

No. 779,579.

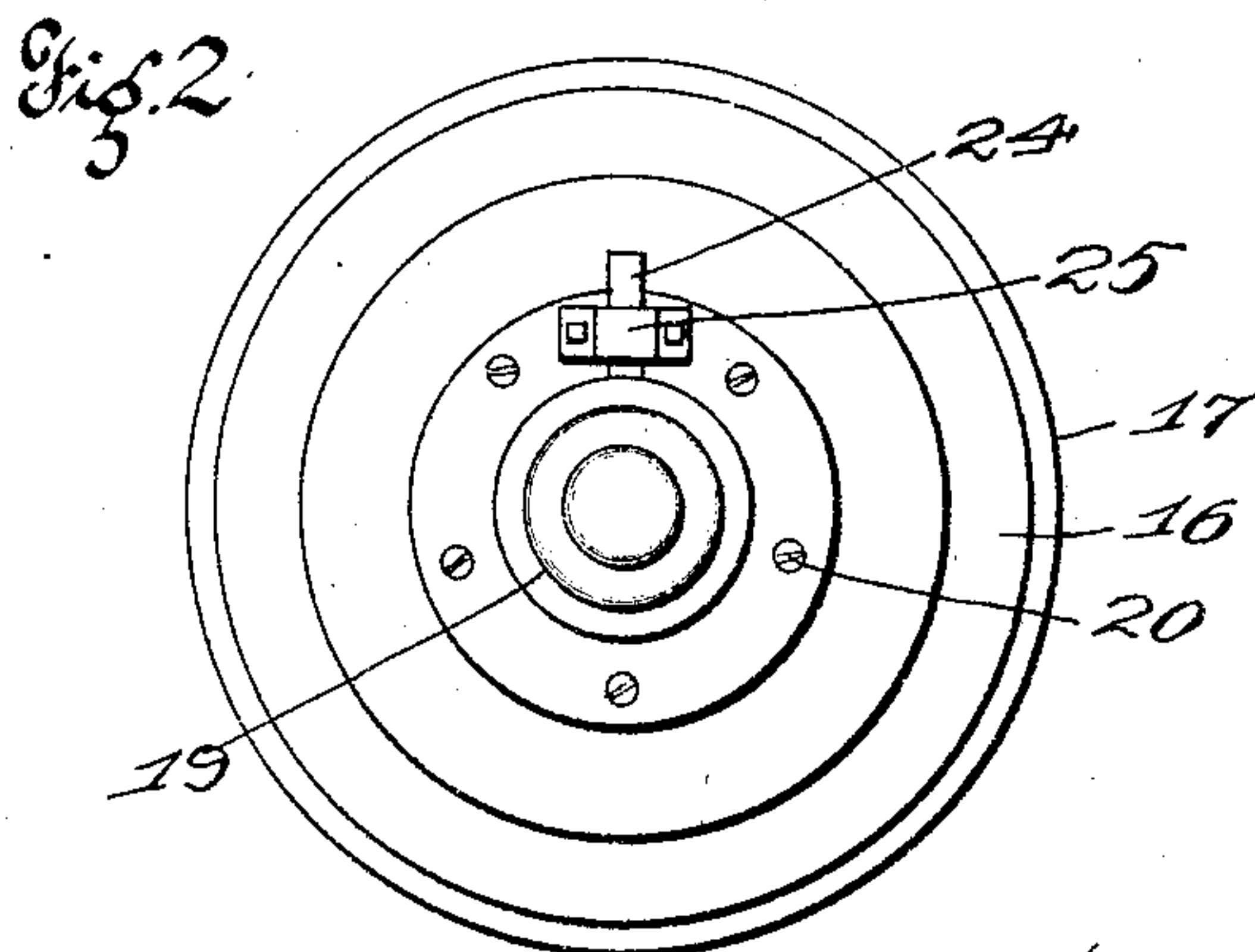
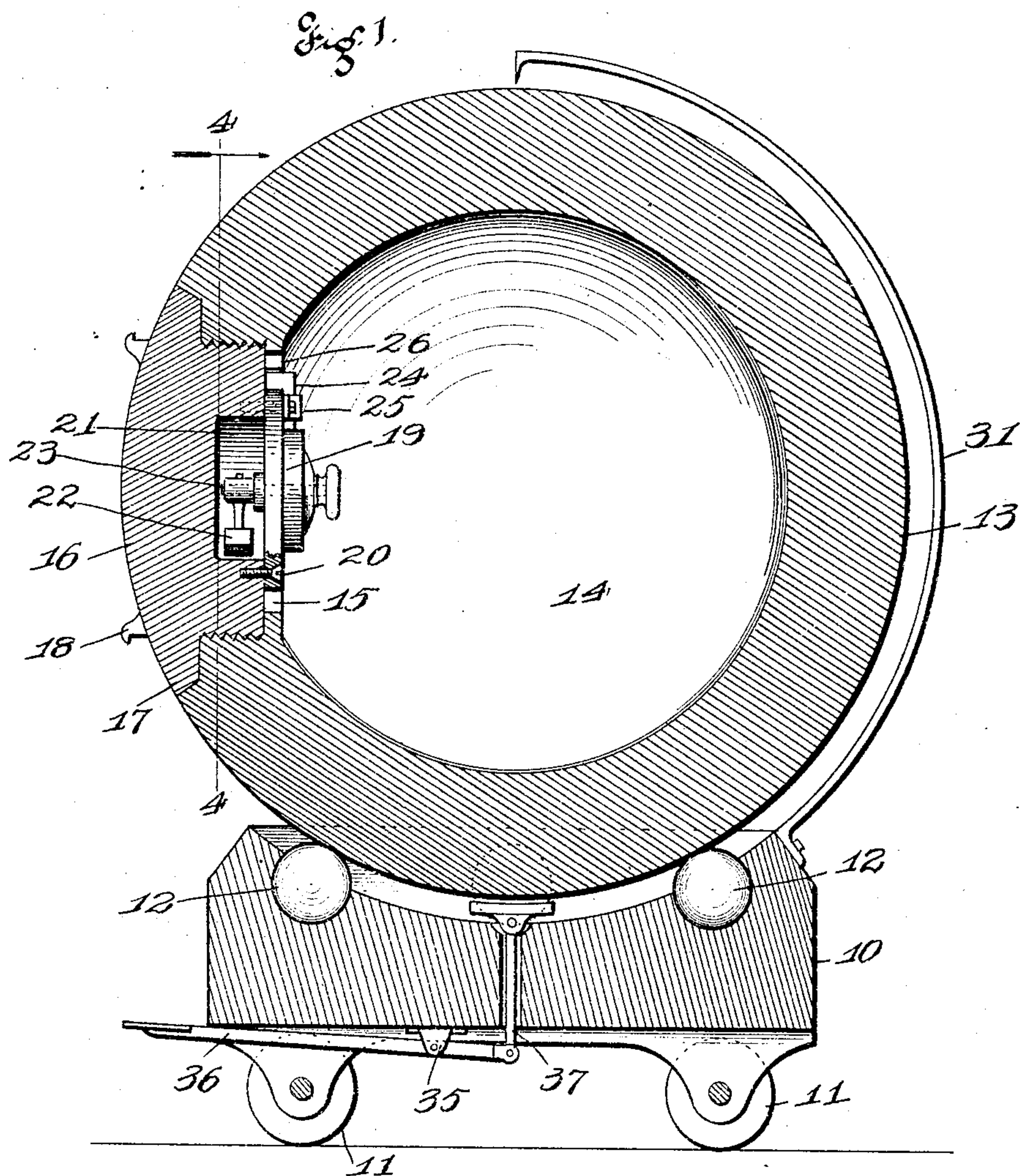
PATENTED JAN. 10, 1905.

H. C. BRENNER & J. M. ALLEN.

SAFE.

APPLICATION FILED JAN. 25, 1904.

4 SHEETS—SHEET 1.



Witnesses  
Alfred A. Baker  
Mrs. Snider

Inventors  
Henry C. Brenner  
James M. Allen  
by Higdon & Longan & Hopkins Attys



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4 SHEETS—SHEET 2.

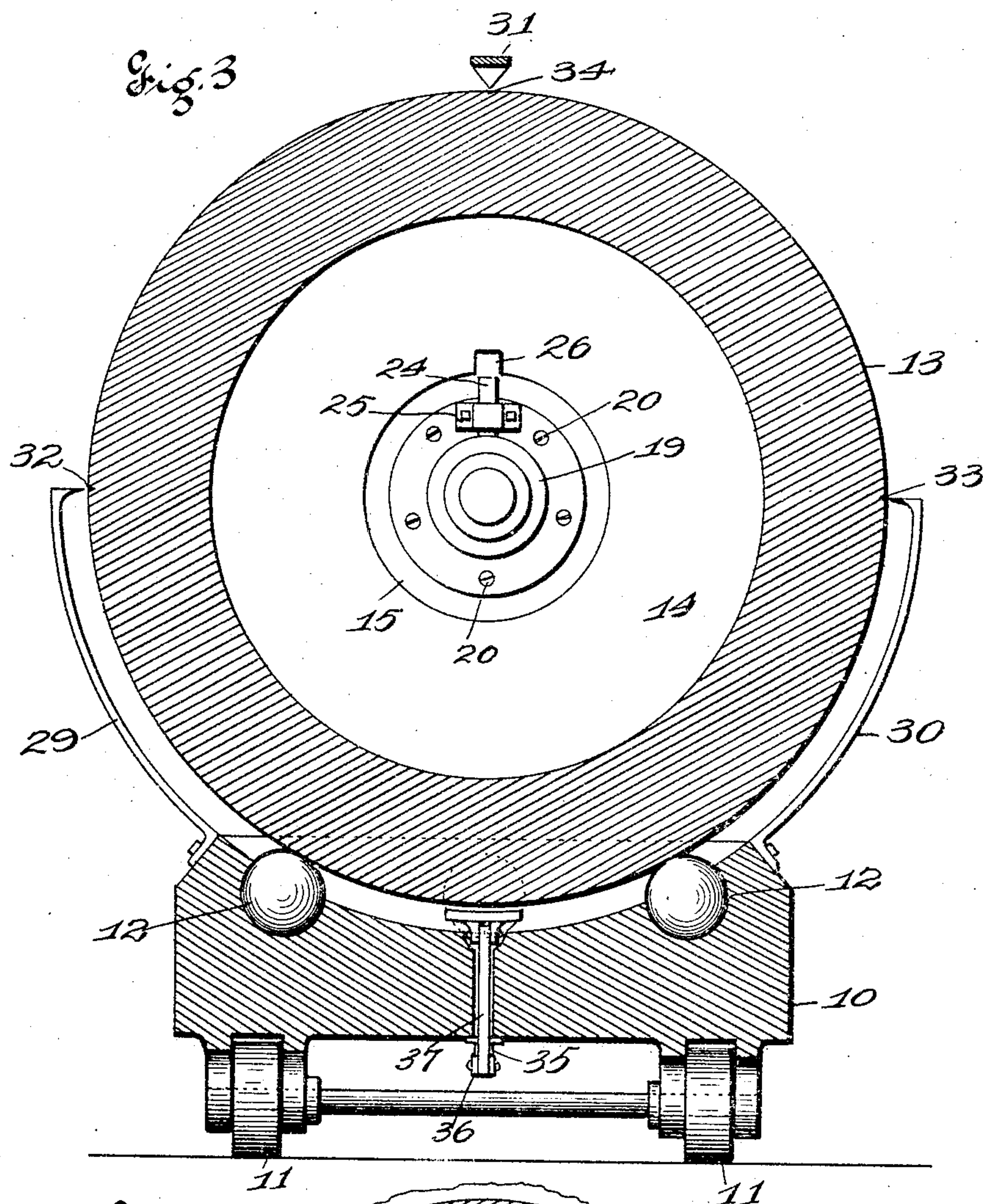


Fig. 4.

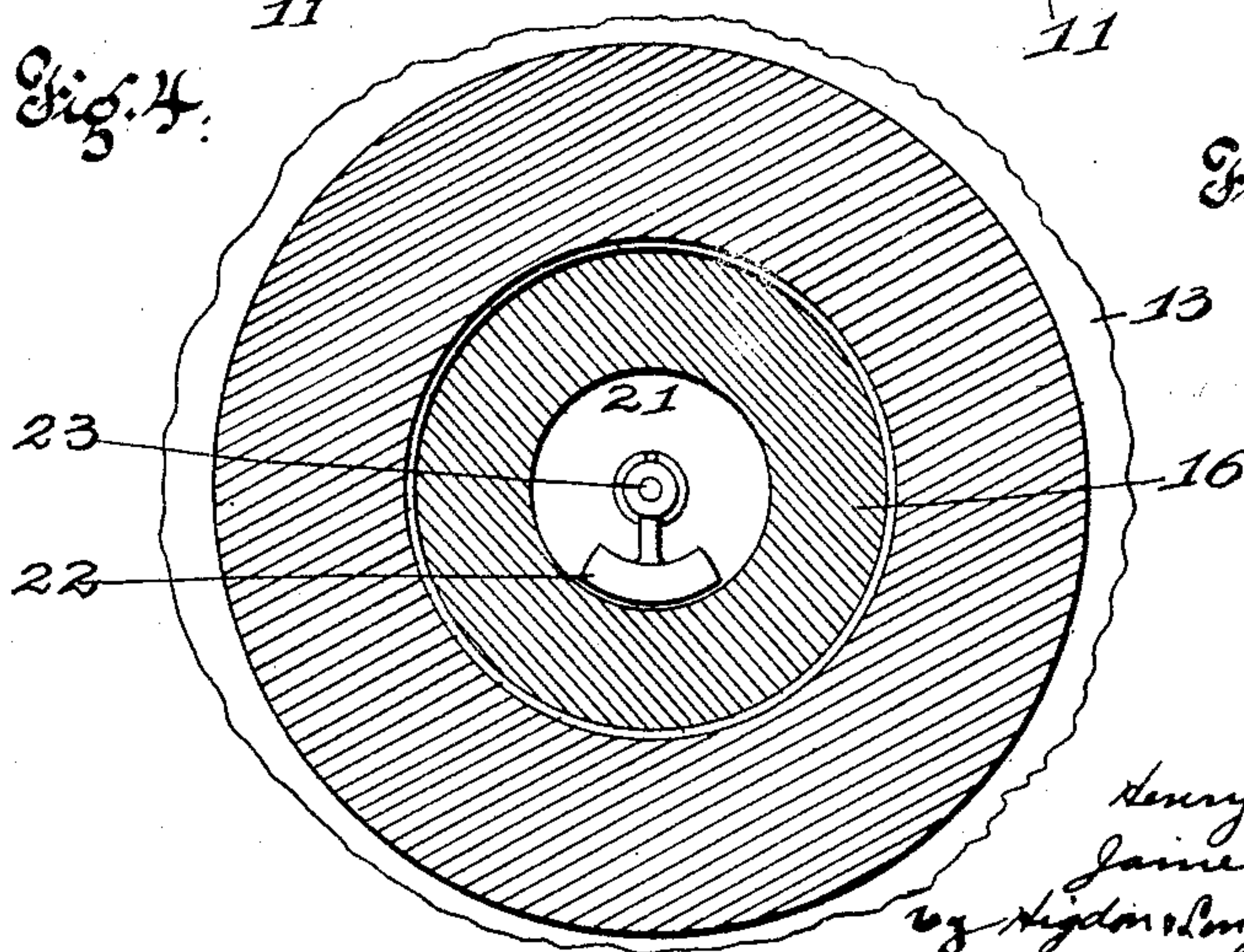
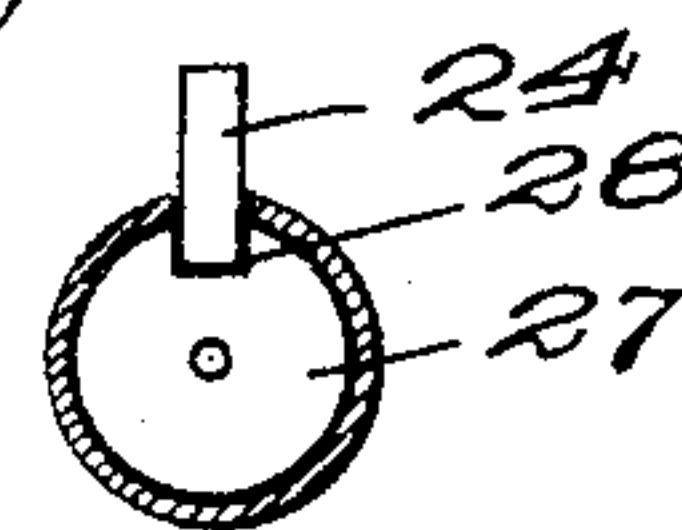


Fig. 7.



Witnesses  
Alfred E. Gies  
W. S. Smith

Inventors  
Henry C. Brenner  
James M. Allen  
by Higdon, Longan & Hopkins Attys

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4 SHEETS—SHEET 3.

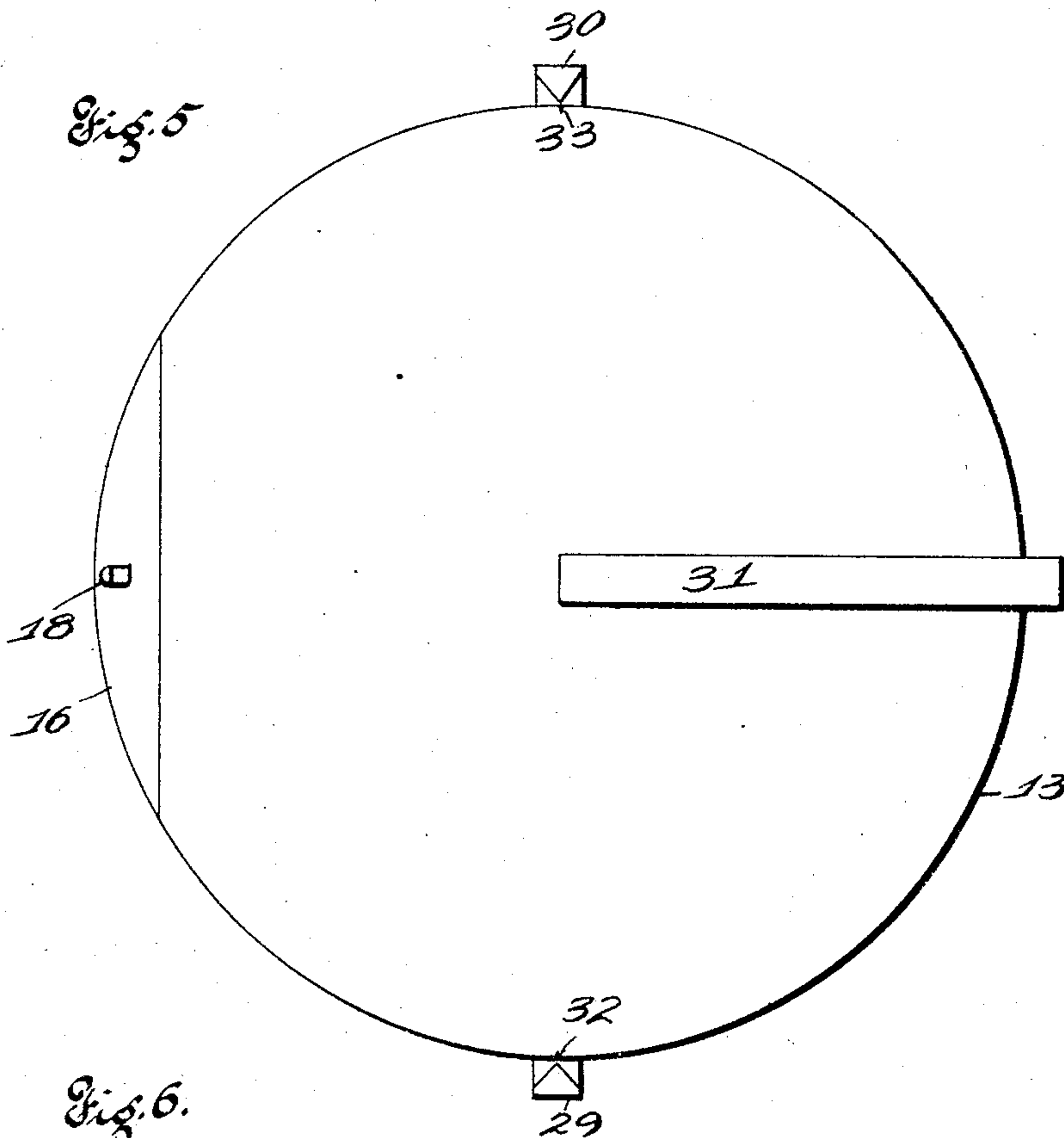
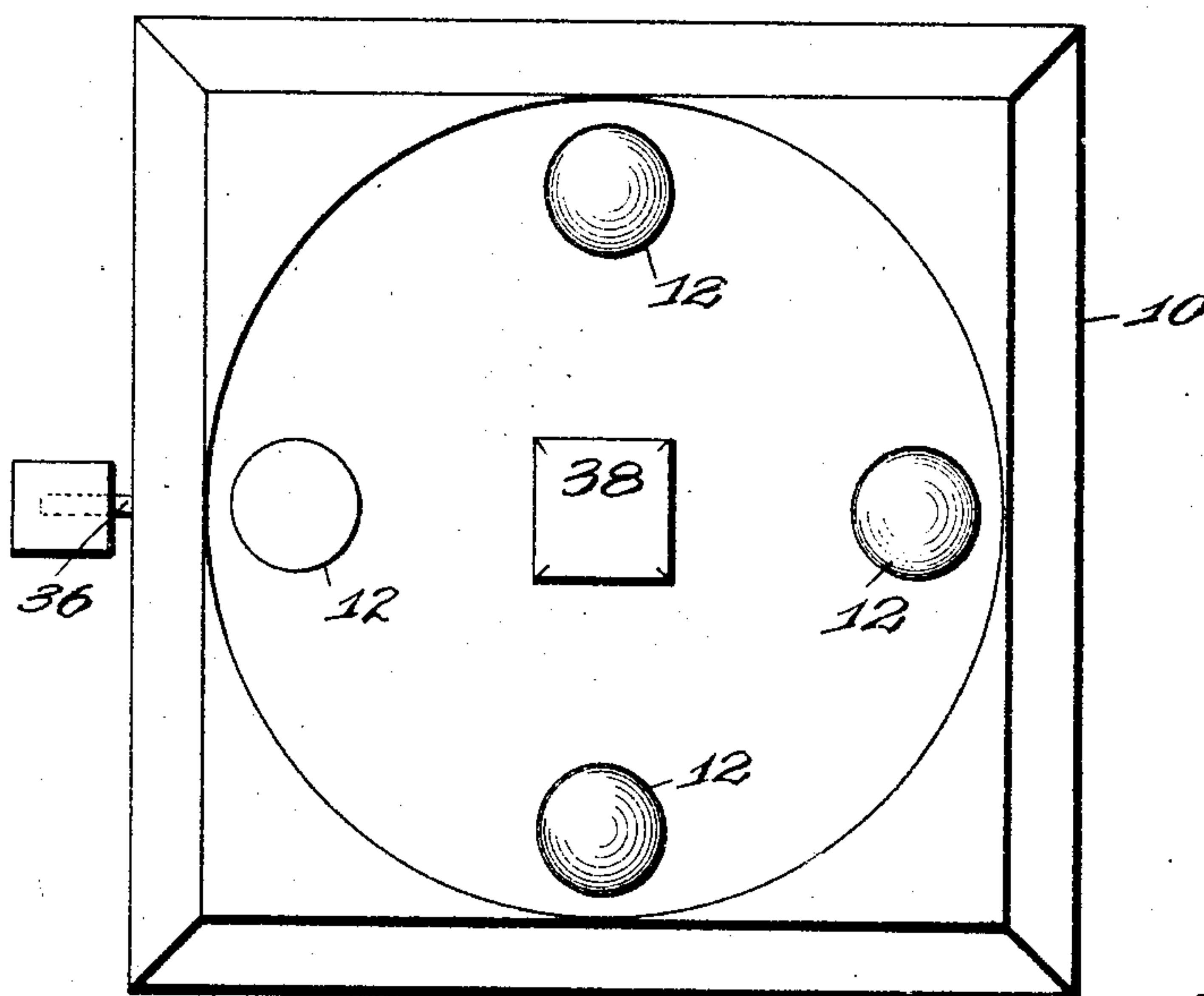


Fig. 6.



Witnesses  
Alfred C. Buns  
W. S. Buns

Inventors  
Henry C. Brenner  
James M. Allen  
by Sigdon & Longaw & Hopkins attys.



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4 SHEETS—SHEET 4.

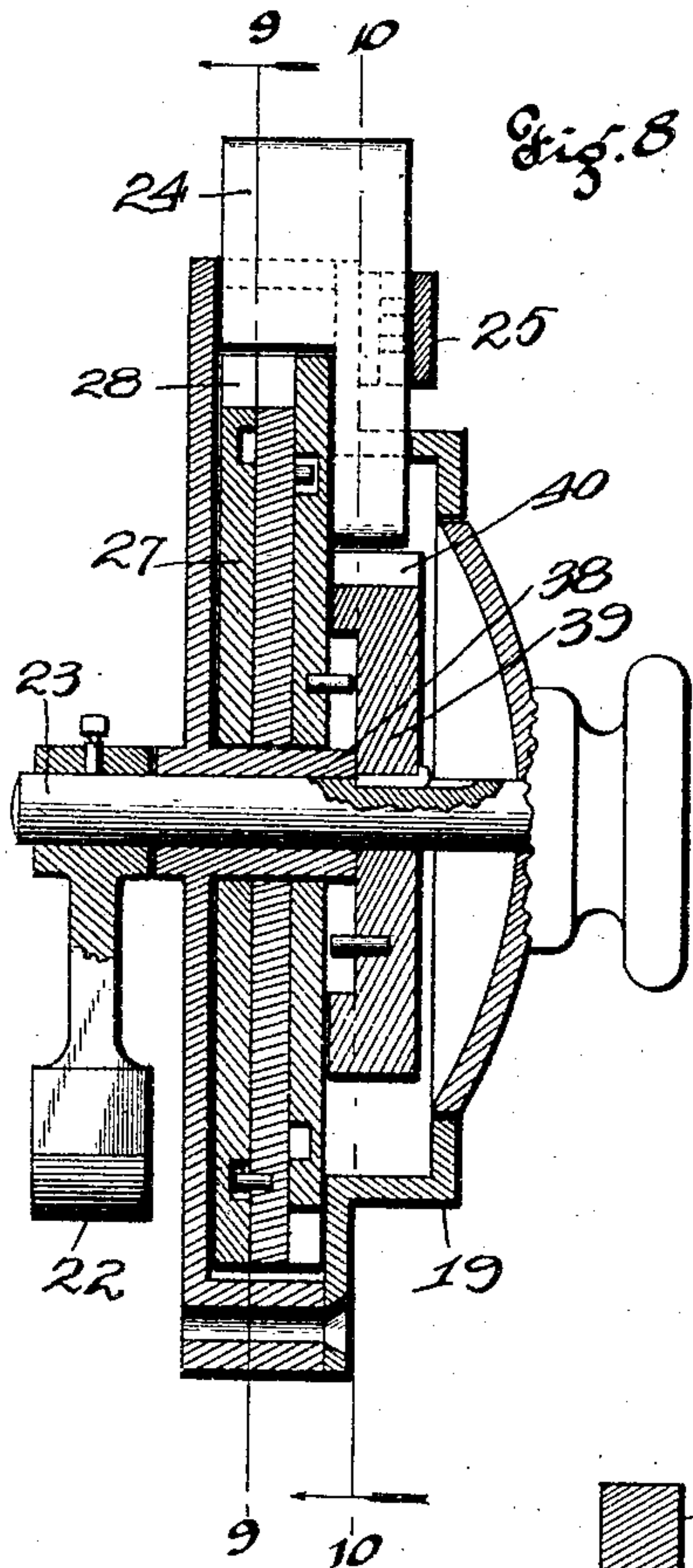


Fig. 8

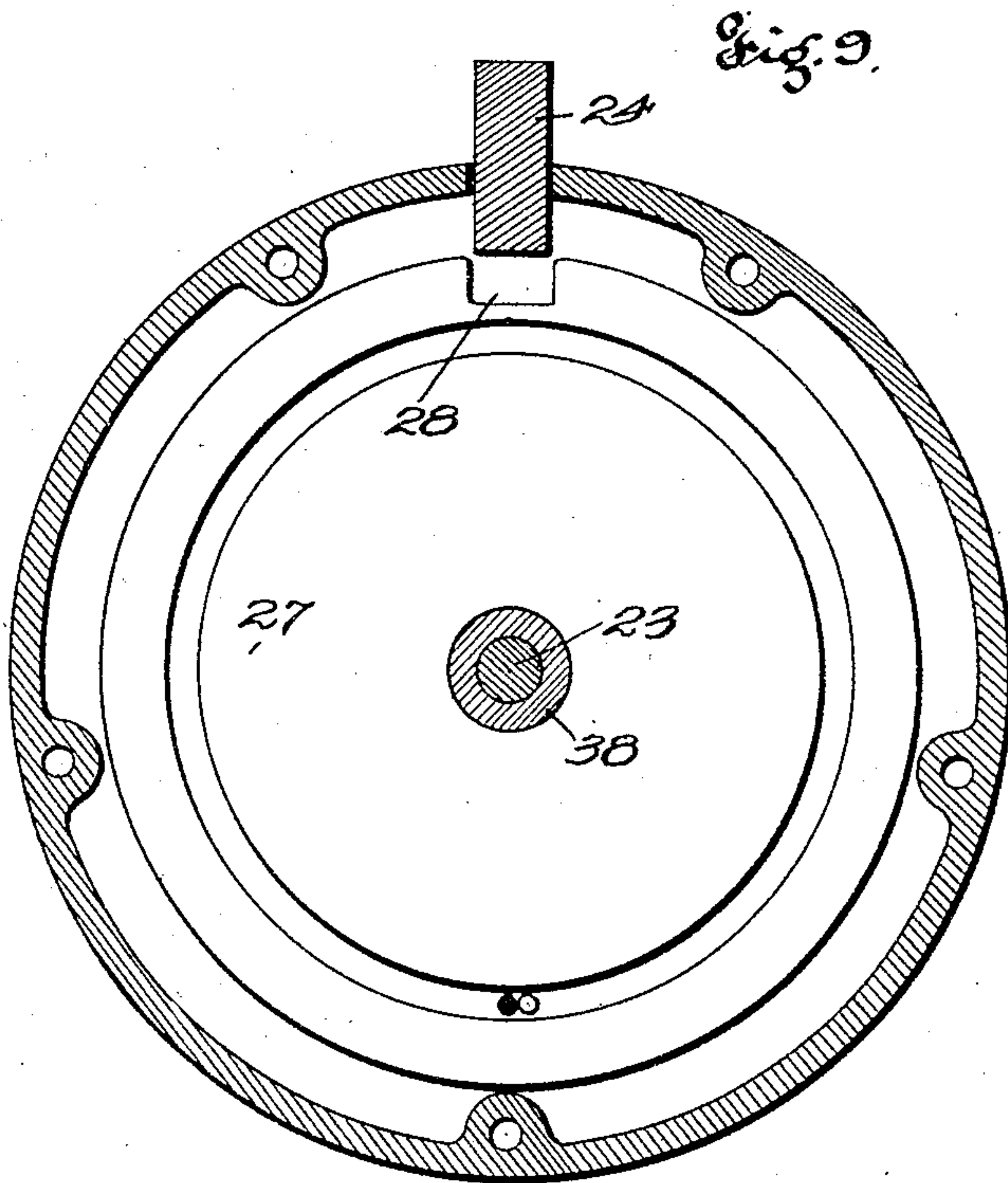


Fig. 9

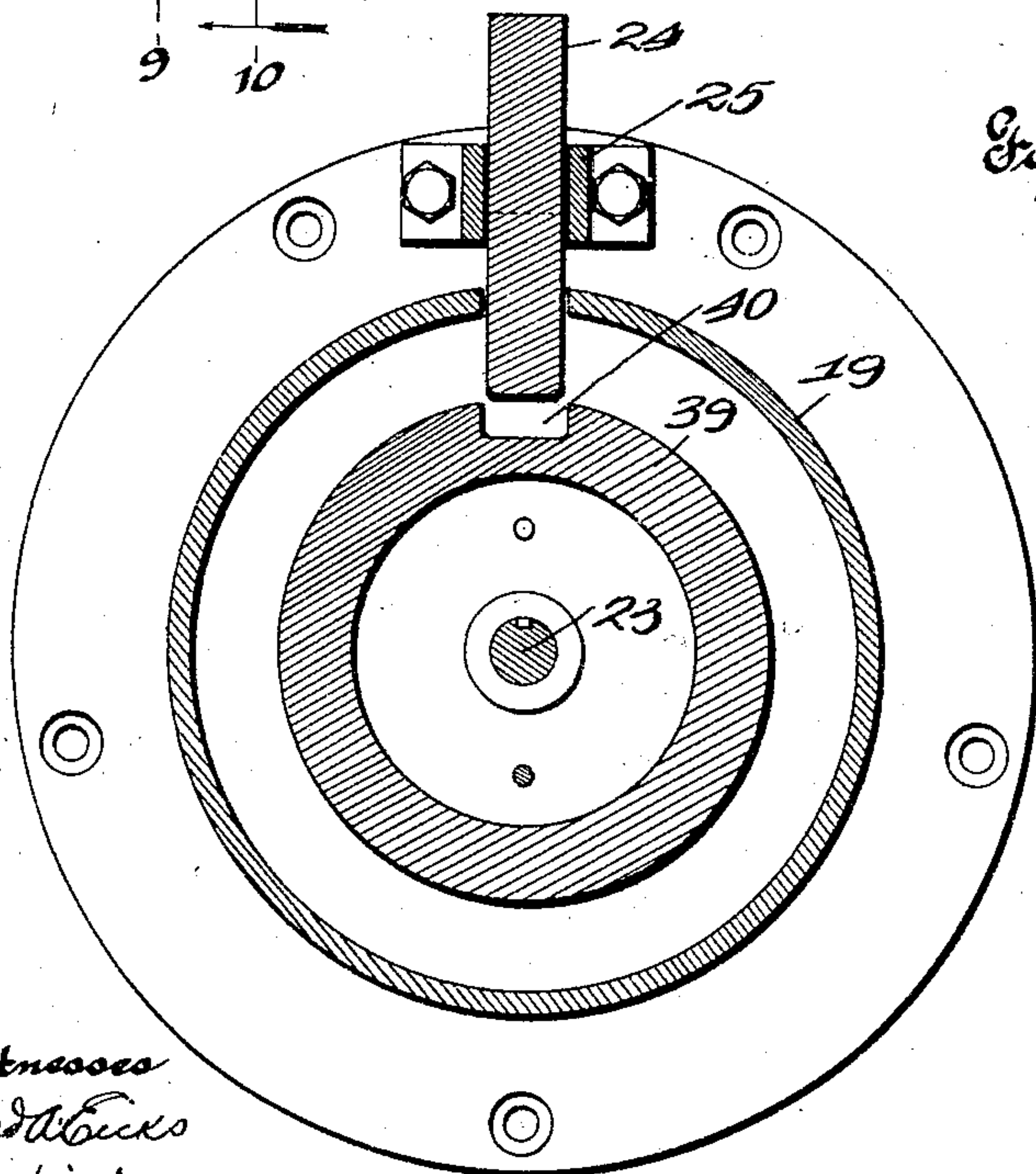


Fig. 10

Witnesses  
Alfred A. Beck  
Edw. M. Harrington

Inventors  
Henry C. Brenner  
James M. Allen  
by Hydon & Langaw & Hopkins attys.



# UNITED STATES PATENT OFFICE.

HENRY C. BRENNER AND JAMES M. ALLEN, OF ST. LOUIS, MISSOURI,  
ASSIGNORS OF ONE-FOURTH TO HENRY HOLBORN, OF ST. LOUIS,  
MISSOURI.

## SAFE.

SPECIFICATION forming part of Letters Patent No. 779,579, dated January 10, 1905.

Application filed January 25, 1904. Serial No. 190,591.

*To all whom it may concern:*

Be it known that we, HENRY C. BRENNER and JAMES M. ALLEN, citizens of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Safes, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to safes, and comprises the novel features herein shown, described, and claimed.

In the drawings, Figure 1 is a sectional elevation of a safe embodying the principles of our invention. Fig. 2 is an elevation of the door removed from the safe and looking at the inner face. Fig. 3 is a sectional elevation on a line crosswise of Fig. 1 and looking at the inner face of the door. Fig. 4 is a sectional detail on the line 4 4 of Fig. 1 and looking in the direction indicated by the arrow. Fig. 5 is a top plan view of the safe. Fig. 6 is a top plan view of the truck upon which the safe is mounted. Fig. 7 shows a detail of the combination-lock. Fig. 8 is a vertical central section showing the details of the lock upon an enlarged scale. Fig. 9 is a cross-section on the line 9 9 of Fig. 8 and looking in the direction indicated by the arrow. Fig. 10 is a cross-section on the line 10 10 of Fig. 8 and looking in the direction indicated by the arrow.

Referring to the drawings in detail, the base 10 is mounted on wheels 11 to form a truck, and the bearing-balls 12 are mounted in sockets in the upper face of the base, said bearing-balls being horizontally level. The safe 13 is in the form of a globe and rests upon the bearing-balls 12, so that the safe may be readily rotated in any direction.

The safe has the chamber 14 to receive valuables through the door-opening 15, and the door 16 is screw-seated in the door-opening 15 and has a flange 17 to break the joints. The flange 17 extends outwardly from the screw-thread, thereby forming a tortuous line between the door and the safe and protecting the screw-thread. Arms 18 extend outwardly from the door for operating the door.

The combination-lock 19 is attached to the inner face of the door 16 by screws 20.

The lock-operating-weight chamber 21 is formed in the inner face of the door 16, said chamber being covered by the lock 19. The lock-operating weight 22 is rigidly connected to the combination-working shaft 23, so that as the safe is rotated on the plane of the axis of the shaft the shaft will be held against rotation by the force of gravity, and as the lock mechanism is carried around by the safe the combination may be worked out. The locking-bolt 24 is slidably mounted in the housing 25, secured to the inner face of the door, and there is a locking-notch 26 extending from the door-opening 15 to receive the bolt, so as to hold the door from being unscrewed.

The tumblers 27 of the combination are mounted upon the rigid sleeve 38, through which the combination-working shaft 23 is journaled. The operating-tumbler 39 is mounted upon the shaft 23 against the rear end of the sleeve 38, and the locking-bolt 24 rides upon the periphery of the tumbler 39 and drops into the notch 40 in said tumbler when the combination has been worked and the tumblers 27 lined up. When the locking-bolt drops into the notch 40 of the tumbler 39, it also drops into the notches 28 in the combination-tumblers 27. The weight 22 operates the shaft 23, thereby operating the tumbler 39, and as the tumbler 39 is rotated backwardly and forwardly the tumblers 27 are lined up in the usual way. The force of the weight 22 is sufficient to overcome all friction in the combination-lock, said weight assuming a vertically-depending position and holding the shaft 23 against rotation. Then as the safe is rotated upon the plane of the axis of the shaft the mechanism of the lock rotates around the shaft and the effect is the same as though the lock stood still and the shaft was rotated. At the time that the tumblers are all lined up to receive the locking-bolt the locking-bolt is in a vertical position at the top of the lock and will fall into the slots of the tumblers by gravity. Then the door is unlocked and may be removed. When



the locking-bolt 24 is in the notches 40 and 28 of the combination, the shaft 23 cannot be rotated by the weight 22, and as the safe is rotated the weight will be rotated. When it is desired to lock the door, the safe must be rotated half around, or nearly so, so that the locking-bolt 24 will fall out of the slots of the tumbler by gravity and into the notch 26. At this time the weight 22 will be in a substantially vertical position above the shaft, and as soon as the locking-bolt 24 leaves the notch 40 the weight 22 will turn the shaft 23, moving the notch 40 out of alinement with the locking-bolt, and then the safe is locked.

Various forms of combination-locks may be adapted to our purpose.

Indicator-arms 29 and 30 extend upwardly from the base 10, one on each side of the safe, and a third indicator-arm 31 extends from the base to the top of the safe, there being indicator-marks 32, 33, and 34 at the points of the arms 29, 30, and 31 to show when the safe is in its normal vertical position.

A pair of ears 35 extend downwardly from the base 10. A foot-lever 36 is pivotally connected to these ears. A connecting-rod 37 is connected to the inner end of the foot-lever and extends upwardly through the base 10 and carries a brake-shoe 38 at its upper end to engage the safe and hold it against rotation while the door is screwed in or out.

Assuming that the safe is locked and that the operator knows the combination and desires to unlock the safe, then the safe will be rotated first one way and then the other on a plane parallel with the indicator-arms 29 and 30, as shown in Fig. 3, and the operating-weight 22 will operate the shaft 23 and work out the combination and line up the tumblers, and then the locking-bolt 24 will fall into the tumbler-notches and out of the notch 26, and then the door may be unscrewed. When it is desired to lock the safe, the door is screwed in and the safe rotated half-way around in either direction, and then the locking-bolt 24 will fall out of the notches of the tumblers and into the notch 26 of the safe, thereby locking the door against rotation, and then the operating-weight will fall by the force of gravity and disarrange the combination,

thereby holding the locking-bolt in its locked position.

The lock combination must be set with reference to the points of the indicators and the indicator-marks.

Attention is called to the fact that the combination-lock is located entirely within the wall of the safe and that there are no handles upon the outside of the safe communicating with the lock.

We claim—

1. A safe rotatably mounted; a door screw-seated in the safe; a combination-lock upon the inside of the door; a locking-bolt controlled by the lock and engaging the safe to lock the door in position; and means of operating the lock by rotating the safe; substantially as specified.

2. A spherical safe rotatably mounted; a door screw-seated in the safe; a combination-lock upon the inner side of the door; a locking-bolt carried by the lock to engage the safe; and a weight attached to the operating-shaft of the lock, so that the lock may be operated by rotating the safe; substantially as specified.

3. A spherical safe rotatably mounted; indicator-arms rigidly mounted; a door for closing the safe; a combination-lock upon the inner side of the door; and a weight attached to the operating-shaft of the lock for operating the lock when the safe is rotated; substantially as specified.

4. In a safe; a base; bearing-balls mounted upon the base; a safe rotatably mounted upon the bearing-balls; indicator-arms attached to the base; indicator-marks upon the safe; a door screw-seated in the safe; a combination-lock carried by the inner side of the door; and a weight attached to the operating-shaft, so that the lock may be operated by manipulating the safe; substantially as specified.

In testimony whereof we have signed our names to this specification in presence of two subscribing witnesses.

HENRY C. BRENNER.  
JAMES M. ALLEN.

Witnesses:

ALFRED A. EICKS,  
M. G. IRION.