

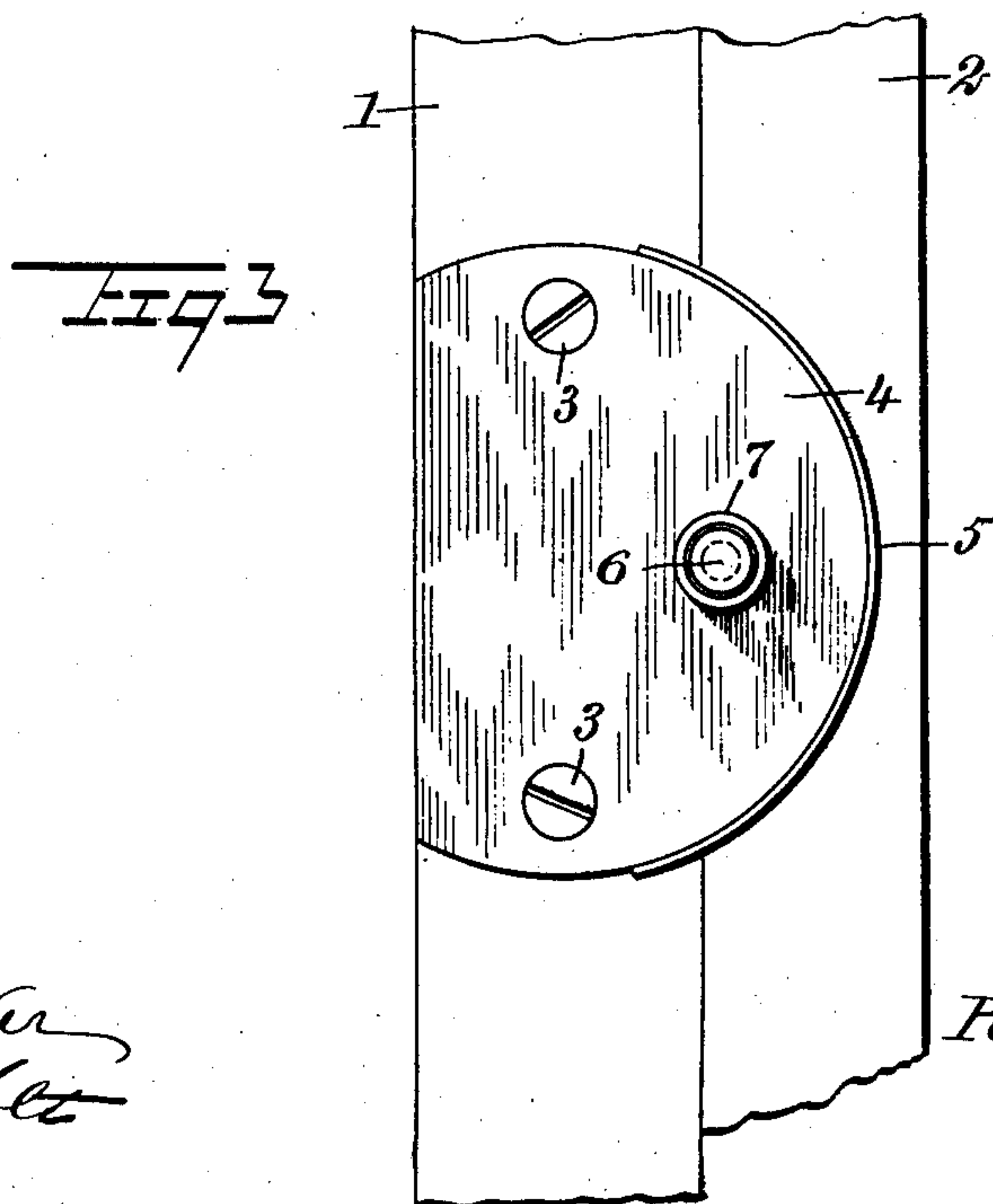
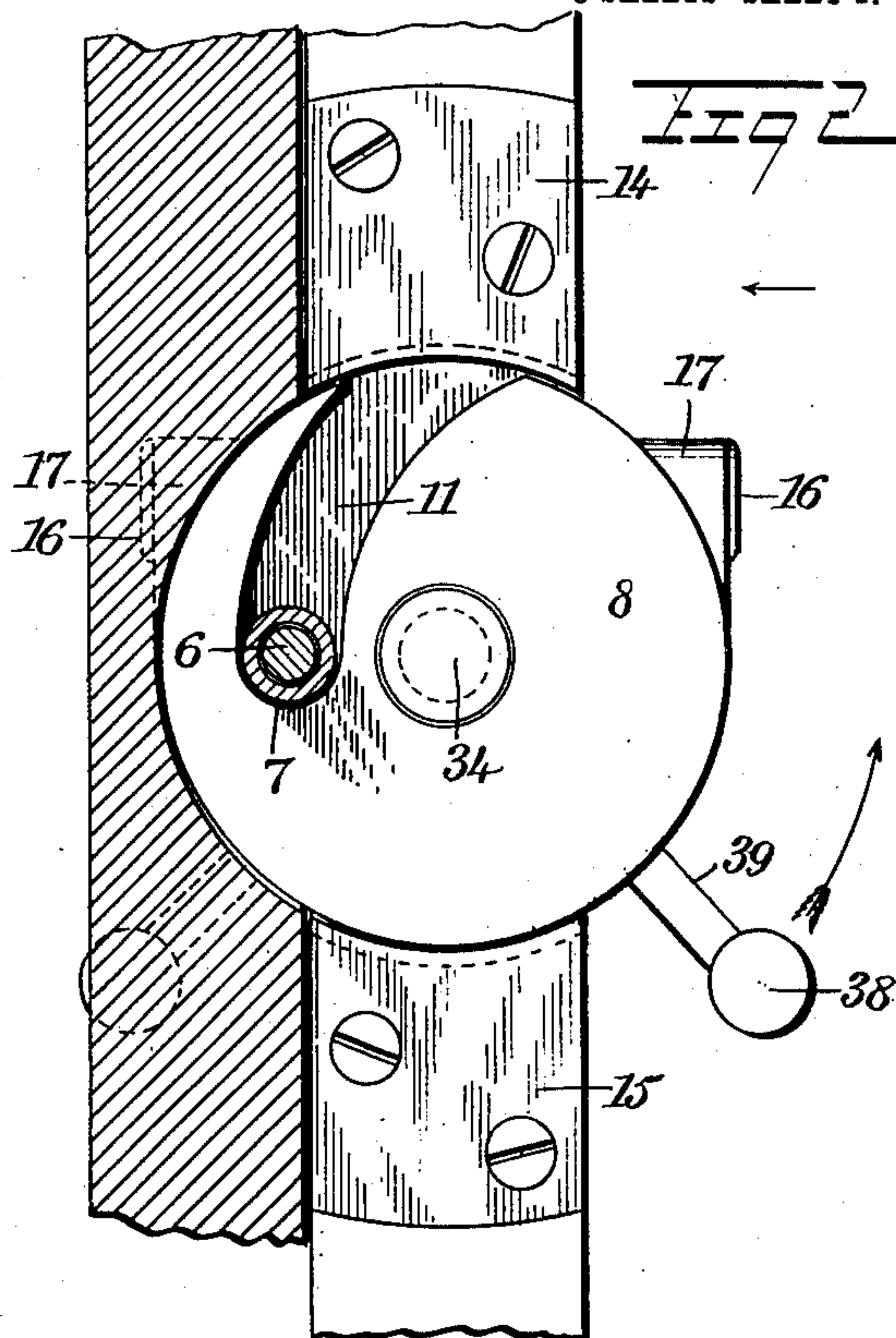
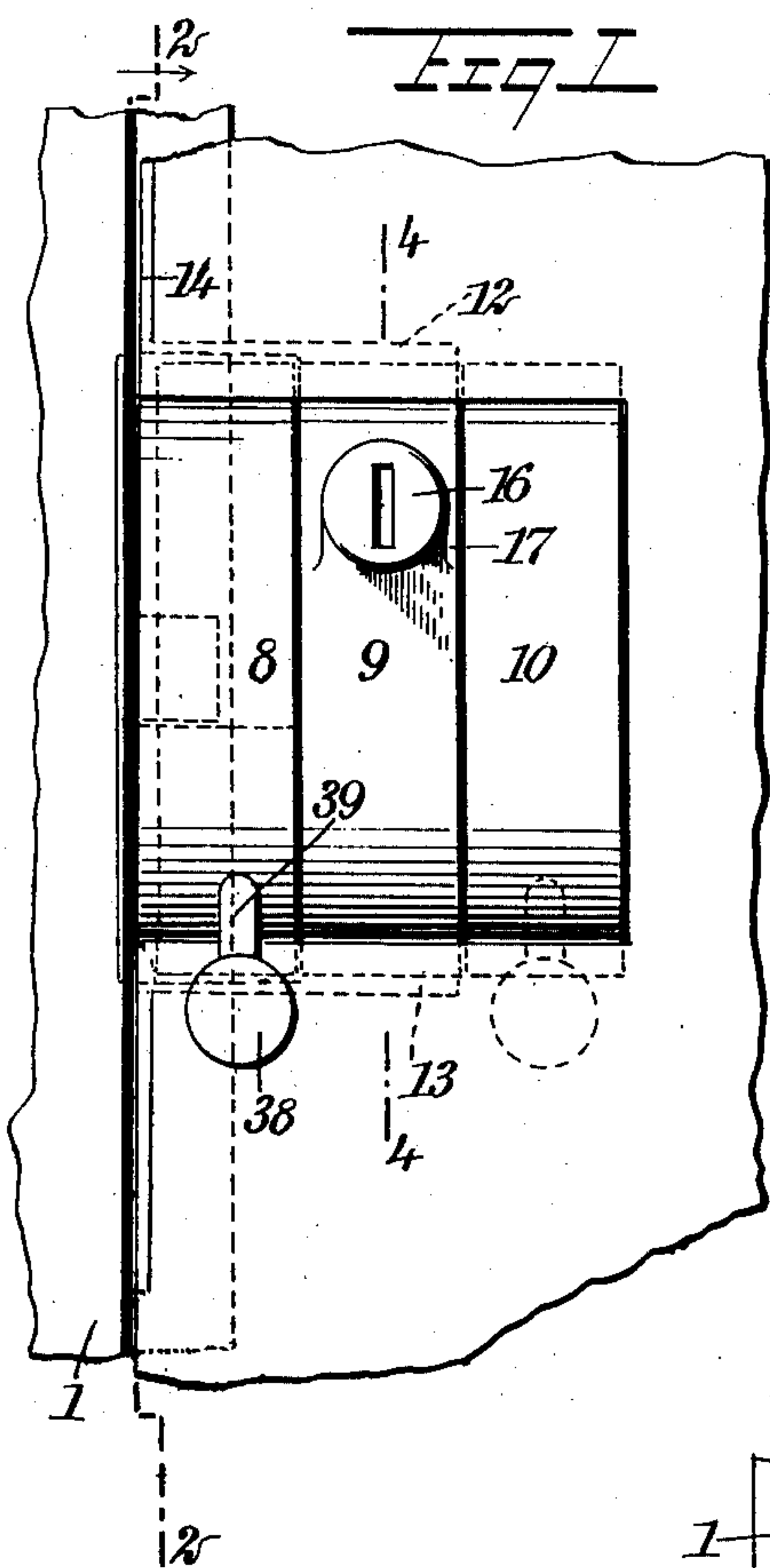
No. 837,811.

PATENTED DEC. 4, 1906.

P. EBBESON.
LOCK.

APPLICATION FILED MAY 2, 1906.

3 SHEETS—SHEET 1.



WITNESSES
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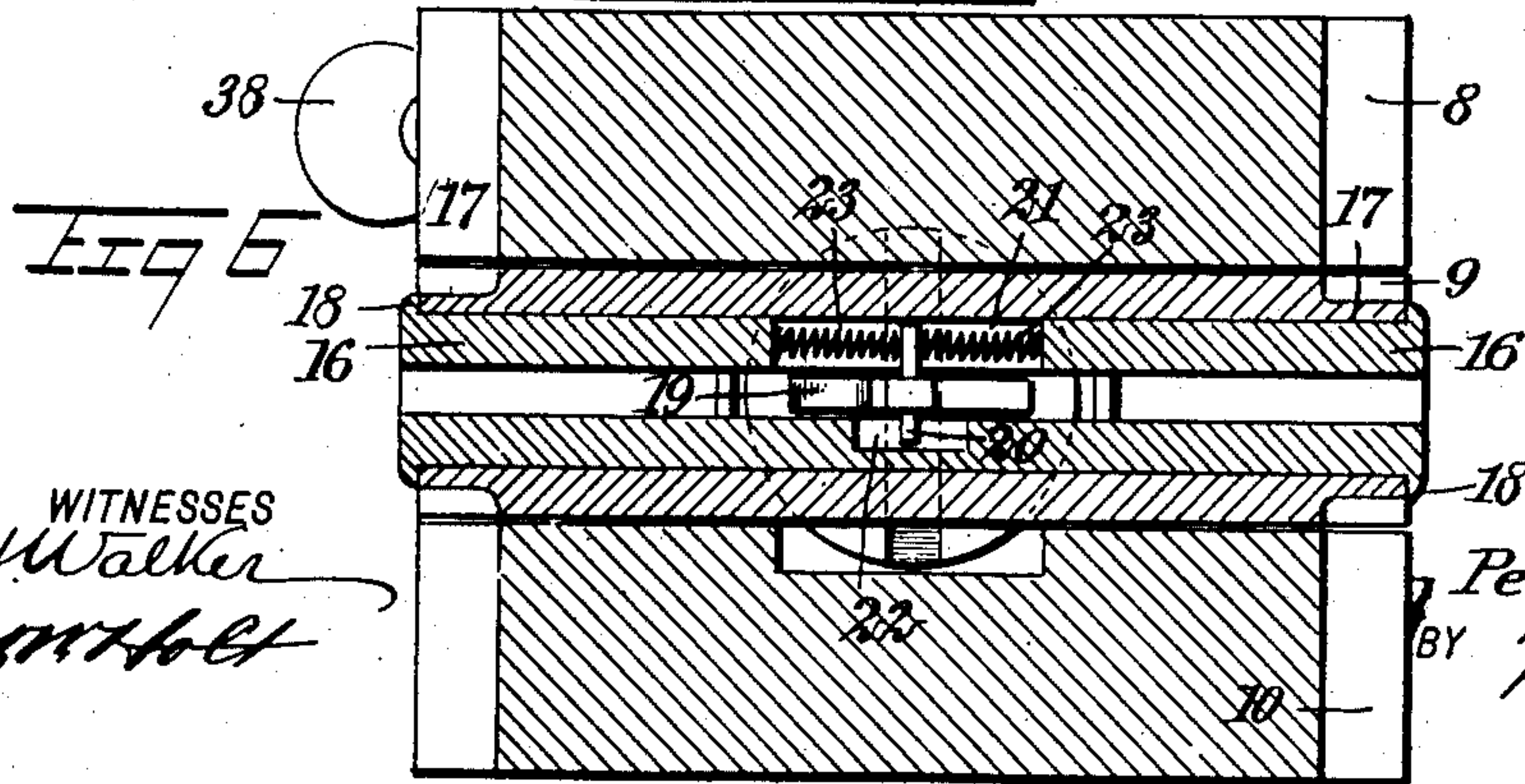
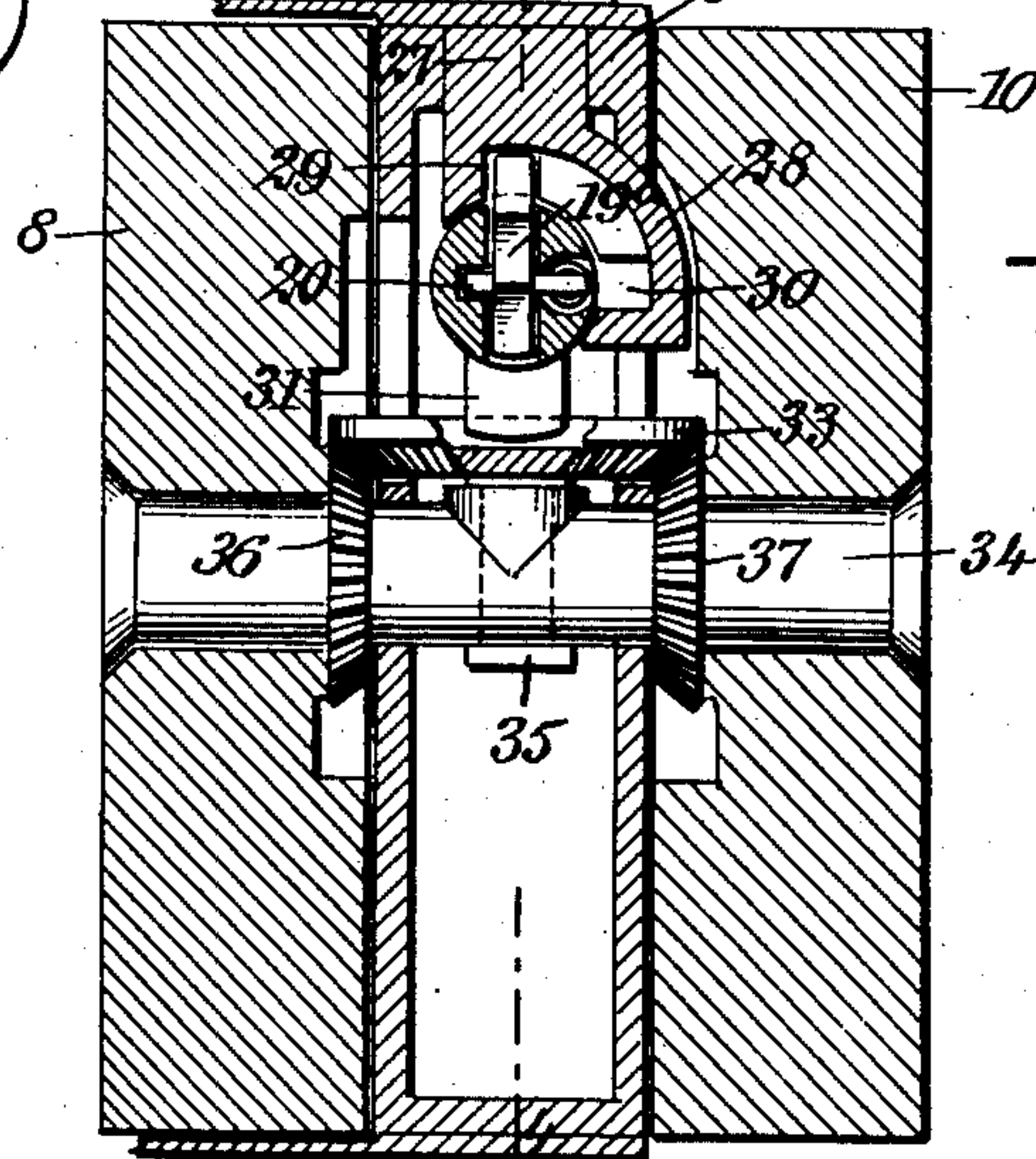
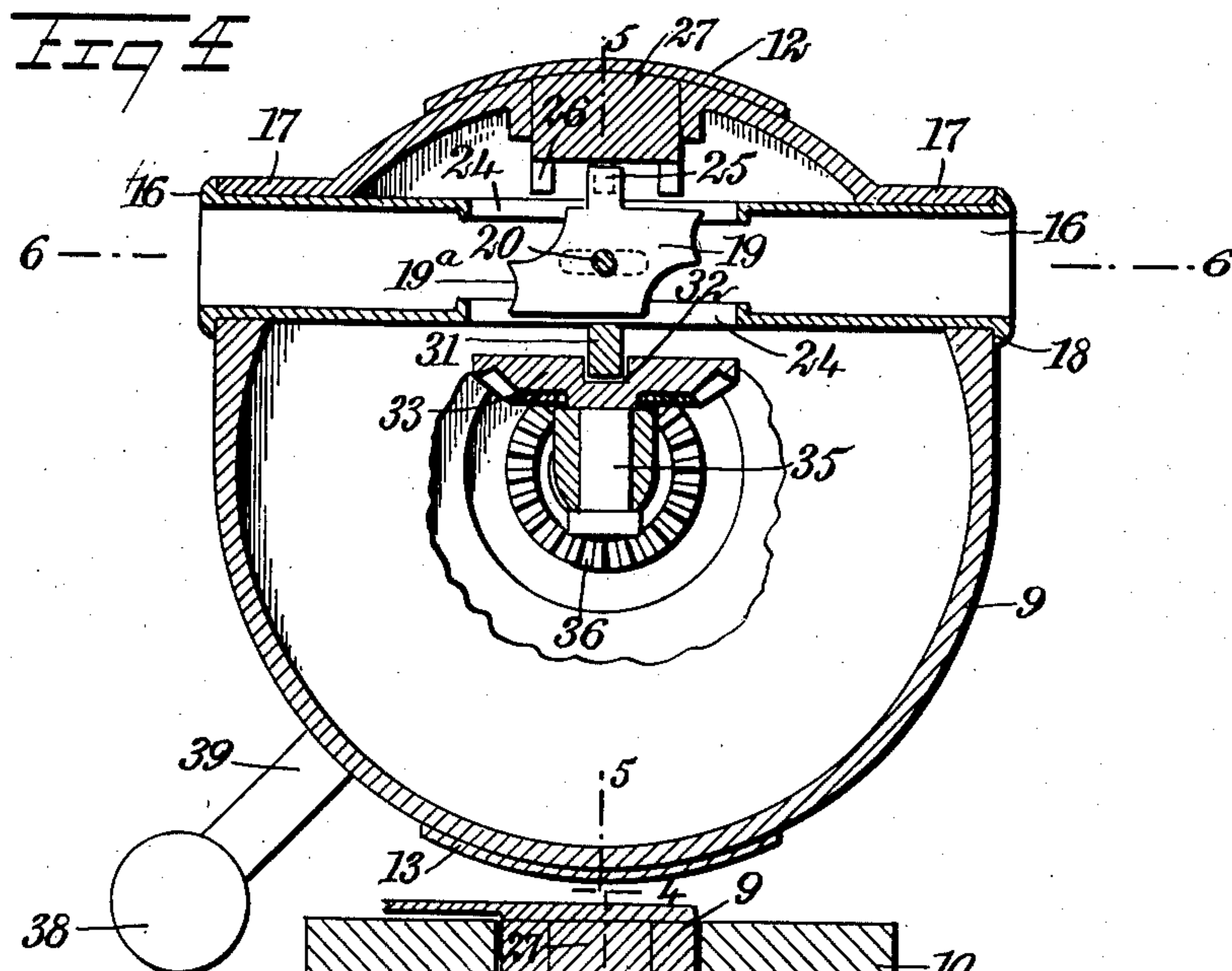
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3 SHEETS—SHEET 2.



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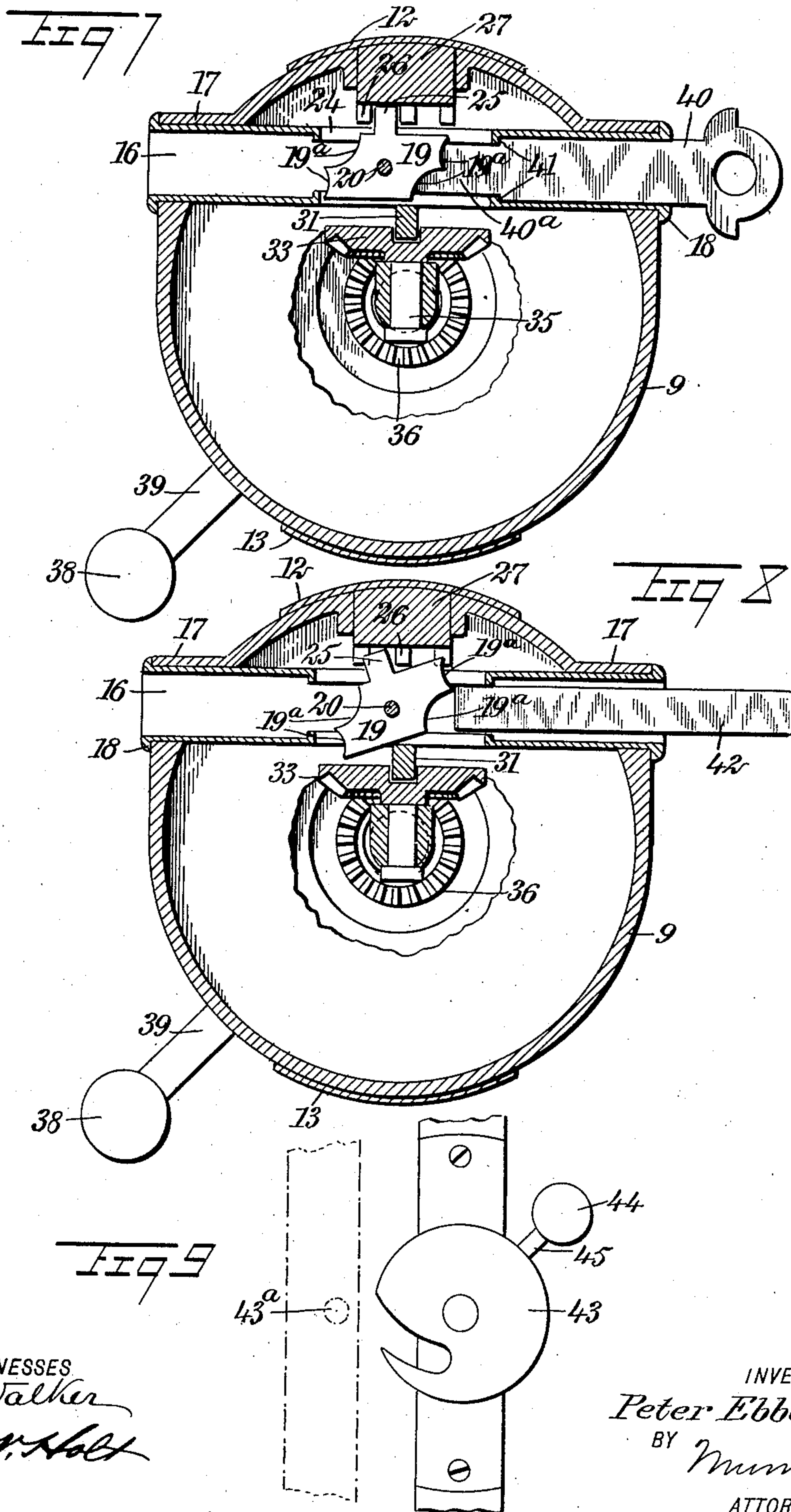
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

PETER EBBESON, OF ST. PAUL, NEBRASKA.

LOCK.

No. 837,811.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed May 2 1906. Serial No. 314,830.

To all whom it may concern:

Be it known that I, PETER EBBESON, a citizen of the United States, and a resident of St. Paul, in the county of Howard and State of Nebraska, have invented a new and Improved Lock, of which the following is a full, clear, and exact description.

This invention is an improvement in locks, embodying a novel manner of operation from one or both sides of a door, as desired.

The invention has for objects, among others, to provide a lock with a latching means which will securely hold the door when closed to the door-stop, thereby preventing any rattling or shaking of the door, and also to provide a simple and convenient means for operating the latch and a means for locking the latch which cannot be picked or released by one not in possession of the proper key.

The lock which I have conceived to accomplish the above objects is of a neat and compact appearance and can be readily applied to a door or other closure at a comparatively small expense.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the lock as applied to a door, the door being broken away around the lock. Fig. 2 is a vertical section through the door-jamb and that part of the lock to clearly show the construction of the latching-disk, taken substantially on the line 2 2 in Fig. 1. Fig. 3 is a face view of the door jamb and stop with a plate for carrying the latching-stud and roller applied thereto. Fig. 4 is a transverse section through the lock on the line 4 4 of Figs. 1 and 5, showing the position assumed by the parts when the latching-disk is locked. Fig. 5 is a longitudinal vertical central section on the line 5 5 of Fig. 4. Fig. 6 is a longitudinal horizontal section through the locking-barrel on the line 6 6 of Fig. 4. Fig. 7 is a view similar to Fig. 4 with the locking-tumbler pushed to one side by a key for withdrawing the locking-bolt. Fig. 8 is a view similar to Fig. 4 with a blank inserted in the keyhole and pushing the tumbler to one side to show

the position taken by the tumbler when it is attempted to unlock the latching-disk with other than a proper key, and Fig. 9 is an edge view of a door with a single latching-disk applied.

Referring to Figs. 1 to 8, inclusive, the numerals 1 and 2 indicate, respectively, a door-jamb and a stop to which is secured by screws 3 or other attaching means a plate 4, let in flush with the door-jamb and projecting into the door-stop 2, where it is preferably provided with a flange 5, flush at its upper edge with the face of said stop. The plate 4 carries journaled on a headed screw or stud 6 a roller 7 at about the point shown in Fig. 3 for a purpose hereinafter made apparent. The body of the lock is made up of three disk-like sections 8, 9, and 10 of about the same width, the two disks 8 and 10 being rotatably fixed at opposite sides of the disk 9 and are almost substantially identical, varying only in their general formation in that the disk 8 is provided with an eccentric slot 11, entering the periphery at a suitable point for coöperating with the roller 7 in drawing the door tightly closed to the door-stop. The central disk 9 has flanges 12 and 13 at the bottom and top portions thereof, conforming to and extending over this portion of the periphery of the disk 8, the flanges being turned perpendicularly outwardly in a plane with the outer face of the disk 8 to form attaching means 14 and 15 for the disk 9, which is to be fixed in an opening cut in the edge of the door for containing the lock, as shown in Figs. 1 and 2.

The locking mechanism of the fixed disk 9 is best shown in Figs. 4, 5, and 6, consisting of a revoluble barrel 16, passing horizontally through the upper half of the disk and journaled in bearings at 17 at each side thereof. Said barrel is held from longitudinal movement by a bead or flange 18 at each of its ends. Mounted in the barrel at its center is a tumbler 19, having doubly-concaved oblong ends 19^a pivoted on a pin 20, projecting at each side of the tumbler and passing into grooves 21 and 22, respectively. The portion of the pivot-pin in the groove 21 is pressed on each side by a spring 23 to normally hold the tumbler in the center of the barrel. The bottom and top edges of the

tumbler slide in vertical guide-slots 24 in the barrel, and the top edge of the tumbler carries a projection 25 for cooperating with arc-shaped projections 26, extending downwardly from a head 27, secured to and passing into the disk. The projections 26 are three in number, equally spaced apart to permit sufficient space between them for the projection 25 to pass therebetween, and are also arranged concentric with the tumbler in a chamber 28 at one side of the head 27, providing passages 29 and 30 at their ends substantially at right angles to each other. The barrel 16 has fixed to it directly below the tumbler 19 a bolt 31, entering when the disks 8 and 10 are locked a diametrical groove 32 in the top face of a beveled pinion 33, said pinion being journaled in a pivot-bolt 34 by means of a headed pin 35 passing through it. The pivot-bolt 34 is designed to hold the disks face to face against separation and passes through beveled pinions 36 and 37, respectively, fixed to the disks 8 and 10 and meshing with the beveled pinion 33.

When the lock has been fixed to the door, as shown in Fig. 1, and the door closed, with the eccentric slot 11 engaged with the roller 7, knobs 38, carried by arms 39, projecting from each of the rotatable disks 8 and 10, will occupy the lowest position of their limited movement, as shown in Fig. 2. In this position the engagement of the roller and slot will firmly press the edge of the door against the stop, thereby preventing any looseness or rattle of the latter.

If desired to lock the door while the latching-disk and roller are engaged, a key 40, as shown in Fig. 7, with a reduced end 40^a of an exact counterpart of the end faces 19^a of the tumbler 19 and shoulders 41, adapted to contact with the projecting edges of the guide-slots 24, is inserted and pressed on until the projection 25 registers with an opening between the projections 26, which will occur when the lower or upper end of the tumbler contacts with an end of one of the guide-slots 24. The barrel 16 and the mechanism carried thereby are then rotated by the key projecting the bolt 31 into the groove 32, thereby locking the gearing and the disks forming a part thereof to the disk 9. By now withdrawing the key 40 the spring 23 pressing on the pivot-pin 20 returns the tumbler to the center of the barrel, with the projection 25 in the path of the central projection 26, which, of course, now prevents any turning of the barrel, as is evident.

Should any one attempt to pick the lock, as by inserting a blank 42 into the keyhole, as shown in Fig. 8, the peculiar concaved formation of the end faces 19^a of the tumbler 19 will cause the tumbler 19 to turn on its pivot 20 and prevent the register of the projection 25 with a space between the pro-

jections 26. The unlocking of the disk is performed by reversing the operation just described and the door opened by raising either of the knobs 38. As shown, the locking and unlocking operation may be carried on at either side of the door, since the tumbler is capable of being moved from its normal central position to register with the opening at each side of the central projection 26.

In Fig. 9 is shown an embodiment of my invention in its simplest form, consisting of a single rotatable disk 43, adapted to be engaged with rollers 43^a and identical in construction to the latching-disk 8 and carrying a knob 44 and an arm 45, corresponding to the knob 38 and arm 39. This form of my invention is preferred in use on safes, ice-boxes, &c., in which structures it is only necessary to operate the latching-disk from one side of the door.

The precise embodiment of my invention is not material, provided its essential characteristics are employed, as pointed out in the annexed claims.

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

1. The combination of a locking-disk, a pivot-bolt passing through the center thereof, a latching-disk carried on the pivot-bolt and rotatable with respect to the locking-disk, and means for rotating the latching-disk.

2. The combination of a locking-disk, a pivot-bolt passing through the center thereof, a latching-disk carried on the pivot-bolt, an eccentric slot in the latching-disk and adapted to engage with a stud for securely holding a door against its stop, and means for rotating the latching-disk.

3. The combination of two disks held face to face by a pivot-bolt, means for fixing one of said disks, means for rotating the other of said disks, a beveled pinion carried on the face of said rotatable disk, a second beveled pinion intermeshing therewith in the fixed disk, and means for locking the same against rotation.

4. The combination of two disks held face to face by a pivot-bolt, means for fixing one of said disks, means for rotating the other of said disks, a beveled pinion carried on the face of said rotatable disk, a second beveled pinion intermeshing therewith in the fixed disk, a rotatable barrel journaled in the fixed disk, and a locking-bolt for engaging the beveled pinion in the fixed disk for locking the rotatable disk against rotation.

5. The combination of two disks held face to face, means for fixing one of said disks, means for rotating the other of said disks, a beveled pinion carried on the inner face of said rotatable disk, a second beveled pinion carried by the fixed disk intermeshing there-

with, a rotatable barrel journaled in the fixed disk, a bolt carried by the barrel adapted to be engaged and disengaged from the beveled pinion in the fixed disk, and a tumbler in the barrel for locking the barrel against rotation.

6. The combination of two disks held face to face, means for fixing one of said disks, means for rotating the other of said disks, intermeshing gearing carried by said disks, a rotatable barrel journaled in one of said disks, and means carried by said barrel adapted to engage and disengage said gearing for locking and unlocking said disks.

7. The combination of two disks held face to face, means for fixing one of said disks, means for rotating the other of said disks, latching means carried by said rotatable disk, a rotatable barrel journaled in said fixed disk, intermeshing gearing carried by said disks, means carried by the rotatable barrel for engaging and disengaging said gearing, and means for locking the barrel against rotation.

8. The combination of two disks held face to face, a pivot-bolt connecting them together, means for fixing one of said disks, means for rotating the other of said disks, latching means carried by said rotatable disk, a beveled pinion on the inner face of said rotatable disk, a beveled pinion intermeshing therewith and journaled in the pivot-bolt, a rotatable barrel journaled in the fixed disk, means carried by the barrel for engaging and disengaging the gearing, a projecting head passing into the fixed disk, projections carried on said head, a tumbler slidable in the barrel having a projection normally held in the path of the central projection carried by the head, and means whereby when the tumbler is uniformly pressed, the projection carried thereby will pass out of the path of the projections carried by the head, and when otherwise pressed, the projections will not be disengaged.

9. The combination of a locking-disk, a rotatable barrel therein, and a pivotal and slidable tumbler in the barrel having ends so shaped that when pressed uniformly it will slide in the barrel and permit the rotation thereof, and when otherwise pressed it will turn on its pivot and hold the barrel engaged.

10. The combination of a locking-disk, a rotatable barrel therein, a head passing into the locking-disk, projections carried on the head, a pivotal and slidable tumbler in the barrel, a projection on the tumbler, and means whereby when the tumbler is uniformly pressed, the projection on the tumbler will register with an opening between the projections on the head, and when otherwise pressed the tumbler will turn on its pivot and prevent the disengagement of said projections.

11. The combination of a locking-disk, a

rotatable barrel therein, a pivotal and slidable tumbler in the barrel, means for normally pressing the tumbler to the center of the barrel, a projection carried by the tumbler, a head projecting into the disk, projections at the lower end and at one side of the head, and means whereby when the tumbler is uniformly pressed the projection carried thereby will register with a space between the projections carried by the head and permit the rotation of the barrel, and when said tumbler is otherwise pressed, the projection carried thereby and the projections on the head will not become disengaged.

12. The combination of a locking-disk, a rotatable barrel mounted therein, a rotatable latching-disk fixed at one side thereof, a beveled pinion carried on the inner face of the latching-disk, a beveled pinion intermeshing therewith in the locking-disk, and a bolt carried by the barrel for engaging one of said pinions for locking the disks together.

13. The combination of a locking-disk, means for fixing the same against rotation, a latching-disk journaled at one side thereof, a beveled pinion carried on the inner face of the latching-disk, a beveled pinion meshing therewith carried by the locking-disk, a rotatable barrel journaled in the locking-disk, a locking-bolt carried by the barrel adapted to engage and disengage the pinion in the locking-disk, a head carrying projections extending into the locking-disk, a tumbler slidably and pivotally connected in the barrel, a projection carried by the tumbler, and means for normally pressing the tumbler so that the projection thereof will engage one of said projections on the head, said tumbler having doubly-curved faces whereby when it is uniformly pressed it will slide in the barrel, and when otherwise pressed it will turn on its pivot, for the purpose described.

14. The combination of three disks held face to face, means for fixing the intermediate disk, latching means carried by an outside disk, means for rotating the outside disks, and means for locking the same against rotation.

15. The combination of three disks held face to face, means for fixing the intermediate disk, latching means carried by an outside disk, means for rotating the outside disks, a barrel journaled in the fixed disk, gearing for connecting said disks together, and means carried by the barrel for locking said gearing, for the purpose specified.

16. The combination of three disks held face to face, means for fixing one of said disks, latching means carried by another of said disks, means for rotating said unfixed disks, gearing directly connecting the rotatable disks together, a barrel journaled in the fixed disk, a bolt carried by the barrel adapted to lock and unlock the gearing, a pivotal

and slidable tumbler in the barrel, a projection carried by the tumbler, means to press the tumbler to normally engage the projection of the same preventing the rotation of
5 the barrel, and means whereby when the tumbler is uniformly pressed, the barrel may be rotated.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER EBBESON.

Witnesses:

PAUL ANDERSON,
F. W. CREW.