

S. W. FISH.  
SAFE OR VAULT DOOR.  
APPLICATION FILED NOV. 10, 1909.

997,777.

Patented July 11, 1911.

3 SHEETS-SHEET 1.

FIG. 2.

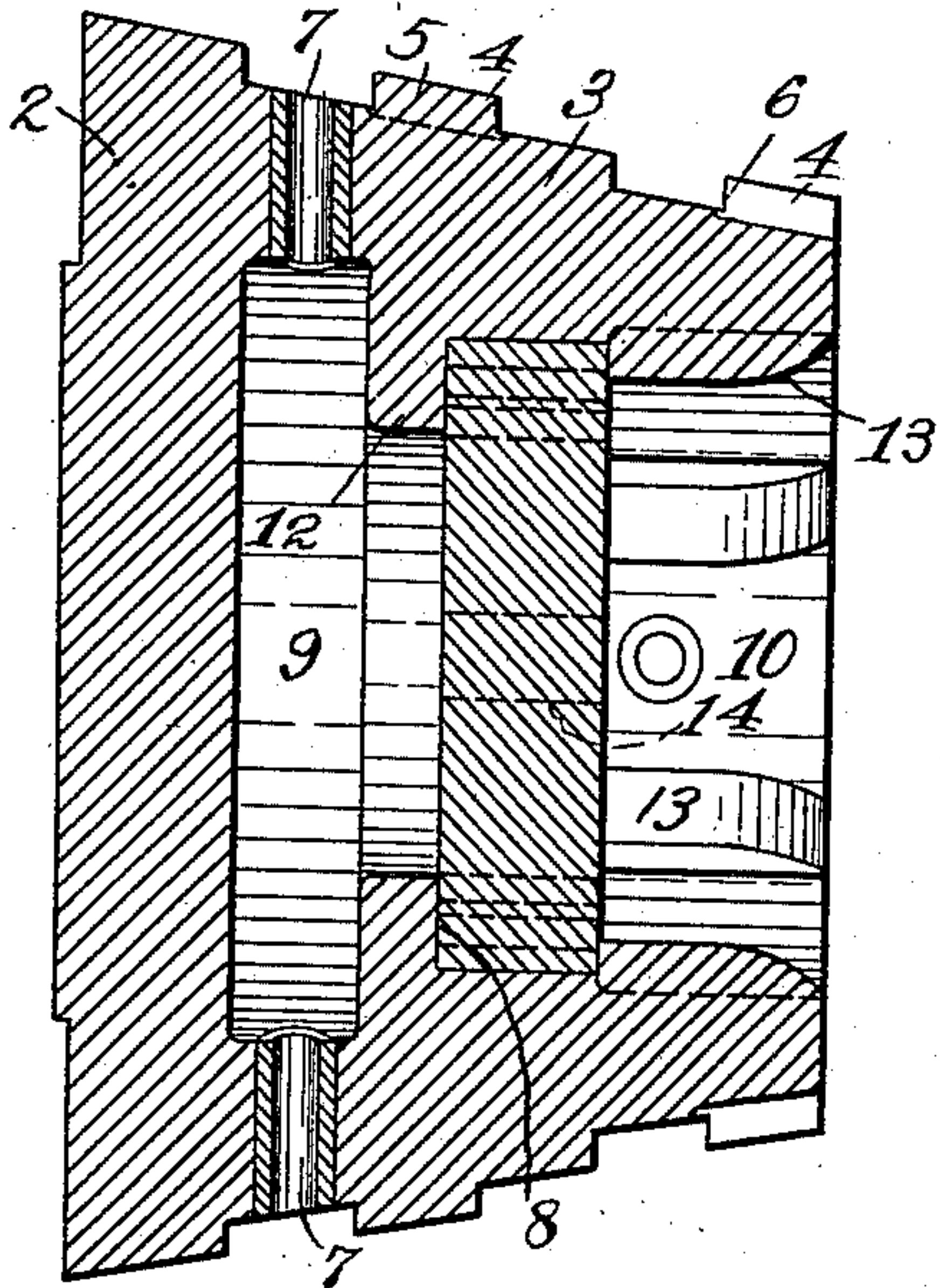


FIG. 1.

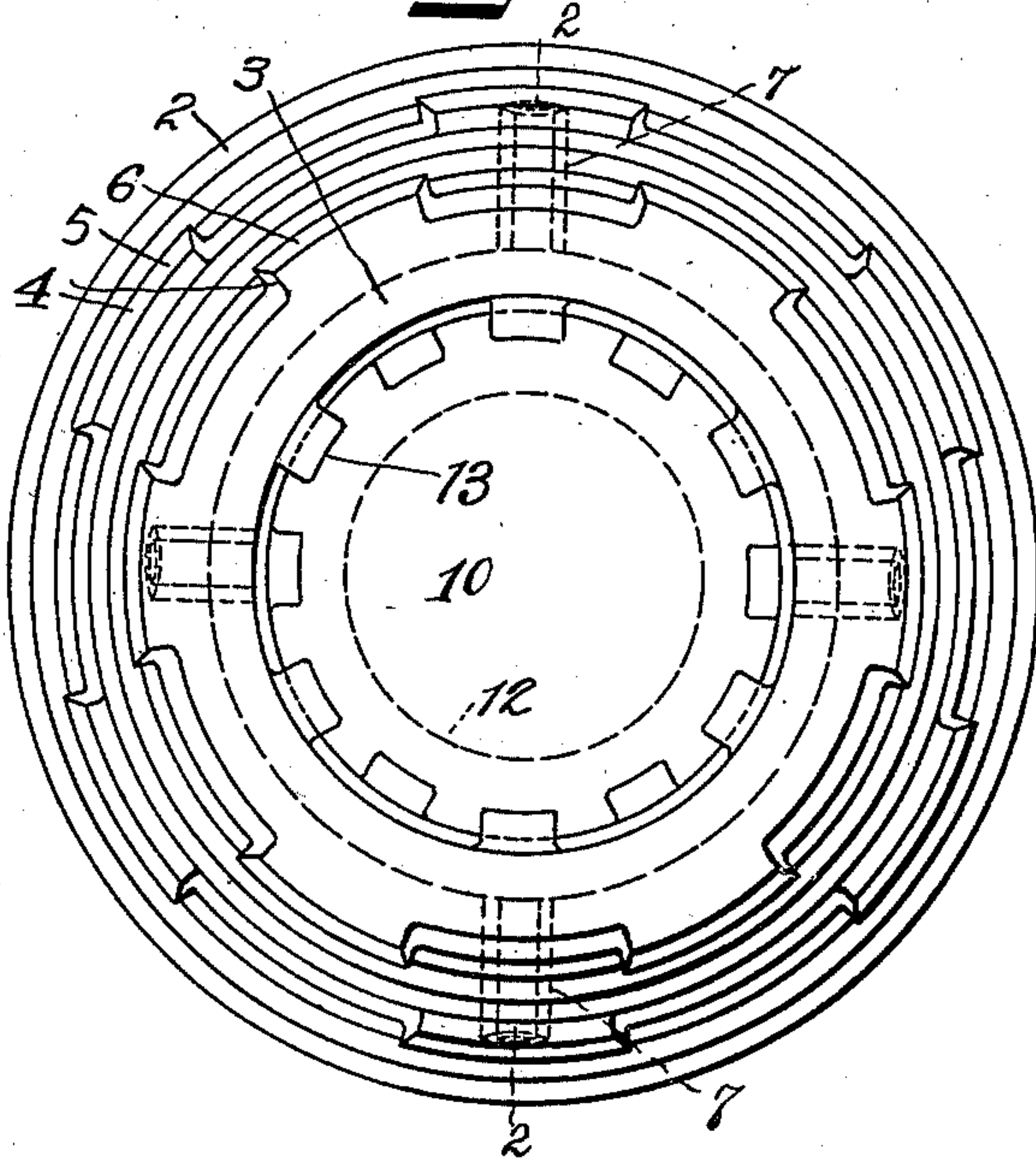


FIG. 4.

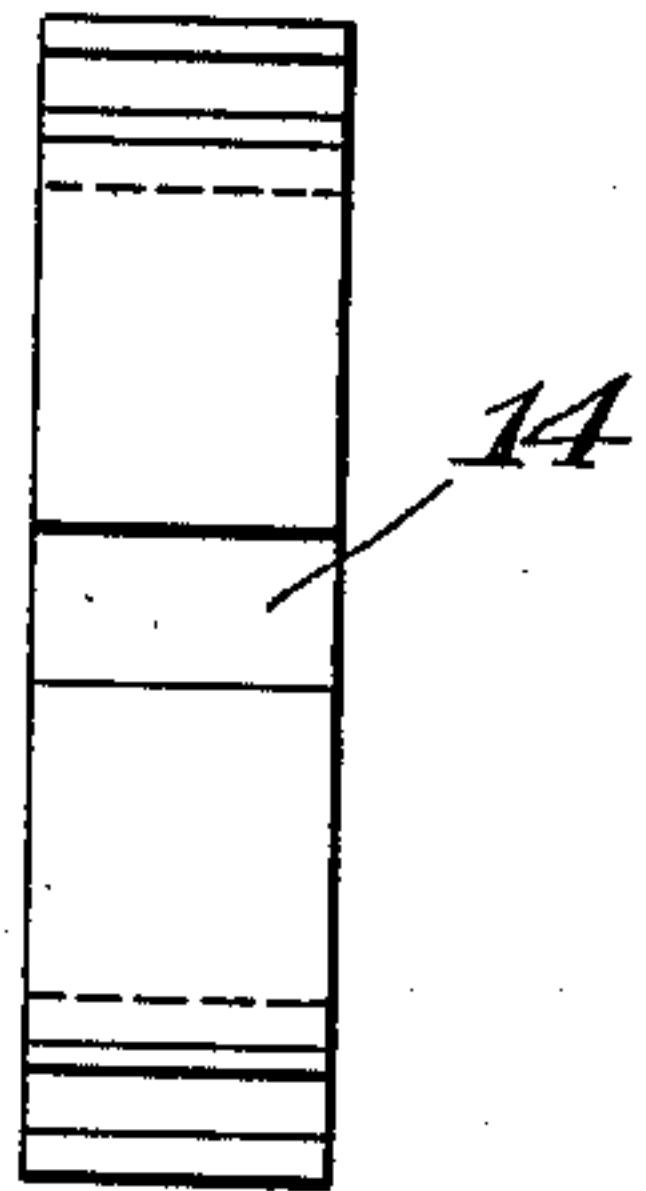
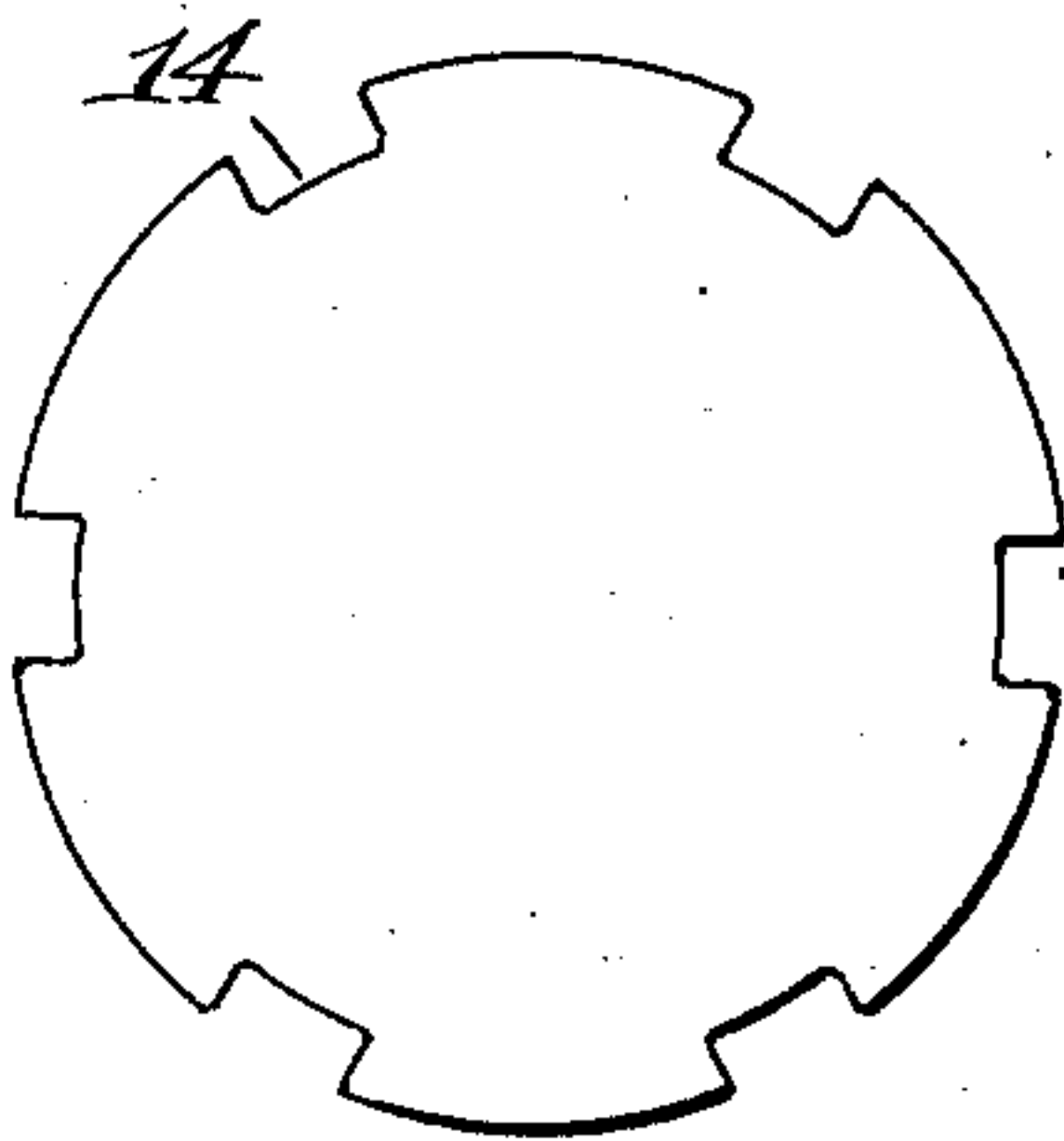


FIG. 3.



Witnesses:  
*P. M. Pittman*  
*J. E. Boyce*

Inventor:  
*Samuel W. Fish.*  
By his Attorney  
*C. A. Meek*



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3 SHEETS-SHEET 2.

FIG. 6.

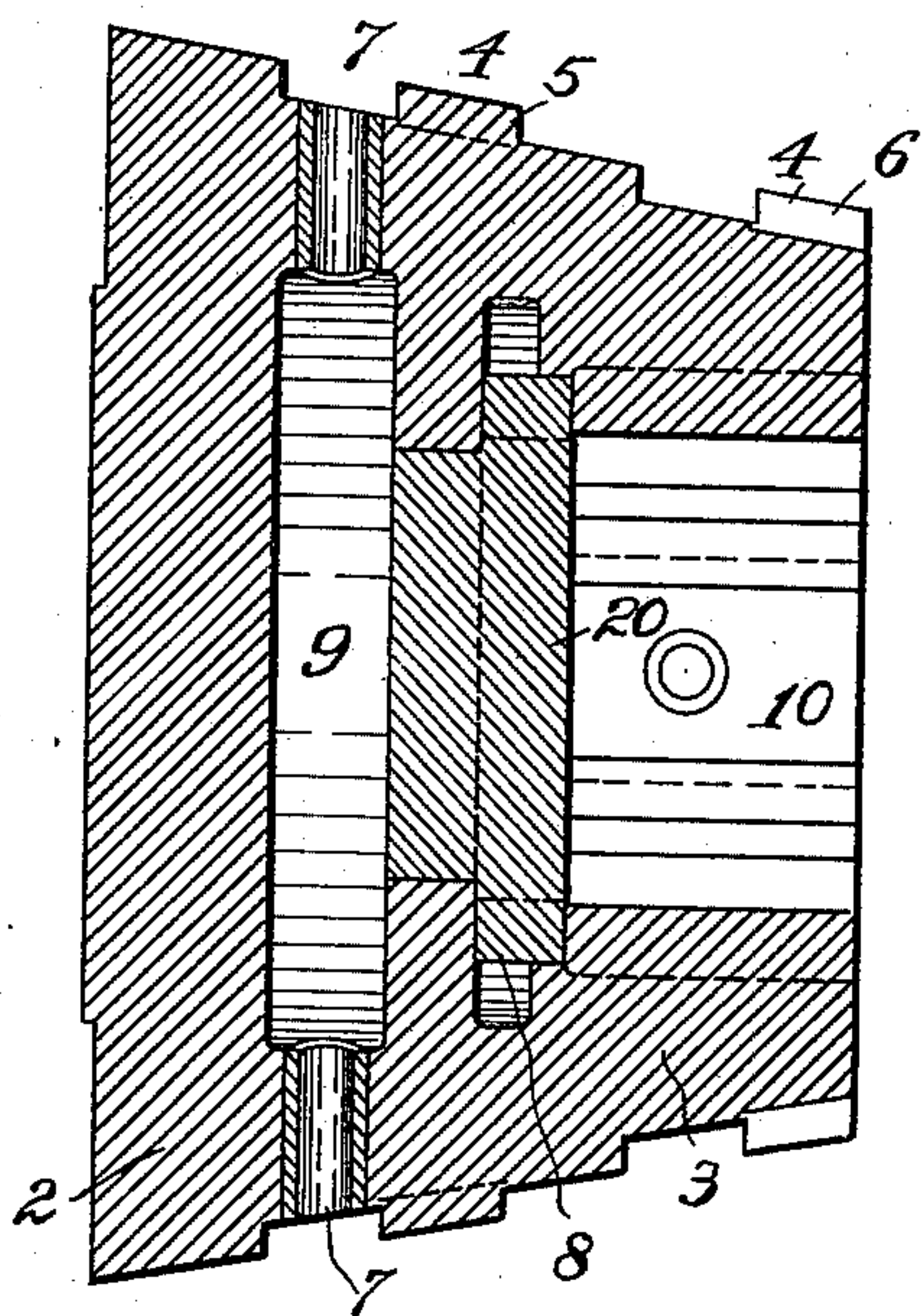


FIG. 5.

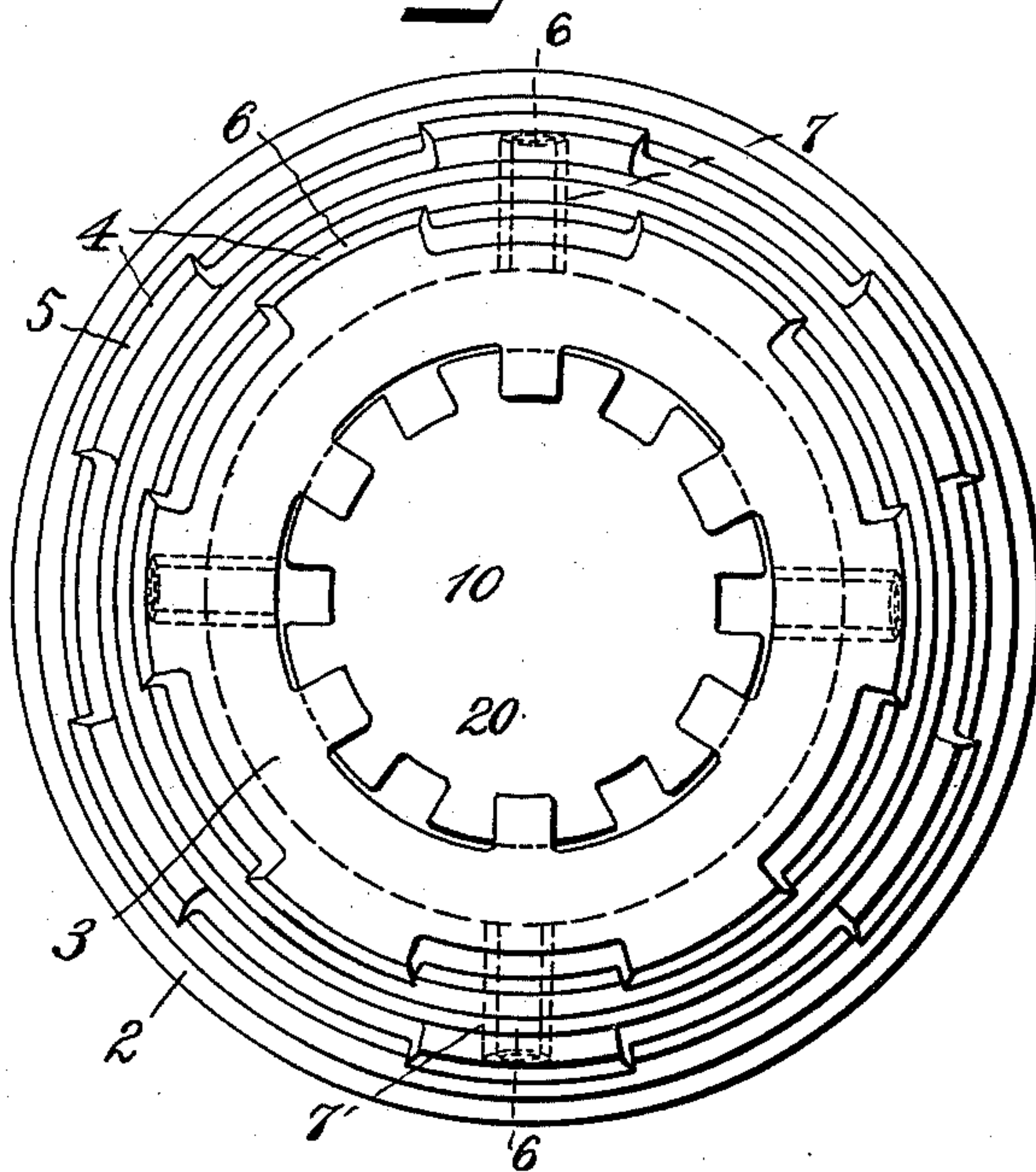


FIG. 8.

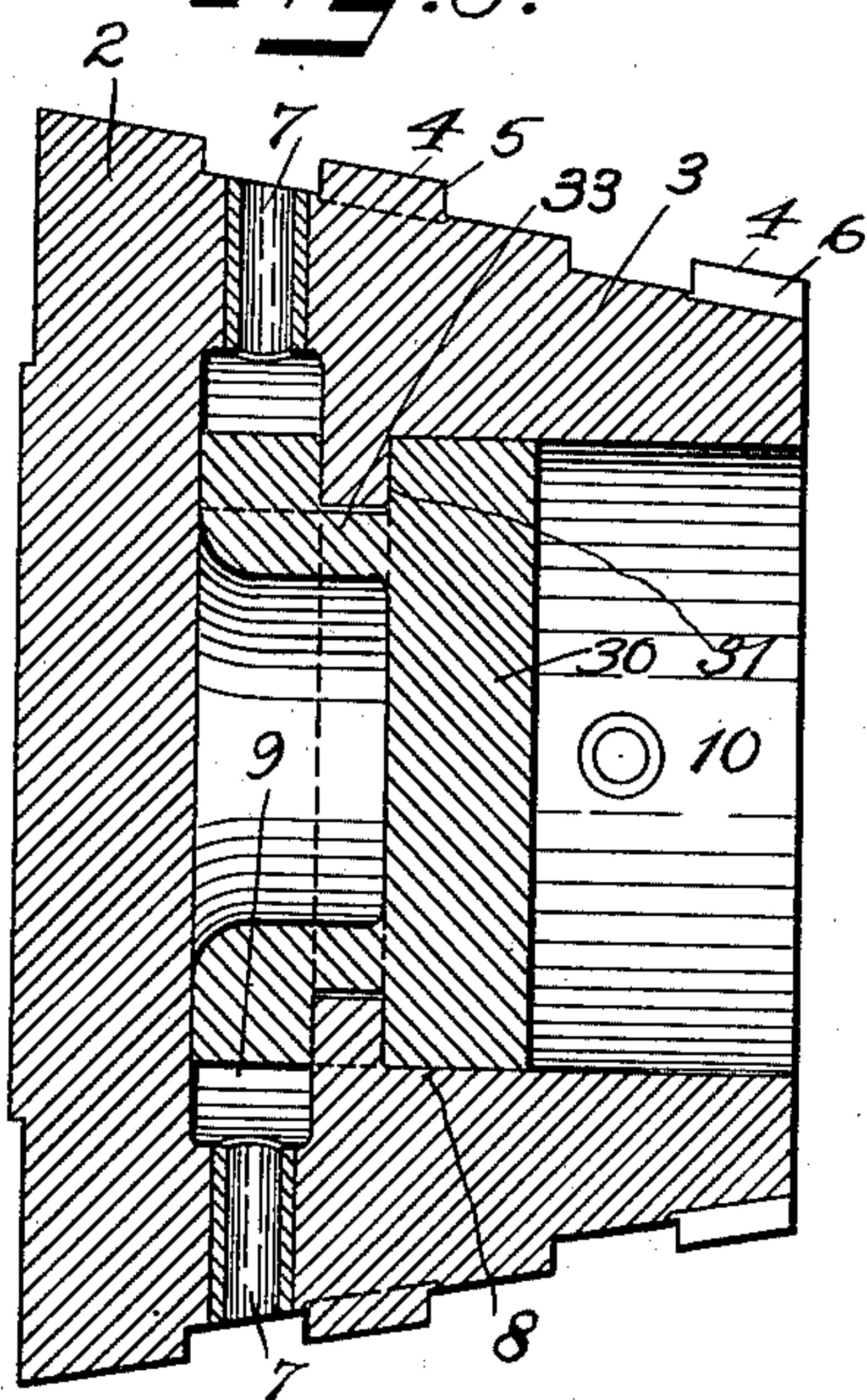
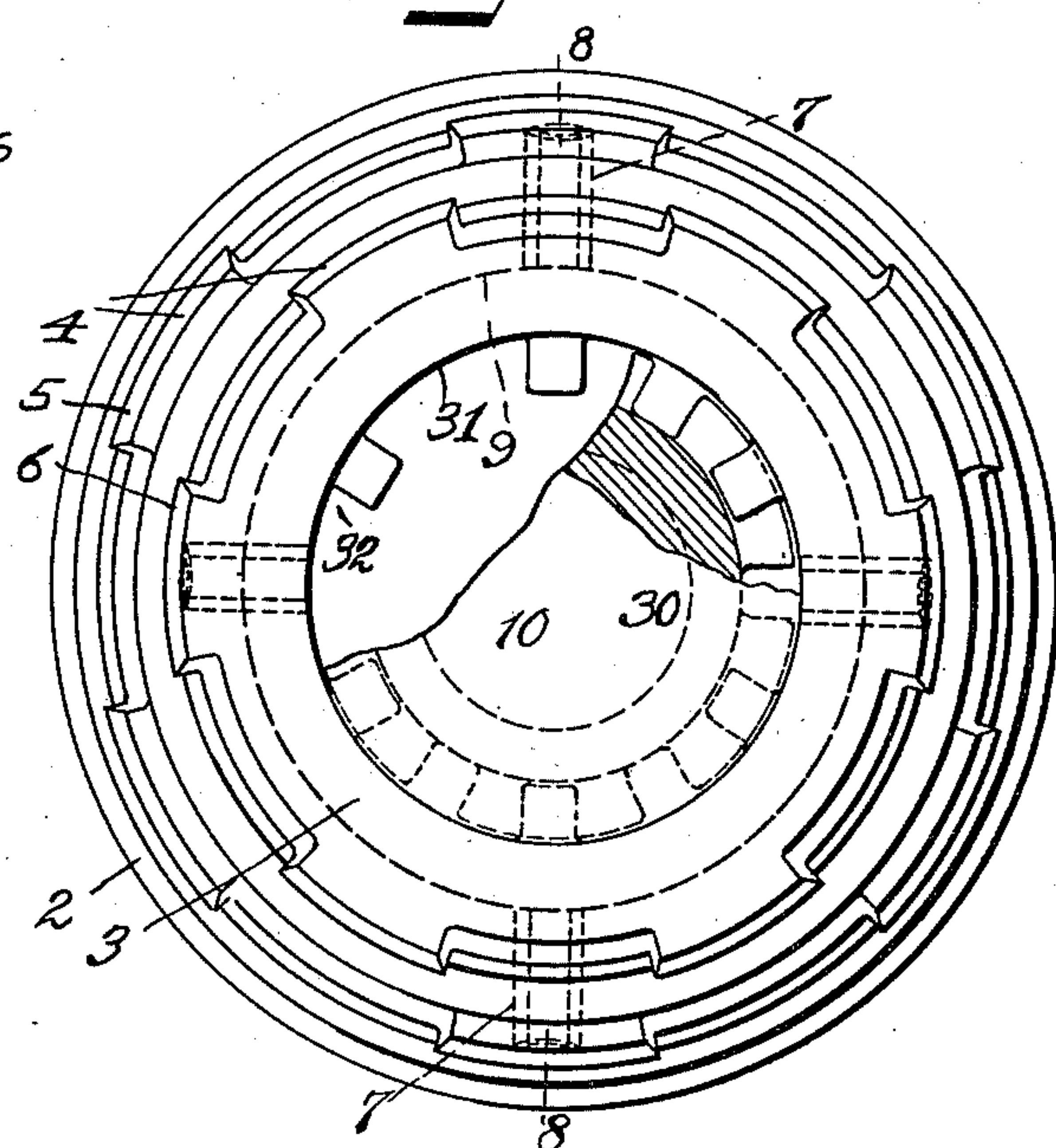


FIG. 7.



Witnesses  
*A. H. Pittman*  
*F. E. Boyce*

Inventor  
*Samuel W. Fish*  
By his Attorney  
*C. A. Mead*



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3 SHEETS—SHEET 3.

FIG. 10.

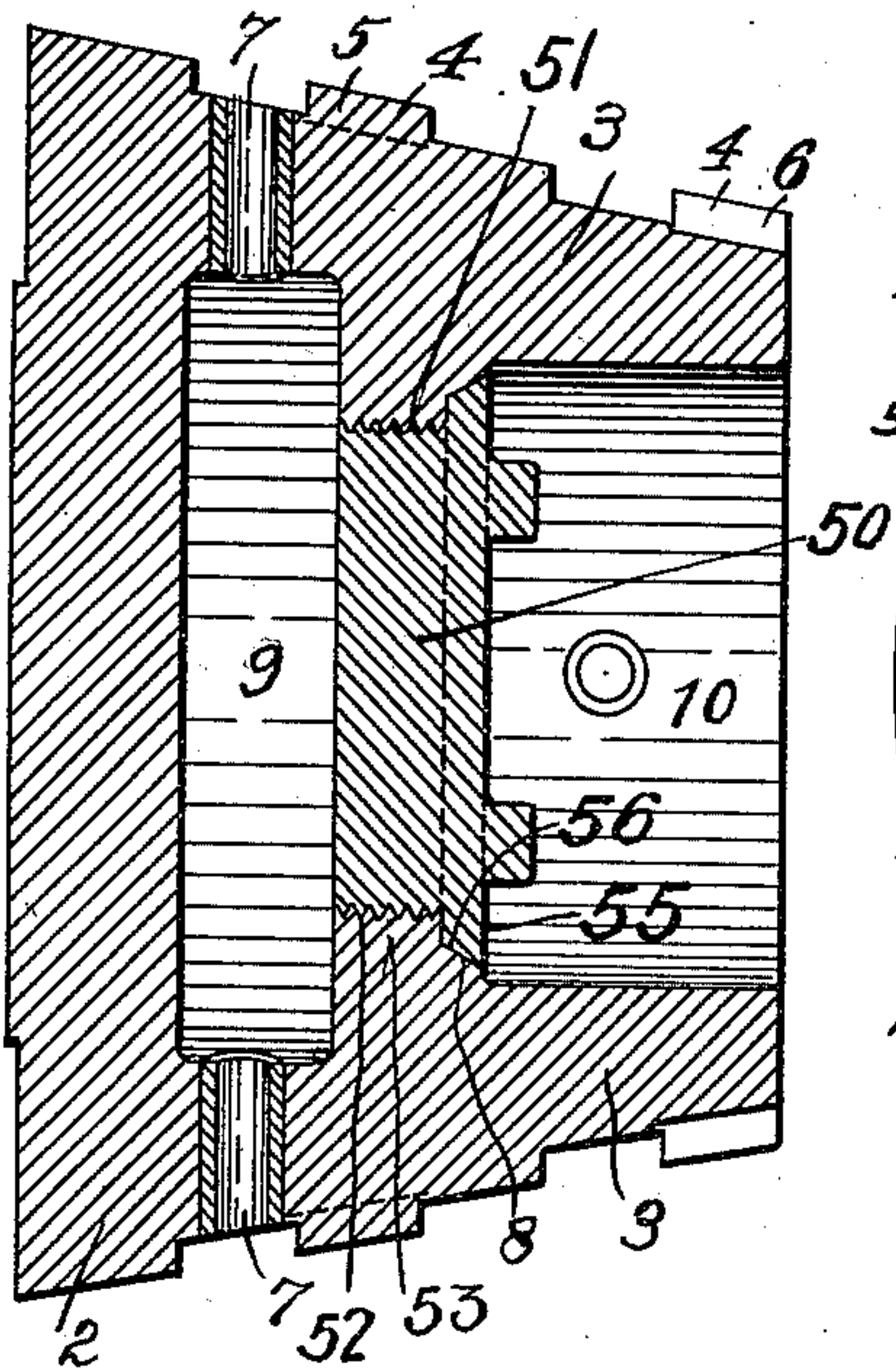


FIG. 9.

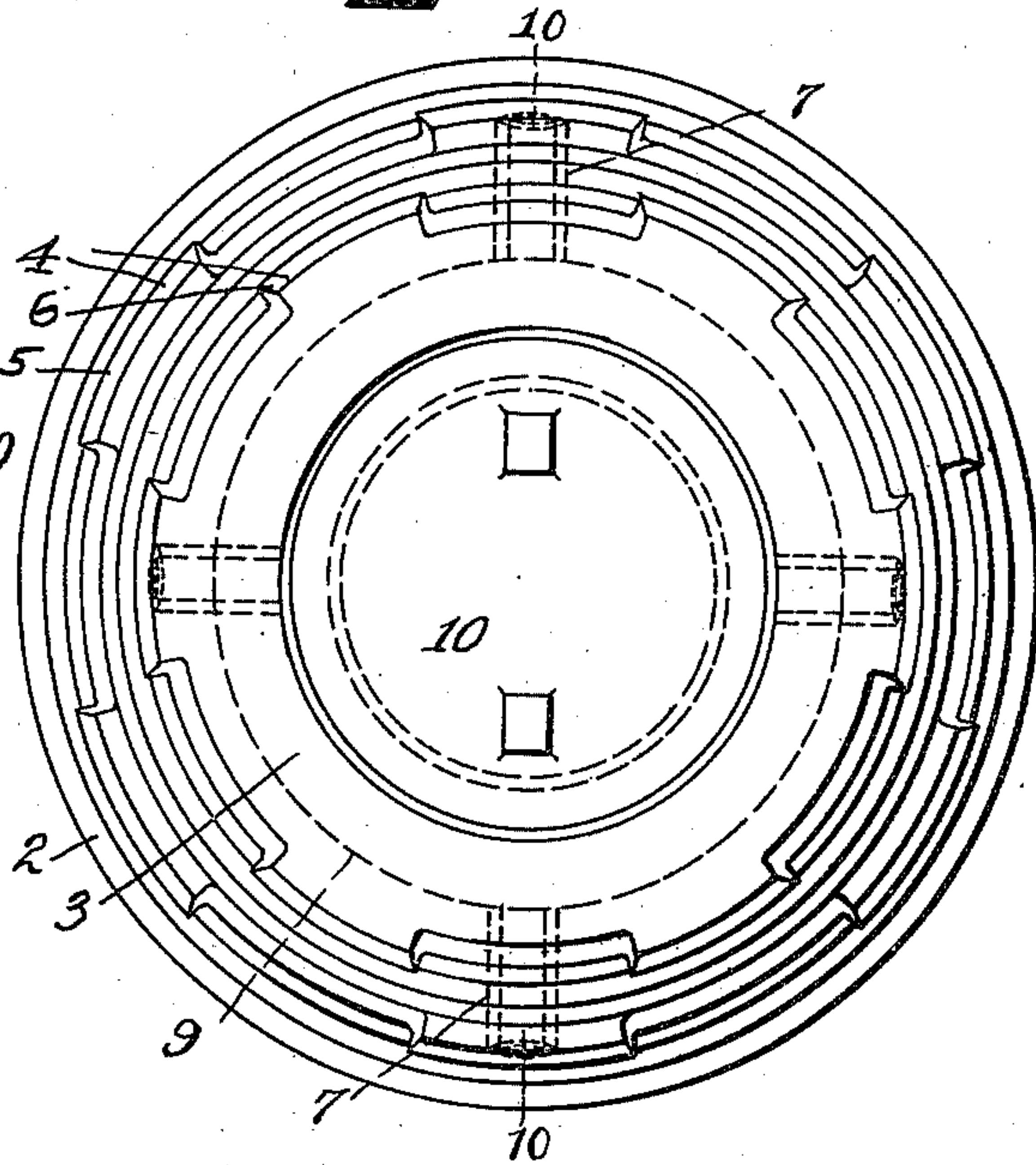


FIG. 12.

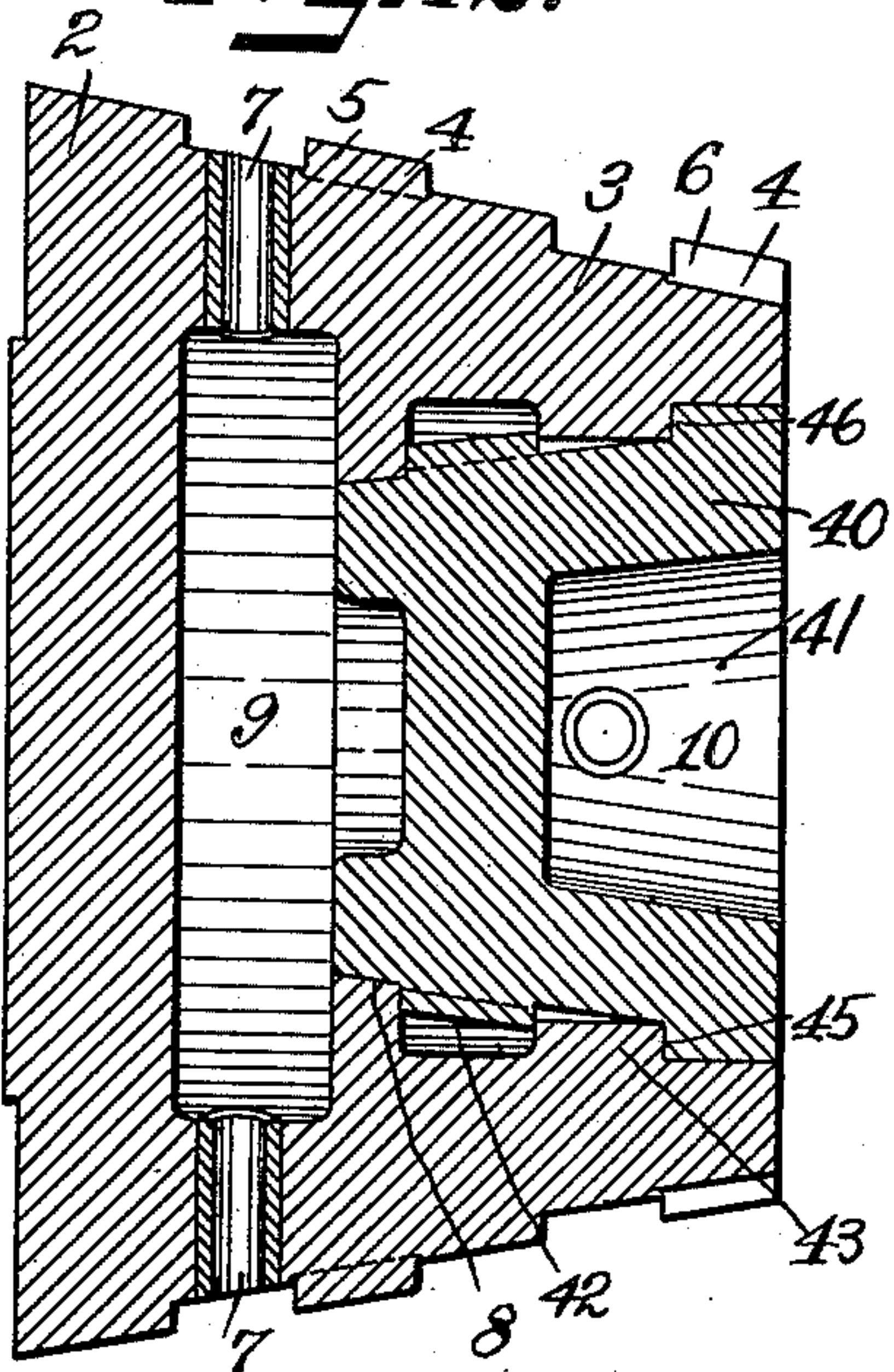
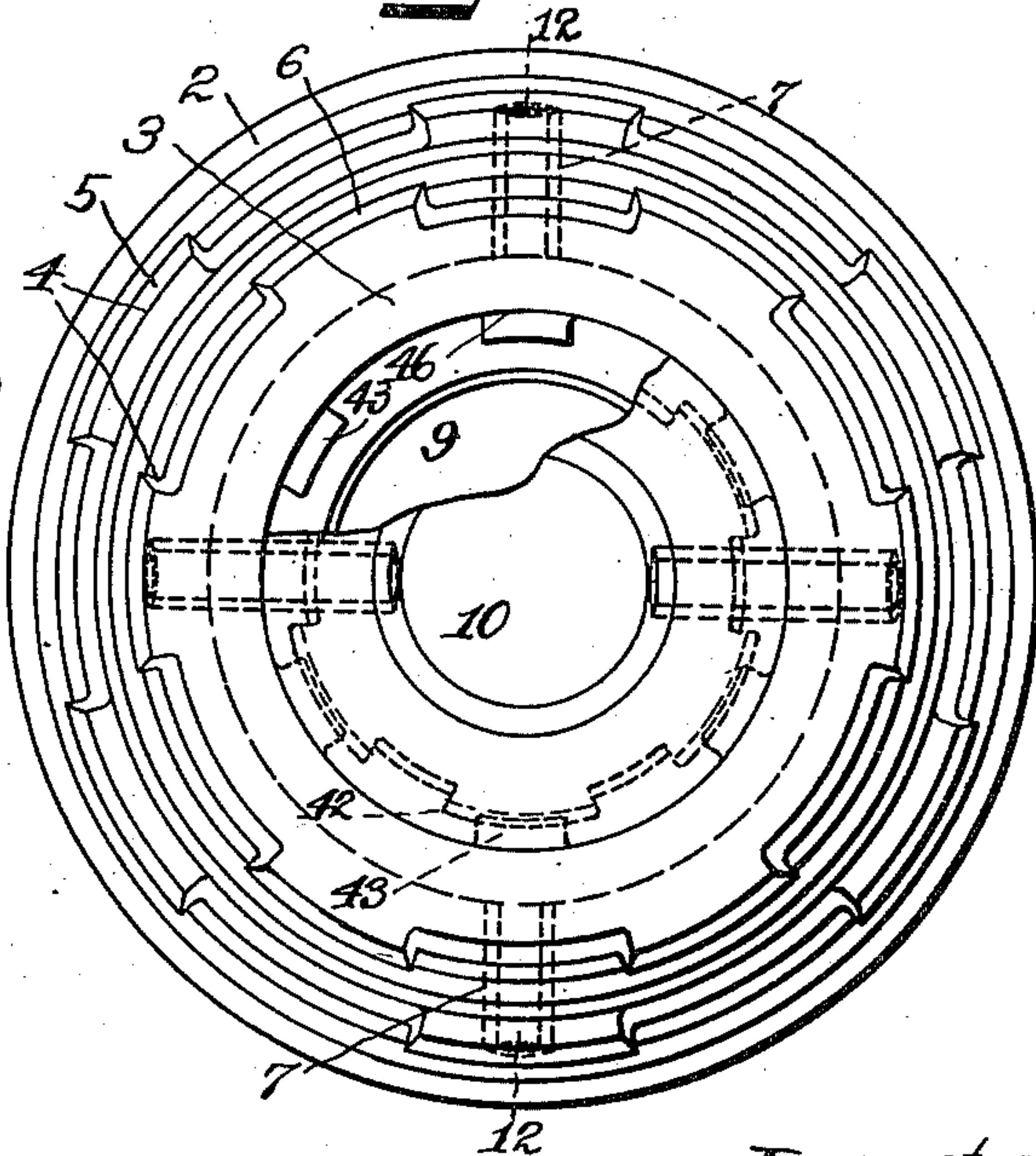


FIG. 11.



Witnesses  
P. M. Pittman  
F. E. Boyce

Inventor  
Samuel W. Fish.  
By his Attorney  
C. A. Mead



# UNITED STATES PATENT OFFICE.

SAMUEL W. FISH, OF PLAINFIELD, NEW JERSEY, ASSIGNOR TO TAYLOR IRON & STEEL COMPANY, OF HIGH BRIDGE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## SAFE OR VAULT DOOR.

997,777.

Specification of Letters Patent.

Patented July 11, 1911.

Application filed November 10, 1909. Serial No. 527,127.

*To all whom it may concern:*

Be it known that I, SAMUEL W. FISH, a citizen of the United States, and a resident of Plainfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Safe or Vault Doors, of which the following is a specification.

The present improvement relates to safe or vault doors, the object thereof being to provide an improved double or compound door so constructed that the major part thereof is made as a single casting, but which will have the effectiveness of a pair of doors rigidly secured together, and is in part an improvement upon that shown and described in my contemporaneously pending application, Serial No. 527,129, filed Nov. 10, 1909.

In the present improvement the door is made up of a main door and an inner door located entirely within the main door and secured within such main door by rotating the inner door within the main door.

In the drawings accompanying and forming a part of this specification, Figure 1 is a rear view of this improved door; Fig. 2 is a cross-sectional view thereof, taken in line 2—2, Fig. 1; Figs. 3 and 4 are edge and face views respectively of the inner door; Fig. 5 is a rear view of a somewhat different form of door; Fig. 6 is a cross-sectional view thereof, taken in line 6—6, Fig. 5; Fig. 7 is a rear view of a still different form of door; Fig. 8 is a cross-sectional view thereof, taken in line 8—8, Fig. 7; Fig. 9 is a rear view of a still different form of door; Fig. 10 is a cross-sectional view thereof, taken in line 10—10, Fig. 9; Fig. 11 is a rear view of a modified form of door; and Fig. 12 is a cross-sectional view thereof, taken in line 12—12, Fig. 11.

Similar characters of reference indicate corresponding parts throughout the figures of the drawings.

In all of these doors it will be observed that the main door comprises a body 2 having a rearwardly extending integral flange 3 of tapered form and provided with locking lugs 4, shown in the present instance as comprising two sets, 5 and 6, the locking lugs of one set alternately disposed with those of the other, whereby a uniform holding of the door in its jamb throughout the

entire circumference of the door is obtained, the lugs of one set, as the rear set, backing up the spaces between the lugs of the front set. It will also be observed that in all of these forms of doors the flange is provided with suitable bolt openings 7 for the reception of bolts which may be used for the purpose of preventing the door from being rotated in its seat after it is locked in position by the lugs. Furthermore, in all these forms of doors the rearwardly extending flange is provided on the interior thereof with a door seat 8 for the reception of the inner door, which latter thus partitions the main door into a pair of chambers 9 and 10 separated one from the other within the main door. By reason of this organization, should a burglar be successful in separating the body of the door from the remainder thereof ingress to the safe would still be prevented by reason of the inner door. It will also be observed that in all these forms of doors the inner or chamber-forming door is secured in position by a rotary movement thereof with relation to the main door.

In the form shown in Figs. 1 to 4 the main door flange is provided with an inwardly extending annular projection or ring 12 against which the inner door is adapted to rest. The flange of the main door is also provided with a series of projections or lugs 13, the inner door being provided with a series of recesses 14 around its periphery for the reception of such lugs, whereby the inner door may be pushed into position when the recesses are in alinement with the lugs and then rotated so as to carry the recesses away from the inner ends of the lugs, whereby it is rigidly secured in position against displacement. Various means could be provided if necessary, to prevent the rotation of the inner door, such as keys, but as the inner door is adapted to fit tightly within the outer door it would be extremely difficult to rotate the door after it is once placed in position.

In the form shown in Figs. 5 and 6 the inner door 20 is of step formation and is secured in position in a substantially similar manner to that shown in Figs. 1 to 4.

In the form shown in Figs. 7 and 8 the inner door 30 is provided with a series of locking lugs adapted to project into the forward chamber 9, and for this purpose the



flange of the main door is provided with an annular ring 31 having recesses 32 therein for the passage of the lugs, the body of the inner door 33 engaging the inner face or side of this annular ring 31.

In the form shown in Figs. 11 and 12 the inner door is of tapered formation, tapering in a direction opposite to that of the flange of the main door 40, and is provided with a chamber 41 therein and with locking lugs 42 adapted to co-act with similarly formed lugs 43 on the interior of the flange of the main door, this inner door 40 having an annular shoulder or step 45 around the same cooperating with a similarly formed shoulder or step 46 on the interior wall of the flange of the main door.

In the form shown in Figs. 9 and 10 the inner door 50 is provided with threads 51 adapted to engage similarly formed threads 52 formed on the annular ring 53 projecting inwardly from the main door flange. This door 50 is so formed that that part thereof having the largest diameter, as 55, will fit within a recess 56 of the annular seat-forming member for this inner door.

From the foregoing it will be observed that by means of this inner door the main door is separated and divided into a pair of compartments or chambers, and that, although access might be obtained to the first chamber by the separation of the body of the main door from the rest of the door, nevertheless the body of the safe would be still tightly closed against ingress thereto by the inner door, so that all the work of the burglar would have to be repeated in order to get into the safe.

I claim as my invention:

1. A safe or vault door comprising an outer door and an inner door located wholly within and in the rear of the body of the outer door and rigidly secured thereto by cooperating interlocking means on the rotary movement of one of the doors.

2. A safe or vault door comprising a body and a rearwardly extending flange, and an inner door located in the rear of said body and substantially entirely within said flange and rigidly secured thereto by cooperating interlocking means on the rotary movement of one of the doors.

3. A safe or vault door comprising a body and a rearwardly extending flange, and an inner door located in the rear of said body and substantially wholly within said flange and rigidly secured thereto by cooperating interlocking means on the rotary movement of the inner door, said first door having locking means for locking the door in the jamb of the body.

4. A safe or vault door comprising a body and a rearwardly extending flange, and an inner door located within said flange and rigidly secured thereto by cooperating in-

terlocking means on the rotary movement of one of the doors, said first door having locking means for locking the door in the jamb of the body, said locking means comprising two sets of lugs, the lugs of one set being alternately disposed with relation to the lugs of the other set.

5. A safe or vault door comprising a body and a rearwardly extending flange, and an inner door located within said flange, said flange and inner door having cooperating locking lugs whereby the inner door is secured in position by a rotary movement thereof.

6. A safe or vault door comprising a body and a rearwardly extending flange provided on the interior thereof with a door seat, and a door secured within said flange in the rear of said body by interlocking means on the rotary movement of the inner door with relation to the main door.

7. A safe or vault door having a chamber therein, and an inner door separating said chamber into a pair of compartments or chambers and secured in position within said chambered door by interlocking means on the rotary movement of the inner door.

8. A chambered safe or vault door having locking means on the annular wall of said chamber, and an inner door having cooperating locking means for separating the chamber of said door into a pair of chambers.

9. A chambered safe or vault door having the annular wall of said chamber provided with locking lugs, and an inner door constructed to cooperate with said locking lugs whereby it is rigidly secured in position on the rotation thereof and in position to divide the chamber of said door into a pair of chambers or compartments.

10. A safe or vault door having a chamber and wholly within the same an inner door provided with lugs adapted to cooperate with locking surfaces carried by the chambered door for securing the inner door rigidly in position.

11. A safe or vault door comprising an outer rotary door having a chamber and an inner rotary door located wholly within the chamber of the outer door and in the rear of the body thereof.

12. A safe or vault door comprising an outer rotary door having a chamber and an inner rotary door wholly within said chamber, each of said doors having locking lugs adapted to interlock with lugs carried respectively by the safe or vault body and the outer door.

13. A safe or vault door comprising an outer rotary door and an inner rotary door carried by the outer door, each of said doors having locking lugs, and the outer door also having lugs located in sets with the lugs of one set alternating with the lugs of the other.



14. A safe or vault door comprising a chambered outer door and an inner door, the inner door separating said outer door into a pair of chambers or compartments and rigidly secured in position by coöperating means on the rotary movement thereof relatively to the outer door, and said outer door having means effective to lock the same within the jamb on the rotary movement thereof.

15. A safe or vault door comprising a chambered outer door and an inner door, the inner door separating said outer door into a pair of chambers or compartments and rigidly secured in position by coöperating means on the rotary movement of the inner door relatively to the outer door, said outer door having means effective to lock the same within the jamb on the rotary movement thereof, and said outer door also having bolt openings for the reception of bolts to lock the door against rotary movement.

16. A safe or vault door having a chamber therein and provided with a door seat, and an inner door located in the rear of the body of the front door and adapted to engage said seat and secured in position by coöperating means on the rotary movement of the inner door with relation to the front door.

17. A safe or vault door comprising a body having a rearwardly extending flange forming a chamber within the door, and an inner door fitting within said chamber and dividing the chamber into a pair of cham-

bers, said inner door having a chamber within it.

18. A safe or vault door comprising a body having a rearwardly extending flange forming a chamber within the door, and an inner door fitting within said chamber and dividing the chamber into a pair of chambers, said inner door having a chamber within it and also having means interlocking said inner door with similarly formed means carried by the outer door.

19. A safe or vault door comprising a body having a rearwardly extending flange forming a chamber within the door, an inner door located within said flange, and means carried by the flange and inner door for interlocking the inner door with the flange and said outer door having similarly formed means for interlocking it with the jamb of the body.

20. A safe or vault door comprising a body having a rearwardly extending flange, and an inner door located within said flange, said flange and inner door having means for interlocking them on the rotation of one relatively to the other and said outer door having means for interlocking it with the jamb of the safe body on the rotation of the door relatively to the body.

SAMUEL W. FISH.

Witnesses:

H. L. STAPLES,

H. W. WYCKOFF.