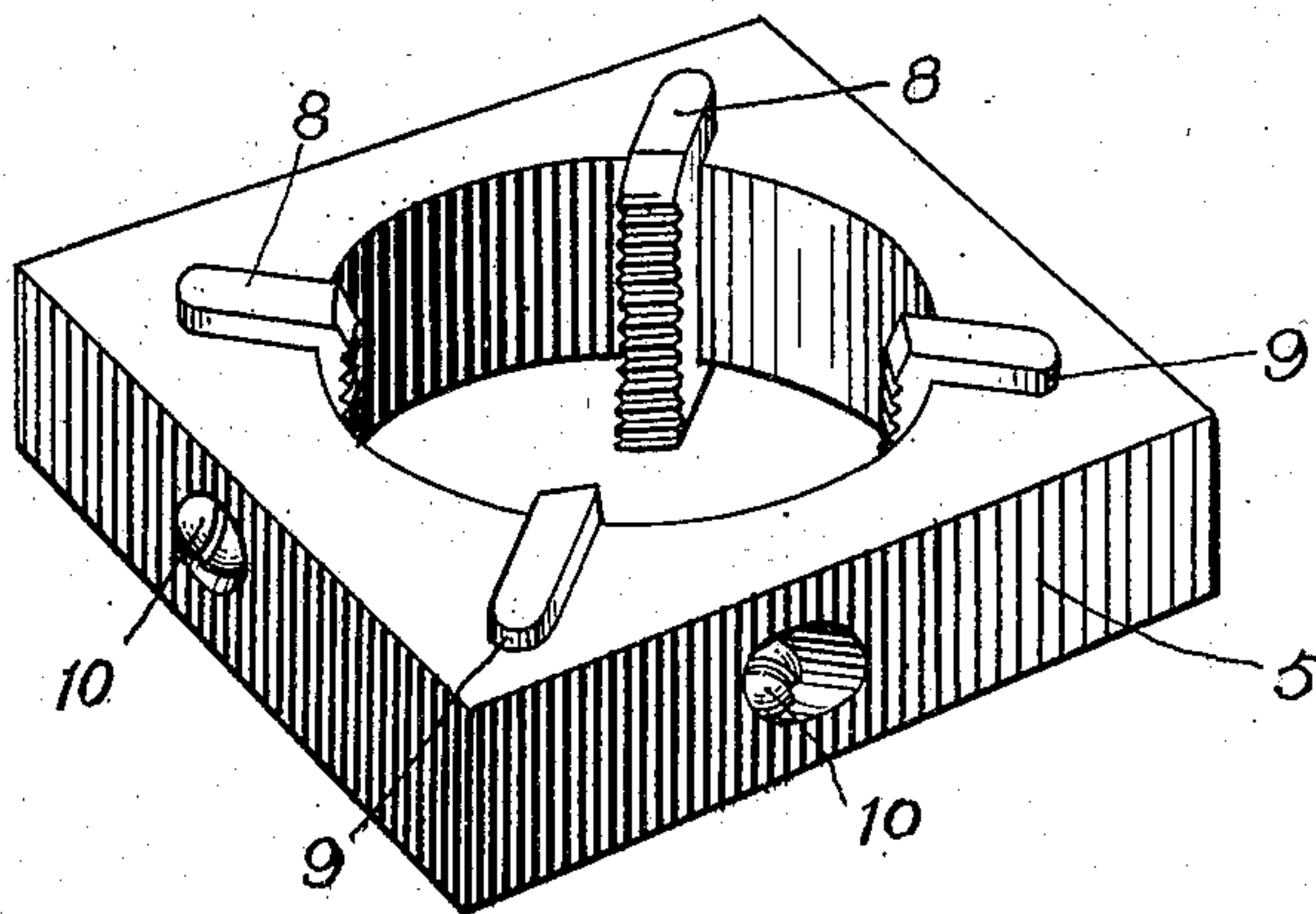


FIG. 2.

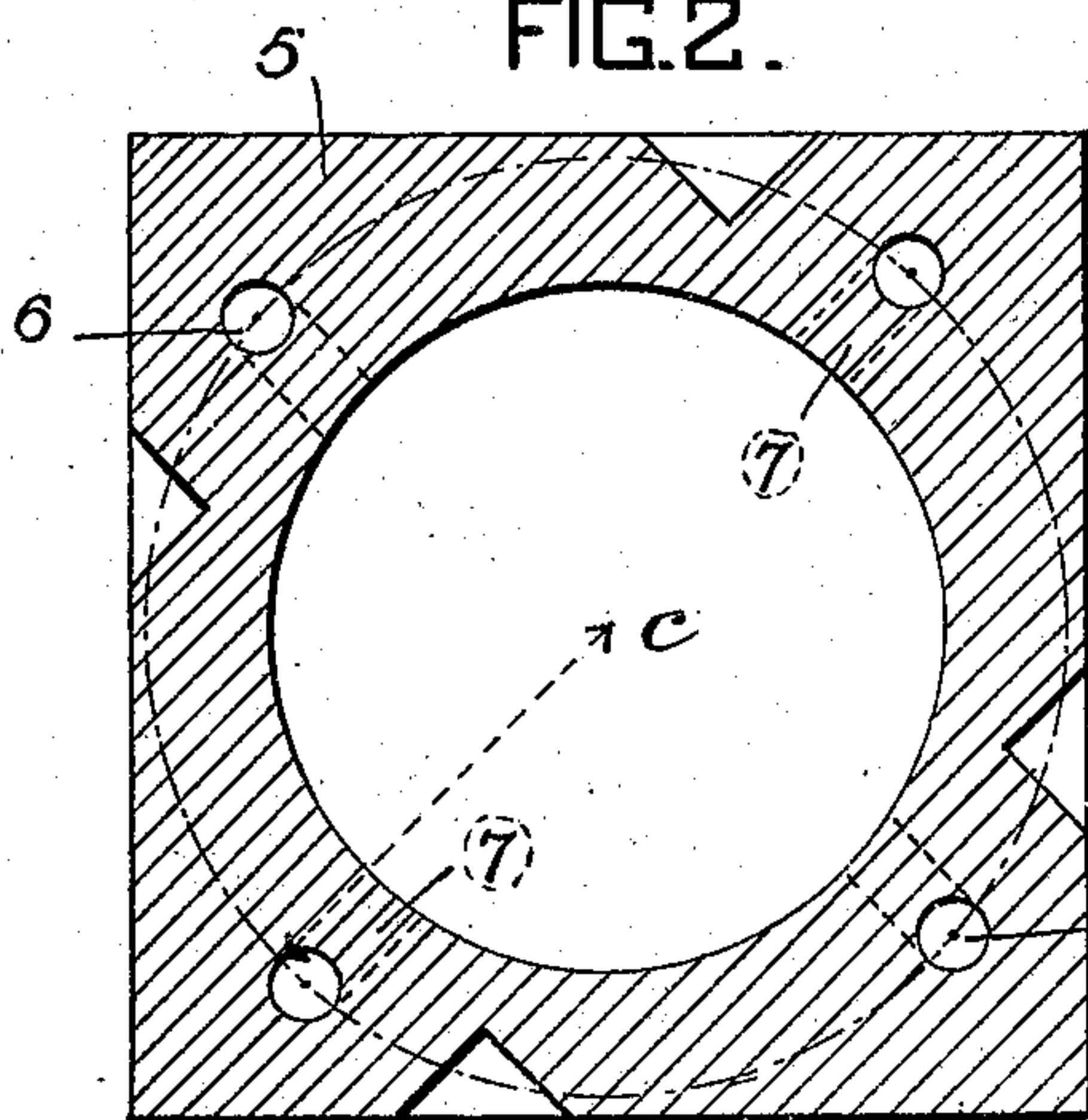


FIG. 3.

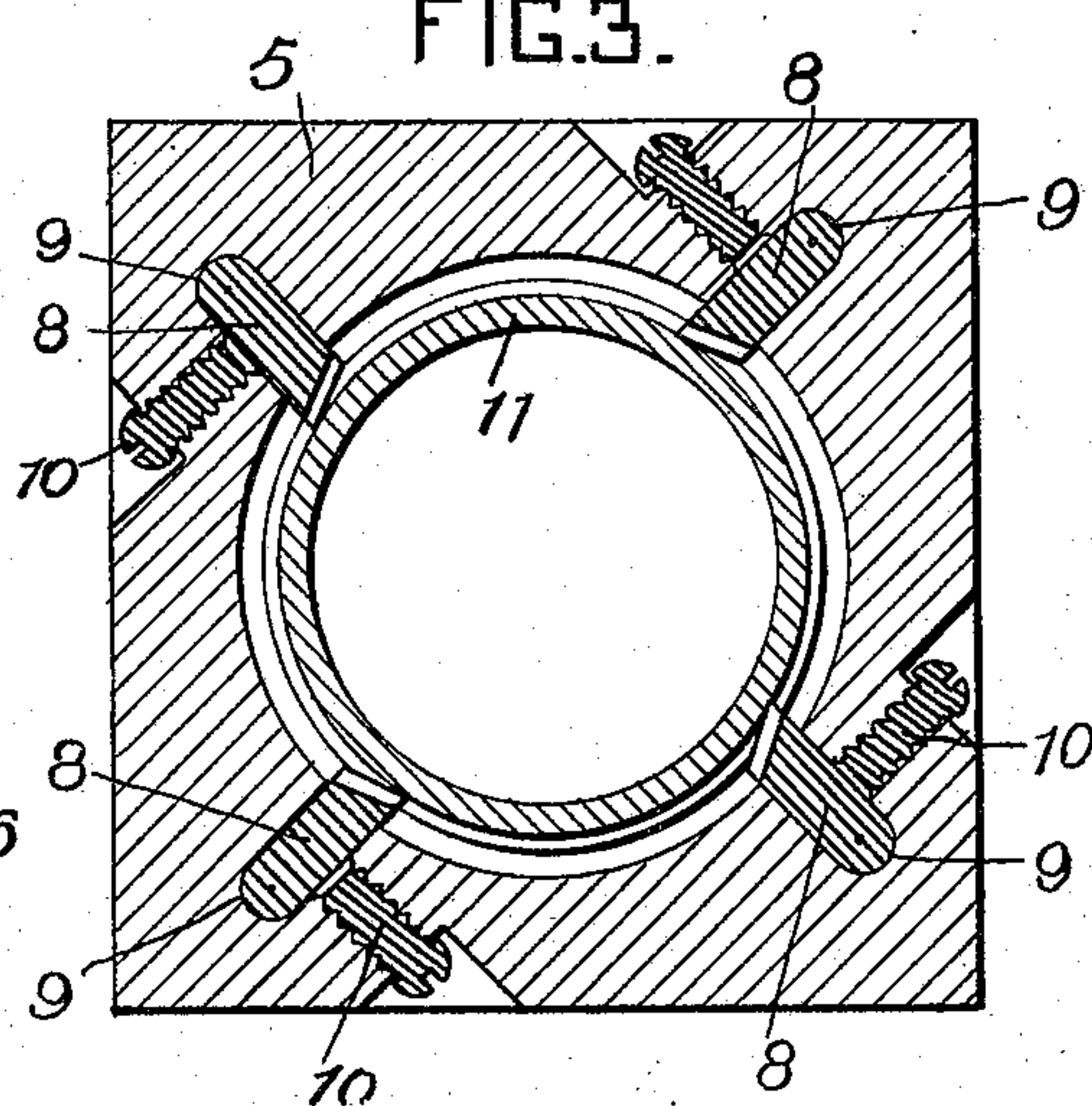
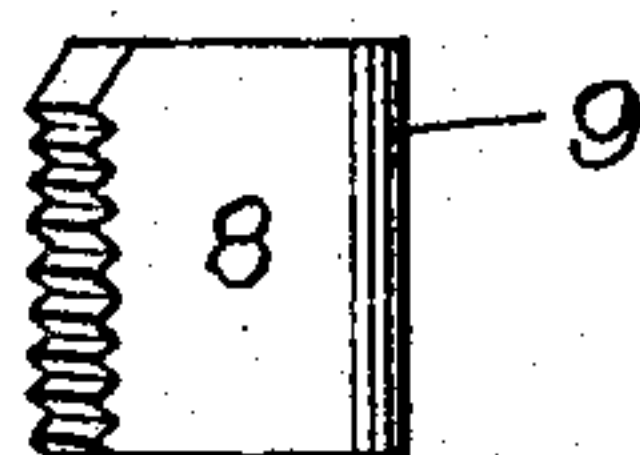


FIG. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES A. OLSON AND GEORGE W. HAYDEN, OF CHICAGO, ILLINOIS, ASSIGNORS TO CRANE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

INTERCHANGEABLE SECTIONAL DIE-BLOCK.

No. 919,936.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed March 3, 1905. Serial No. 248,265.

To all whom it may concern:

Be it known that we, CHARLES A. OLSON and GEORGE W. HAYDEN, citizens of the United States, residing at Chicago, in the State of Illinois, have invented certain new and useful Improvements in Interchangeable Sectional Die-Blocks, of which the following is a specification.

Our invention relates to dies for cutting pipe threads and the like, and its principal objects are to provide accurate and conveniently interchangeable cutters located in the supporting block in such manner as to provide for security and ready adjustability and superior efficiency in cutting; also to simplify and cheapen the construction of such dies. These and other advantages we attain by the construction illustrated in preferred form in the accompanying drawing, wherein—

Figure 1 is a perspective view of a complete die block with interchangeable cutters;

Figures 2 and 3 are sections in the plane of the block showing the mode of forming the cutter seats and of securing and adjusting the cutters therein, respectively;

Figure 4 is a perspective view of the cutter alone.

In order to obviate the great difficulty in dies of this class, which is found in properly placing the removable cutters so as to make them interchangeable, we form the block by first striking a circle from the center *c* and then drilling a series of four holes 6 at equal distances from the center as shown in Figure 2; whereupon the intervening metal 7 is milled out so as to make an open slot of exactly the diameter of the drilled hole 6. This slot is so placed that, as shown in Figure 3, the rear or heel side of the flat cutters which stand opposite each other lie in the same plane. The cutters 8 are made from flat steel bars having an exact semicircular edge opposite the cutting edge. Taking four sections of this bar of equal width, they are placed in the slots in the block as shown in Figure 3, and therefore since the semicircular bottoms of the slots are at exactly the same

distance from the center of the die, the cutting teeth will be properly placed. The cutters may be adjusted laterally by running them upon a piece of threaded pipe 11, with which they register, and then the blocks 8 may be tightened in place by means of the set screws 10 as shown in Figure 3.

It will be observed that the toe of the cutter is in advance of the radial line, which makes the cutting much easier and also makes the pressure upon the cutter tend to keep the rounded edge 9 firmly seated in the bottom of the slots. The cutters are easily slid in the slots to adjust their positions, and being all exactly alike may be readily replaced when broken or worn. Also other cutters of different width may be used in the same block, all cutters being made from a uniform flat steel bar. The cheapness of construction and accuracy of adjustment, as well as the advantages of the interchangeability, will be apparent to those familiar with such devices.

Having thus described our invention and illustrated its use, what we claim as new and desire to secure by Letters Patent, is the following:

A die comprising a block having a series of substantially radial plain sided slots, open to the center and face of the block and having their rear ends rounded and at the same distance from the axis of the die, and a series of flat parallel sided cutter blocks in the slots with their rear edges abutting the rear ends of the slots, said cutter blocks being of the same radial dimension and interchangeable, and set screws mounted in the block transversely of the cutter blocks and adapted to clamp them in position.

In testimony whereof we have hereunder signed our names in the presence of the two subscribed witnesses.

CHARLES A. OLSON.
GEORGE W. HAYDEN.

Witnesses:

PAUL CARPENTER,
ALBERT GRANT MILLER.