

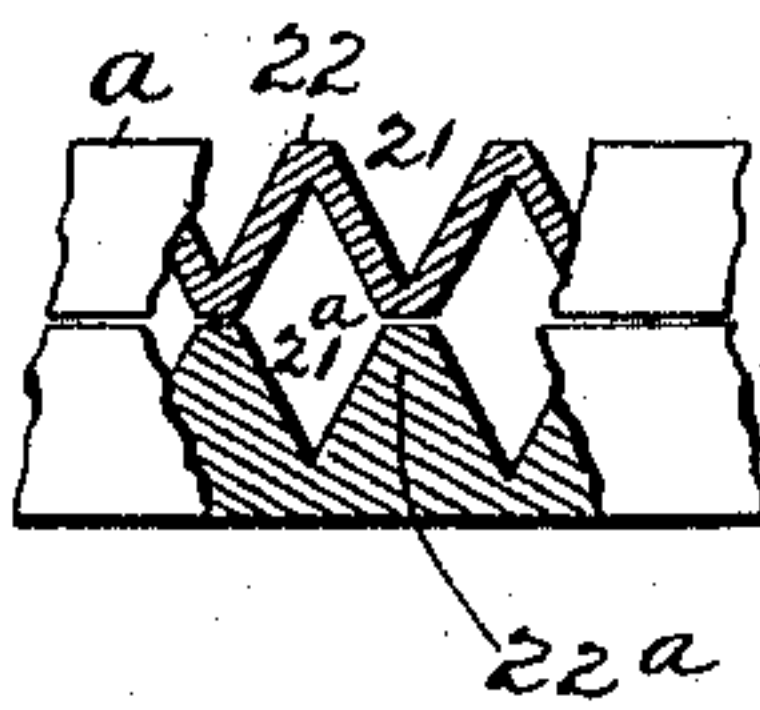
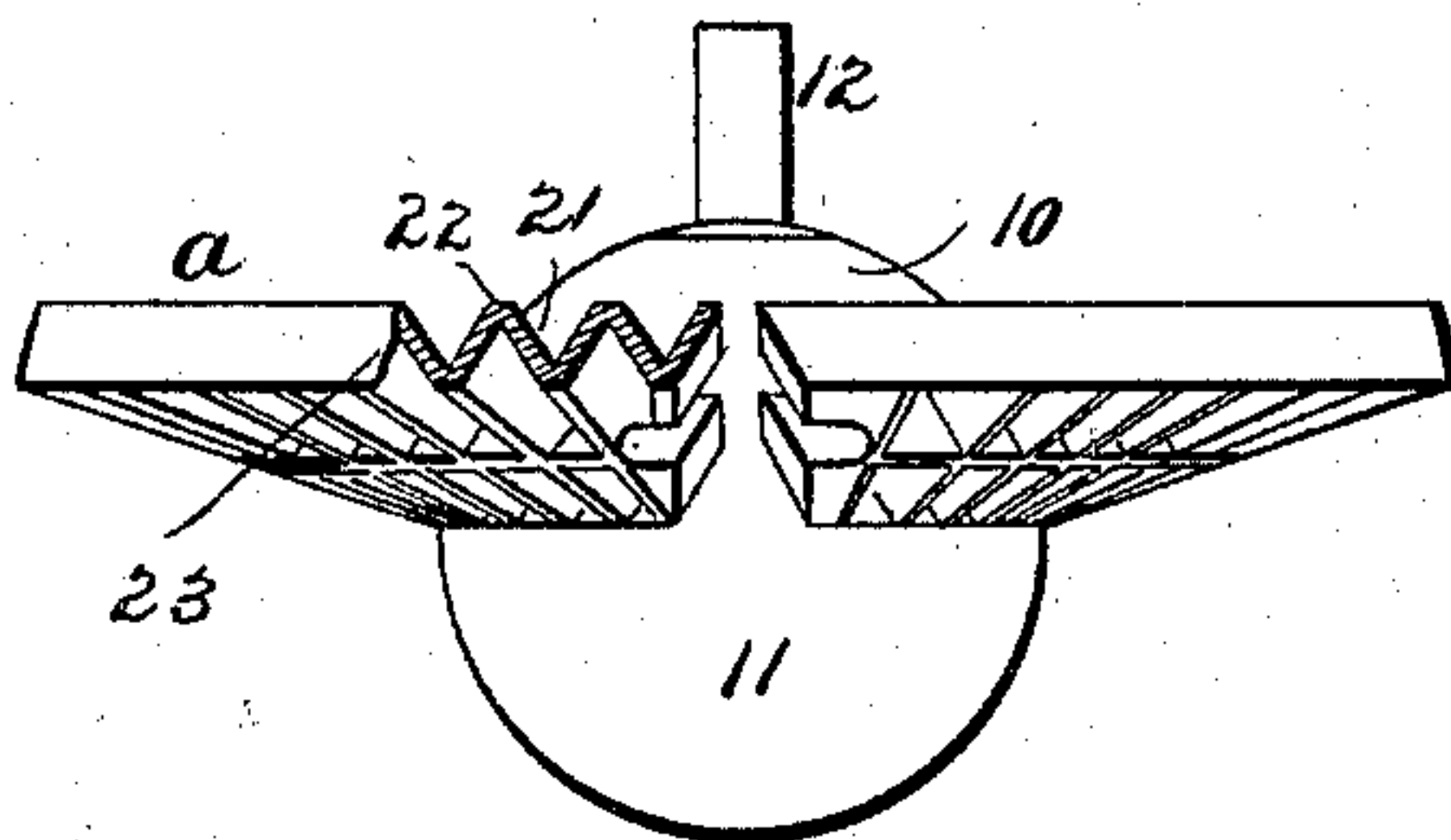
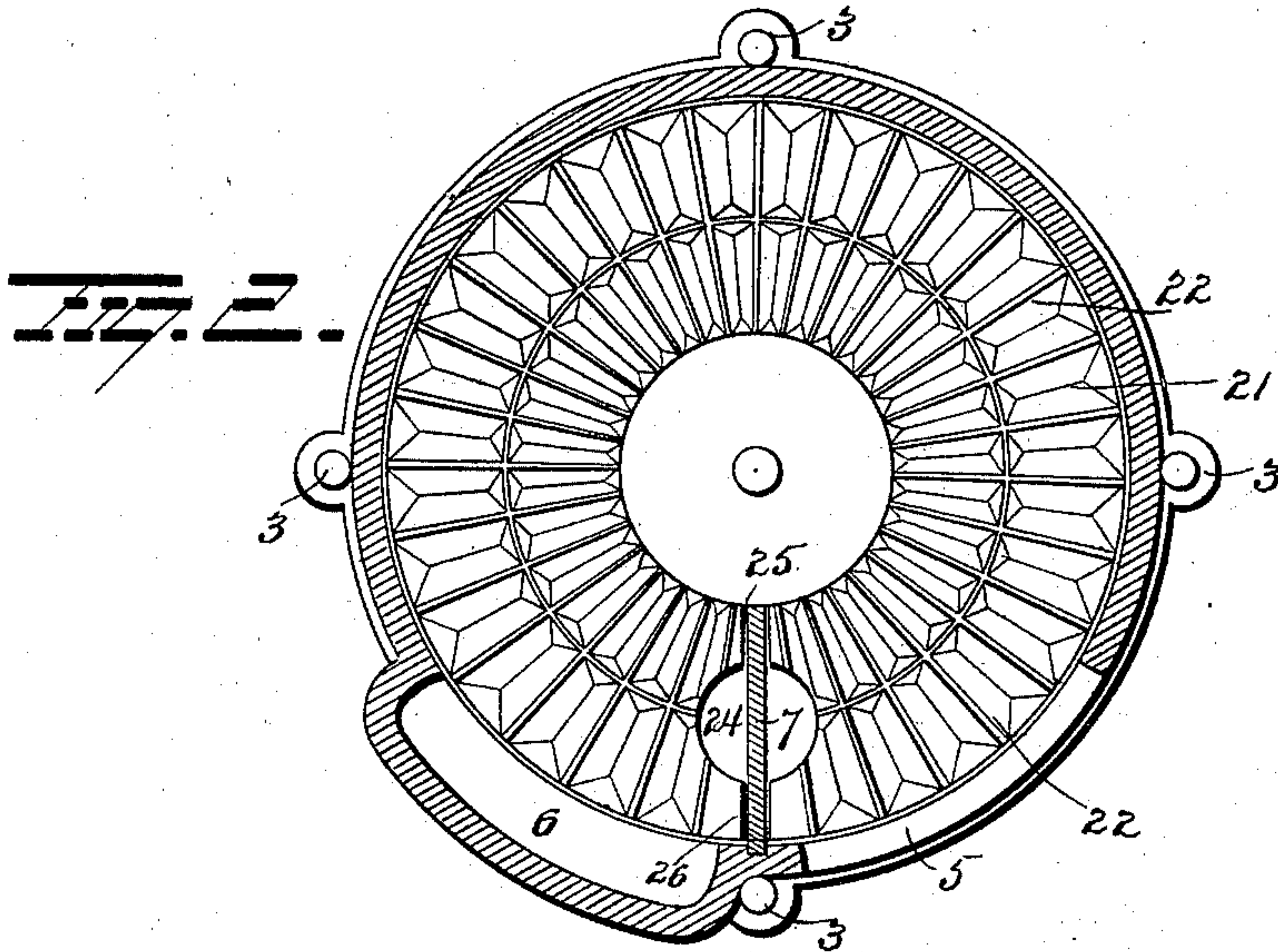
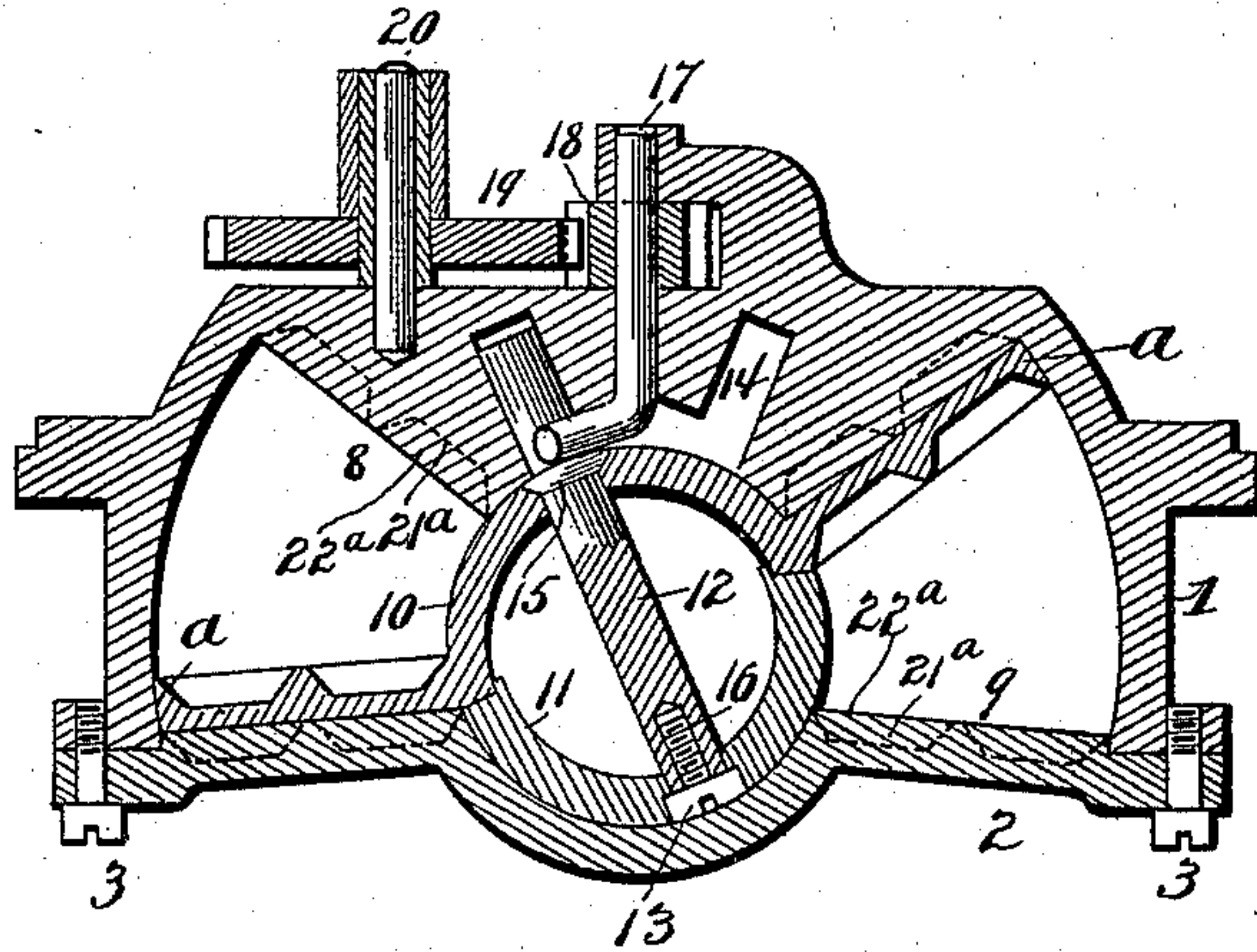
No. 608,168.

Patented Aug. 2, 1898.

G. B. BASSETT.  
WATER METER.

(Application filed Dec. 30, 1896.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

GEORGE B. BASSETT, OF BUFFALO, NEW YORK.

## WATER-METER.

SPECIFICATION forming part of Letters Patent No. 608,168, dated August 2, 1898.

Application filed December 30, 1896. Serial No. 617,497. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE B. BASSETT, a resident of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Water-Meters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in water-meters, and more particularly to disk water-meters of that class as shown in Letters Patent No. 501,203, granted to me on the 11th day of July, 1893.

The objects of my present invention are principally to improve the construction and arrangement of the disk and disk-chamber and other points in the construction of these meters for the purpose of reducing the cost of manufacture, increasing the durability and efficiency, and other advantageous results.

In the drawings, Figure 1 is a central vertical section of my improved disk and disk-chamber. Fig. 2 is a horizontal section of the disk-chamber, showing a top view of my improved disk placed in a level position for convenience of illustration. Fig. 3 is a side view of my improved disk, with the web shown partly in section. Fig. 4 is a detail view.

The disk-chamber in use sits in an outer surrounding case, on which is mounted an indicator. The outer case and indicator, not forming a part of this invention, are not shown in the drawings, but may be of any convenient form, as shown in the aforesaid Letters Patent No. 501,203.

Referring to the drawings, the disk-chamber is formed of two parts 1 and 2, held together by the screws 3. In the spherical side wall of part 1 are located the inlet and outlet ports 5 and 6, between which is permanently secured the diaphragm or partition 7. The interior faces of the upper cone or end 8 and the lower cone or end 9 are each made with recesses 21<sup>a</sup>, between which rigid unyielding radial ribs 22<sup>a</sup> are disposed, and at the apex of each is a spherical socket forming bearings for the ball of the nutating measuring-disk.

In the measuring-disk one side of the ball

and the web are formed in one piece 10, which may be cast, pressed, or machined out of metal, and to which the other side 11 of the ball, which may be formed of a non-metallic substance, as hard rubber, is fastened by means of the pin 12 and screw 13. Pin 12 is controlled in its circular path by the slot 14 in cone 8 and is provided with the projecting collar 15 and a threaded hole 16 at the lower end to receive the screw 13, whereby the two parts of the disk-ball are held together.

On the upper part 1 of the disk-chamber is mounted the intermediate gearing. The lower part of shaft 17 is bent and engages with pin 12. Pinion 18 is permanently fastened to shaft 17 and engages intermediate gear and pinion 19, which rotates on pin 20, permanently fastened in top of part 1 and engages the stuffing-box spindle and indicator. (Not shown.)

In both sides of the disk-web are formed the recesses 21, between which are the radial ribs 22, that come in or nearly in contact with cones 8 and 9 and in line with the ribs 22<sup>a</sup> thereon, thus forming with the recesses 21 a water-packing between the web and cones. Another object of the ribs 22 is to strengthen the disk without greatly increasing its weight, and another object of the recesses 21 is to lessen the weight of the disk without greatly decreasing its strength. A still further object of the recesses 21 21<sup>a</sup> and ribs 22 22<sup>a</sup> is that they very materially lessen the liability of foreign substances, as sand or gravel, catching between the web of the disk and the cones 8 and 9 and blocking the action of the disk. The sliding motion of the disk-web on the cone is only about one-sixteenth of an inch, and by making the ribs a little blunt the apparatus would operate properly.

At 23 in Fig. 3 a portion of the disk-web is cut away, making a section showing the recesses 21 on one side of the web coming opposite the ribs 22 on the other side, making a very light yet strong construction of the disk-web.

In the disk-web is cut the hole 24 and the radial slots 25 and 26, in which is received the diaphragm 7, the edge of the disk-web at slot 25 bearing against the part of the diaphragm next to the disk-ball, and the edge of the disk-web at slot 26 bearing against the



part of the diaphragm next to the outer wall of the disk-chamber, thus forming an inner and outer bearing for the disk-web on the diaphragm 7, and thereby lessening the wear and liability of the disk and diaphragm to become cramped and also at the same time affording an outlet through hole 24 for the water that may become trapped in the corners between the disk-web, diaphragm 7, and cones 8 and 9.

The disk is provided with peripheral ribs *a*, whereby to prevent too great a leakage through the ends of the radial recesses.

It is important to the practical working of the device that the disk shall have as wide an edge as possible where it comes into contact with the spherical wall of the disk-chamber, and the ribs *a* afford such wide bearing-faces for the disk.

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

1. In a disk water-meter, the combination with a disk-chamber having its end or ends provided with a multiplicity of recesses with rigid or unyielding walls, of a disk having its surface also provided with a multiplicity of recesses with rigid or unyielding walls, the recesses in the disk and in the disk-chamber being adapted to coincide or come opposite each other when the disk is in contact or nearly in contact with the end walls of the disk-chamber.

2. In a disk water-meter, the combination with a disk-chamber having its end or ends provided with radial or nearly radial rigid or unyielding ribs, of a disk having its surface also provided with radial or nearly radial rigid or unyielding ribs, the ribs on the disk and

on the disk-chamber being adapted to coincide or come opposite and in contact or nearly in contact with each other at their outer surface.

3. In a disk water-meter, the combination with a disk-chamber the end or ends of which have an unyielding irregular surface, of a disk having an unyielding irregular surface on both sides, the depressions in one side of said disk coinciding with or coming opposite of the projections on the other side of said disk.

4. In a disk water-meter, a disk having an unyielding irregular surface, and a peripheral rib or flange.

5. In a disk water-meter a disk having a peripheral rib or flange and an unyielding irregular surface on both sides, the depressions on one side coinciding with the projections on the other side of said disk.

6. In a nutating-piston water-meter, the combination of a disk-chamber and a disk the end or ends of the chamber and the faces of the disk having recesses and radial ribs, the disk having its edges full and not cut away by said recesses.

7. In a disk water-meter, the combination of a disk-chamber and a disk, the end or ends of the chamber and the disk having radial recesses and ribs, and the disk having peripheral ribs.

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

GEORGE B. BASSETT.

Witnesses:

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