

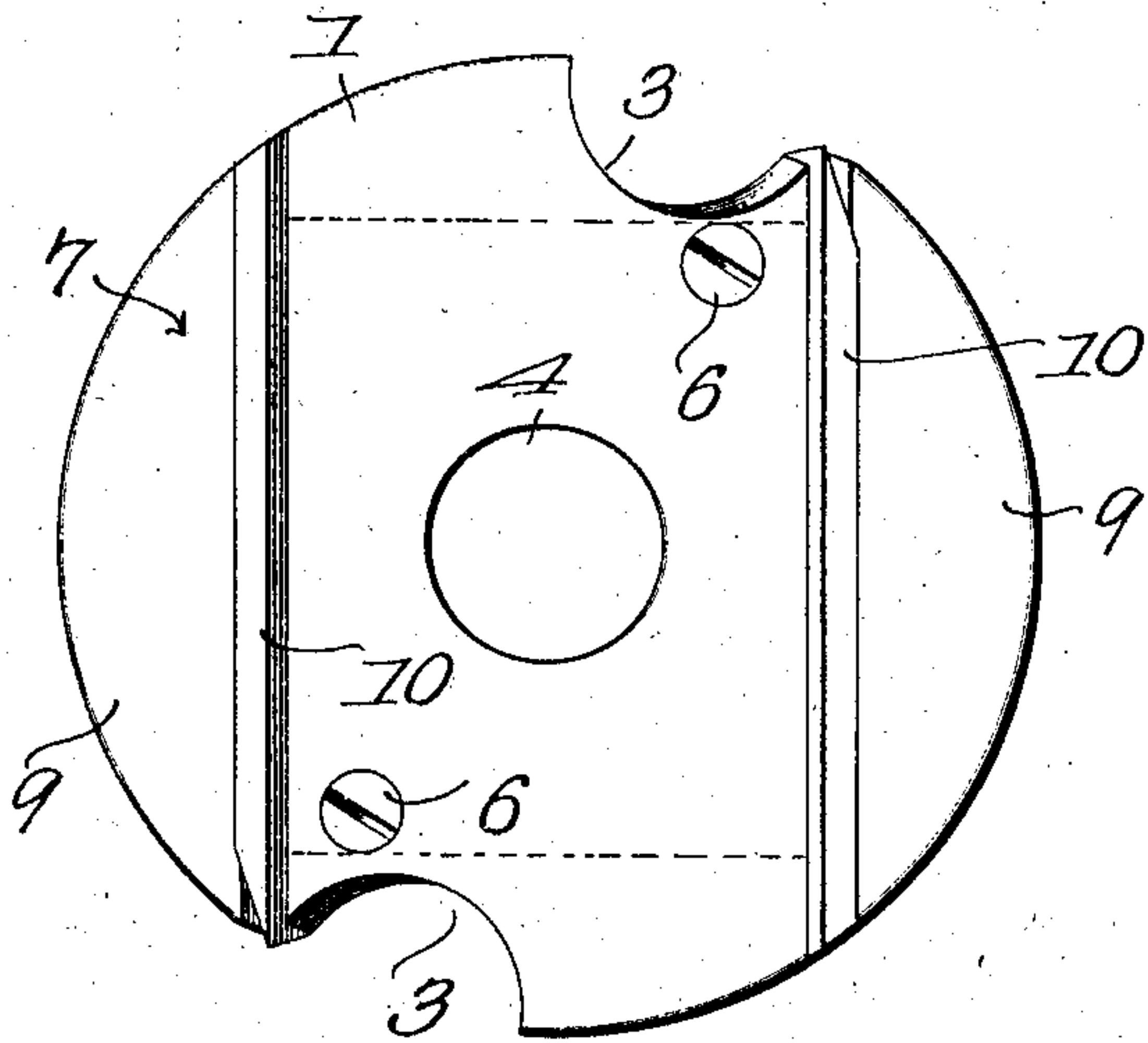
No. 768,625.

PATENTED AUG. 30, 1904.

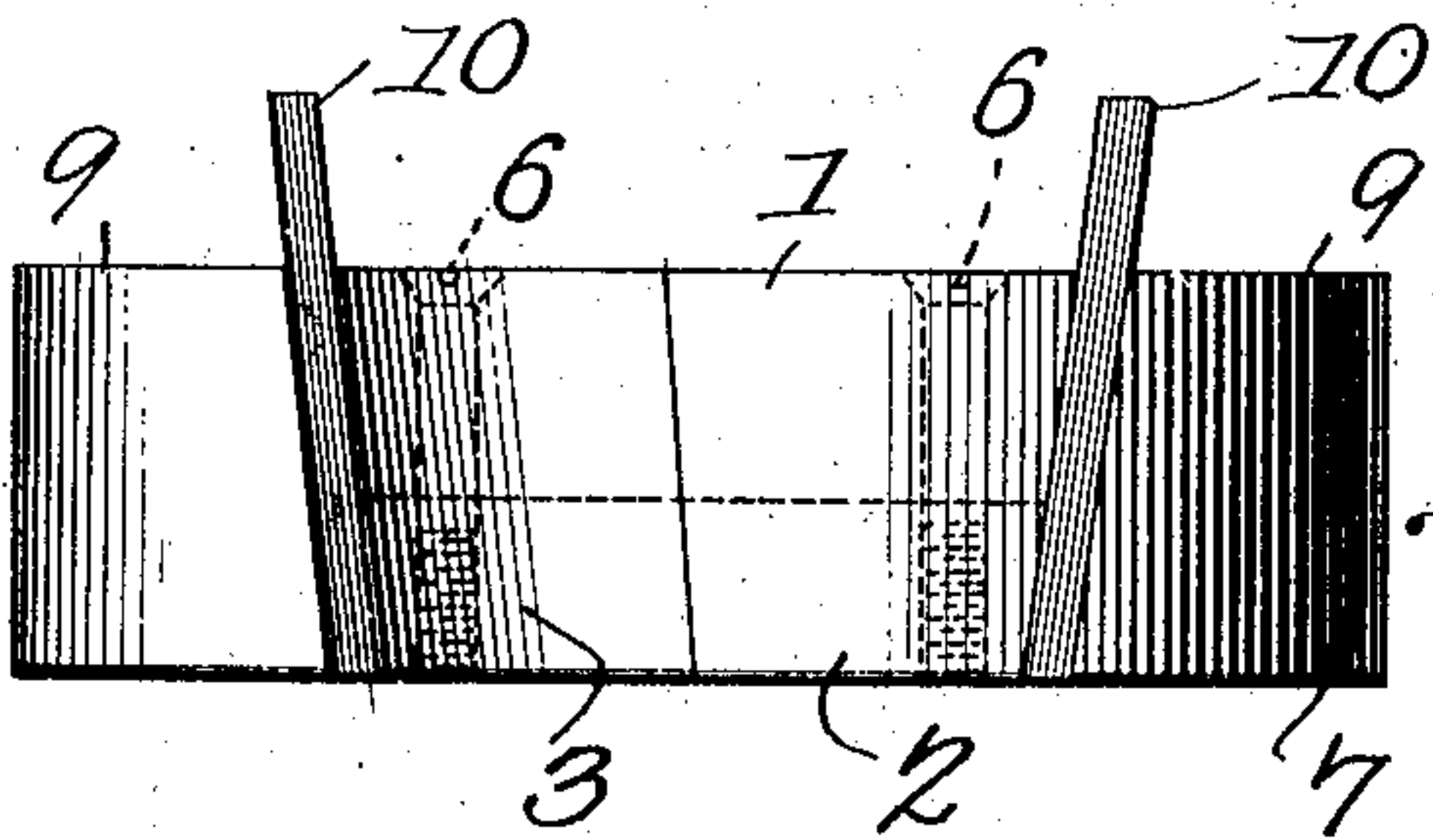
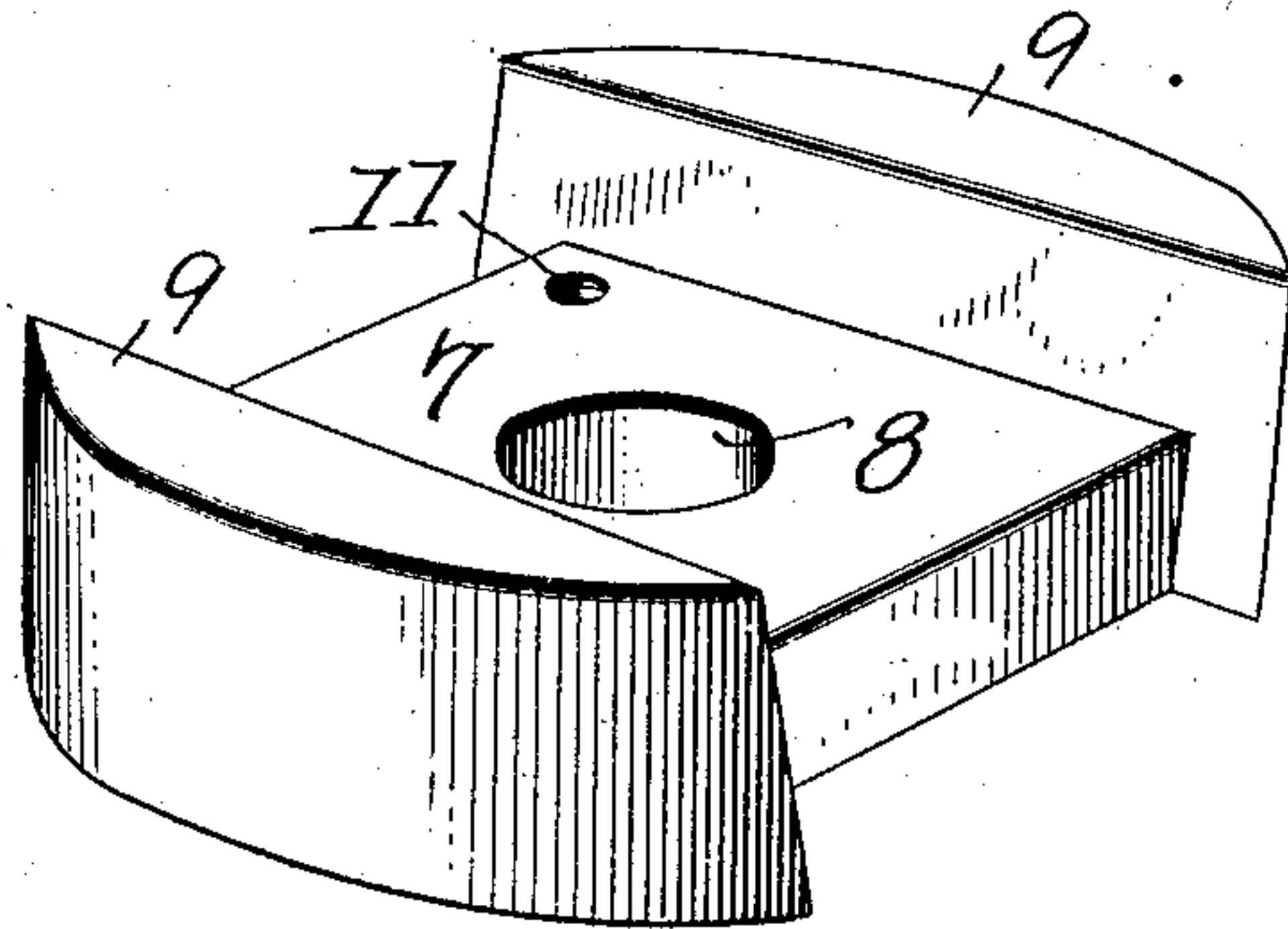
J. J. QUINN.  
ROTARY CUTTER HEAD.  
APPLICATION FILED OCT. 21, 1903.

NO MODEL.

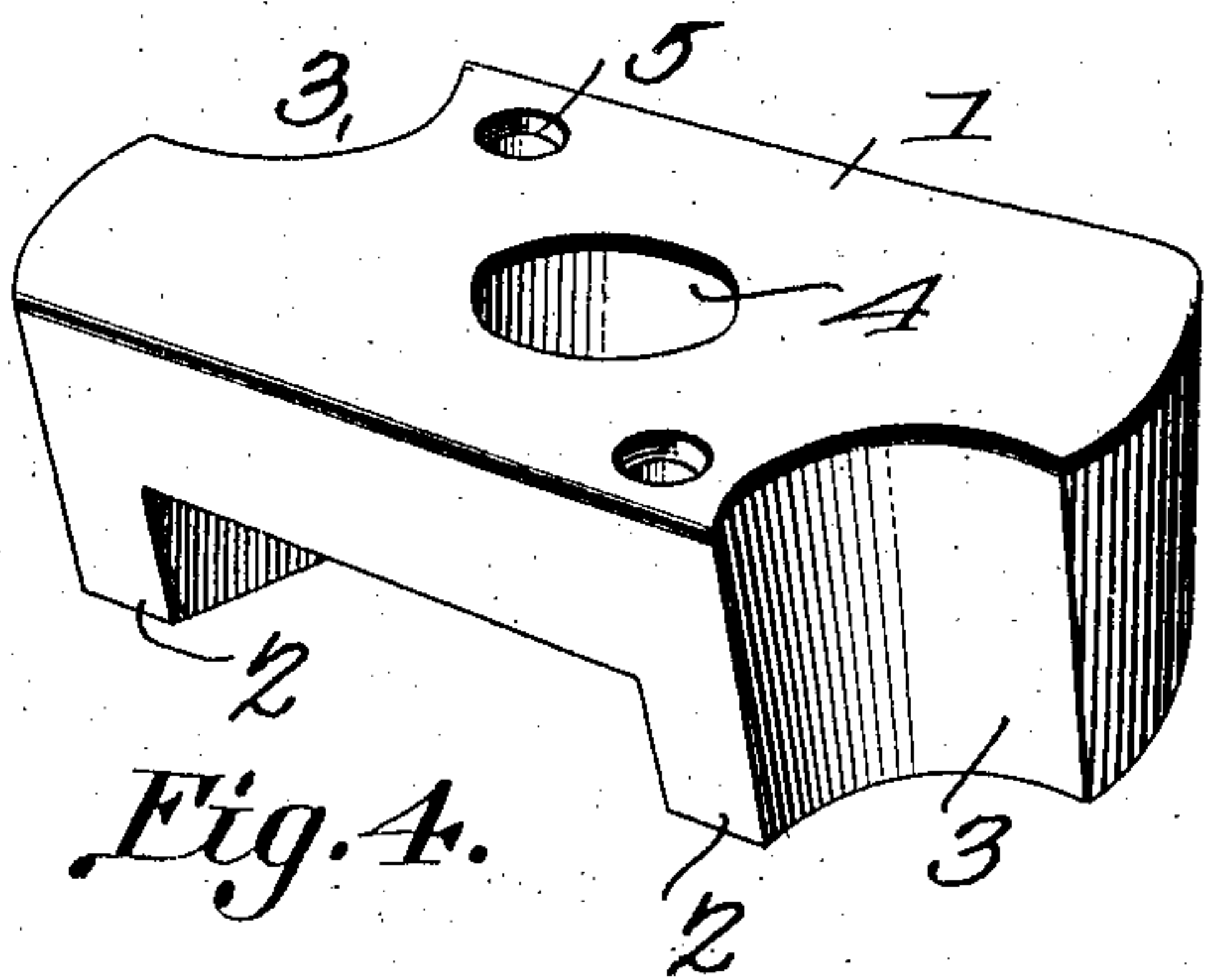
*Fig. 1.*



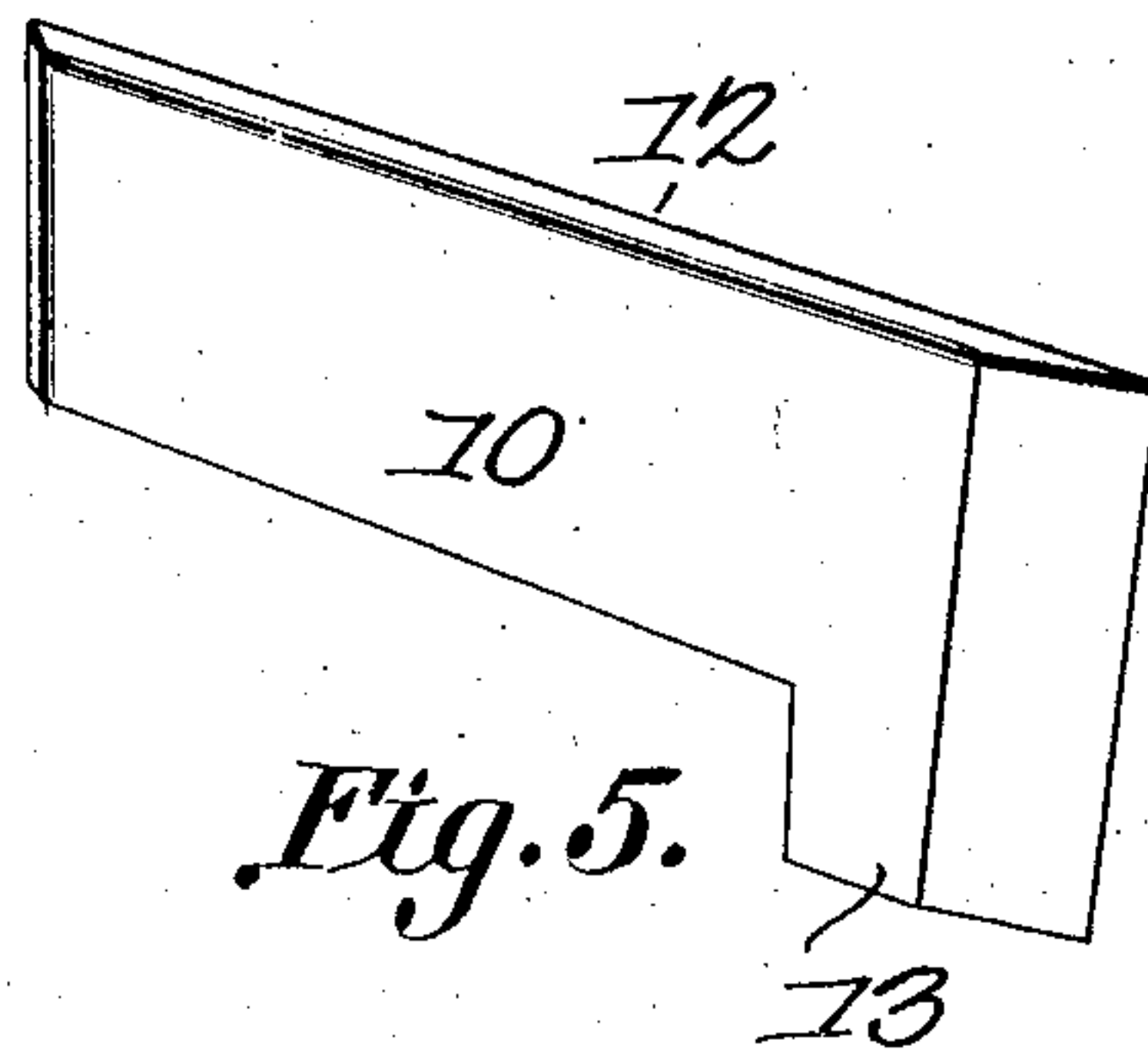
*Fig. 3.*



*Fig. 2.*



*Fig. 4.*



*Fig. 5.*

Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN J. QUINN, OF WARREN, PENNSYLVANIA.

## ROTARY CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 768,625, dated August 30, 1904.

Application filed October 21, 1903. Serial No. 177,956. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. QUINN, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented a new and useful Rotary Cutter-Head, of which the following is a specification.

This invention relates to rotary cutter-heads adapted for use upon shaping-machines, tenoning-machines, and other machines upon which rotary cutter-heads are used.

The object of the invention is to improve the construction of rotary cutter-heads and provide means for gripping the cutting-bits so that they may be securely held while in use and easily released when it is desired to replace the bits in a cutter-head with others.

A further object of the invention is to provide an improved form of cutter-head which shall be characterized by extreme simplicity of construction and possess great durability in service.

In attaining the object above mentioned I make use of the novel form of cutter-head hereinafter described, illustrated in the accompanying drawings, and having the novel features thereof particularly set forth in the appended claims.

In the drawings, Figure 1 is a plan view of the improved cutter-head with cutting-bits in operative position therein. Fig. 2 is a view in side elevation of the cutter-head with the bits in position. Fig. 3 is a detail view of the lower plate. Fig. 4 is a detail view of the upper plate. Fig. 5 is a detail view of a cutting-bit.

The cutter-head consists, essentially, of two interlocking plates presenting inclined faces between which two cutting-bits may be clamped by a wedging action, one of the plates being recessed upon its periphery at points adjacent to the cutting-bits to afford clearance for the shavings formed by the bits.

Referring to the drawings, in which corresponding parts are designated by similar characters of reference throughout, 1 designates the upper plate of the cutter-head. The upper plate is oblong in form, its length being substantially greater than its width, and its ends are rounded, as best seen in Fig. 4. At

each of its ends the upper plate is provided with a downwardly-disposed lug 2, and on the outer surface of each of said lugs there is formed a recess 3 of approximately semicircular cross-section, whose utility will be fully explained hereinafter. At the center the upper plate 1 is provided with a spindle-receiving opening 4, and at suitable distances from the spindle-receiving opening are provided screw-holes 5 for the reception of screws 6, by which the two plates of the cutter-head are fastened together.

The lower plate 7 is circular in form, but has portions cut out on opposite sides of the center to receive the lugs 2 at the ends of the upper plate 1. The lower plate 7 is provided with a spindle-receiving opening 8, adapted to register with the spindle-receiving opening in the upper plate, and at the sides the lower plate has upwardly-projecting portions 9, which rise to the level of the upper surface of the upper plate.

When the two plates forming the cutter-head are in the position shown in Fig. 1, with the lugs of the upper plate engaging the recesses provided therefor in the lower plate and the two spindle-receiving openings of the plates in registration, the sides of the upper plate will lie parallel to the inner faces of the upwardly-projecting portions 9 of the lower plate, but sufficient space will be left between the sides of the upper plate and the upward projections of the lower plate to receive two cutting-bits 10 between them. In order to grip the bits 10 tightly enough to prevent any slipping of the bits in the cutter-head, the sides of the upper plate 1 and the inner faces of the projections 9 of the lower plate are inclined, as shown in Fig. 2. Consequently when cutting-bits are placed between the sides of the upper plate 1 and the projections 9 of the lower plate forcing the two plates together by means of the screws 6, which engage threaded openings 11 in the lower plate, will cause the bits to be wedged very tightly between the opposite portions of the two plates.

The bits 10, which are illustrated, may be varied as to the form of the cutting edges without affecting their adaptability to the cutter-head; but it is desirable that all bits used in



the cutter-head be characterized by the main shank 12, adapted to rest upon the body of the lower plate, and the lateral lug 13 adjacent to the edge, which is adapted to lie between the side of one of the lugs 2 of the upper plate and the side of the recess in the lower plate with which the lug engages. The lateral lugs 13 of the bits engage at their backs with the bottoms of the recesses formed in the periphery of the lower plate and serve to hold the bits solidly against longitudinal displacement in the cutter-head.

It is of course to be understood that the bits intended for use in the cutter-head of a given size will all be made of uniform thickness, so that they may be readily interchanged and so that when bits are placed in position upon the lower plate the upper plate may be instantly brought into approximate clamping position between the bits and the final clamping of the bits be effected in an instant by one or more turns of the screws 6.

In the use of cutter-heads of the kind above described bits having cutting edges of various forms, depending upon the nature of the work to be done, may be employed, and the form of the outer surfaces of the two clamping-plates may be varied in similar manner, if desired. The cutter-heads will in all cases be supported upon rapidly-rotating spindles and may be secured thereto by means of any preferred form of clamping device. As the form of the clamping devices for securing the cutter-heads upon the spindle forms no part of the present invention, any description or illustration of a specific device is regarded as unnecessary.

While I have described and illustrated the preferred form of the embodiment of my invention, it is to be understood that changes in the form, proportions, and exact mode of assemblage of the elements may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

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

1. In a cutter-head, a supporting member having projections upon its upper surface disposed transversely across the face thereof and having the inner faces thereof oppositely inclined, bits arranged in contact with the inclined faces of said projections, and a tapered clamping member disposed between said bits.

2. In a cutter-head, a supporting member

having transversely - disposed projections upon its upper surface and having a recess in the periphery thereof between said projections, a bit having a shank adapted for contact with the inner face of one of said projections and having a lug for introduction into the recess, and a clamping member adapted for movement with the side of the shank and the lug of the bit.

3. In a cutter-head, a supporting member having a pair of transversely - disposed recesses upon the upper face thereof and a recess in its periphery between said projections, a bit having a shank for contact with the inner face of one of said projections and a lateral lug for introduction into the recess, and a clamping member having a lug thereon and adapted for engagement with the side of said shank and the side of said lug to wedge the bit in position.

4. The combination in a cutter-head of a bit-supporting member having projections upon its upper surface provided with inclined faces and having recesses in its periphery whose ends are continuous with the inclined inner faces of the projections on its upper surface, bits having shanks adapted for contact with the inclined face of said projection and having lateral lugs adapted for contact with the ends of said recesses, and a fastening member having lugs adapted to enter said recesses and having inclined faces upon the sides of the body portion of the fastening members and the lugs thereto for engagement with the inner faces of said bits.

5. The combination in a cutter-head, of a supporting member having projections upon its upper surface presenting inclined faces and having recesses in the periphery whose ends are continuous with the inclined faces of said projections, bits adapted to rest in contact with the inclined faces of said projections and with the ends of said recesses and a fastening member having lugs adapted to enter said recesses, said lugs being provided on their upper surface with recesses adjacent to the cutting-bits to afford clearance for the shavings formed by said bits.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JNO. J. QUINN.

Witnesses:

FLORENCE MACMAHON QUINN,  
G. C. SWANSON.