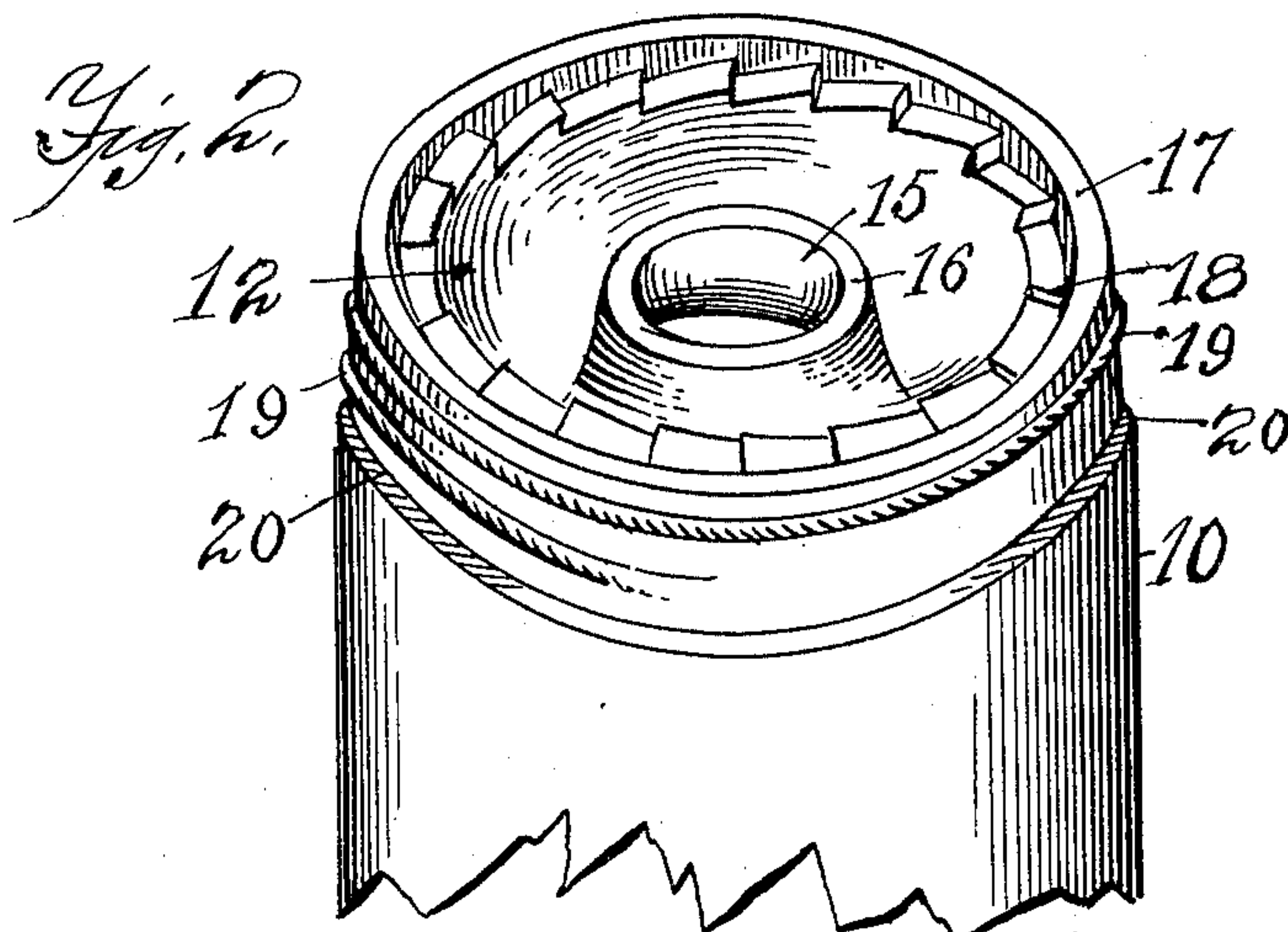
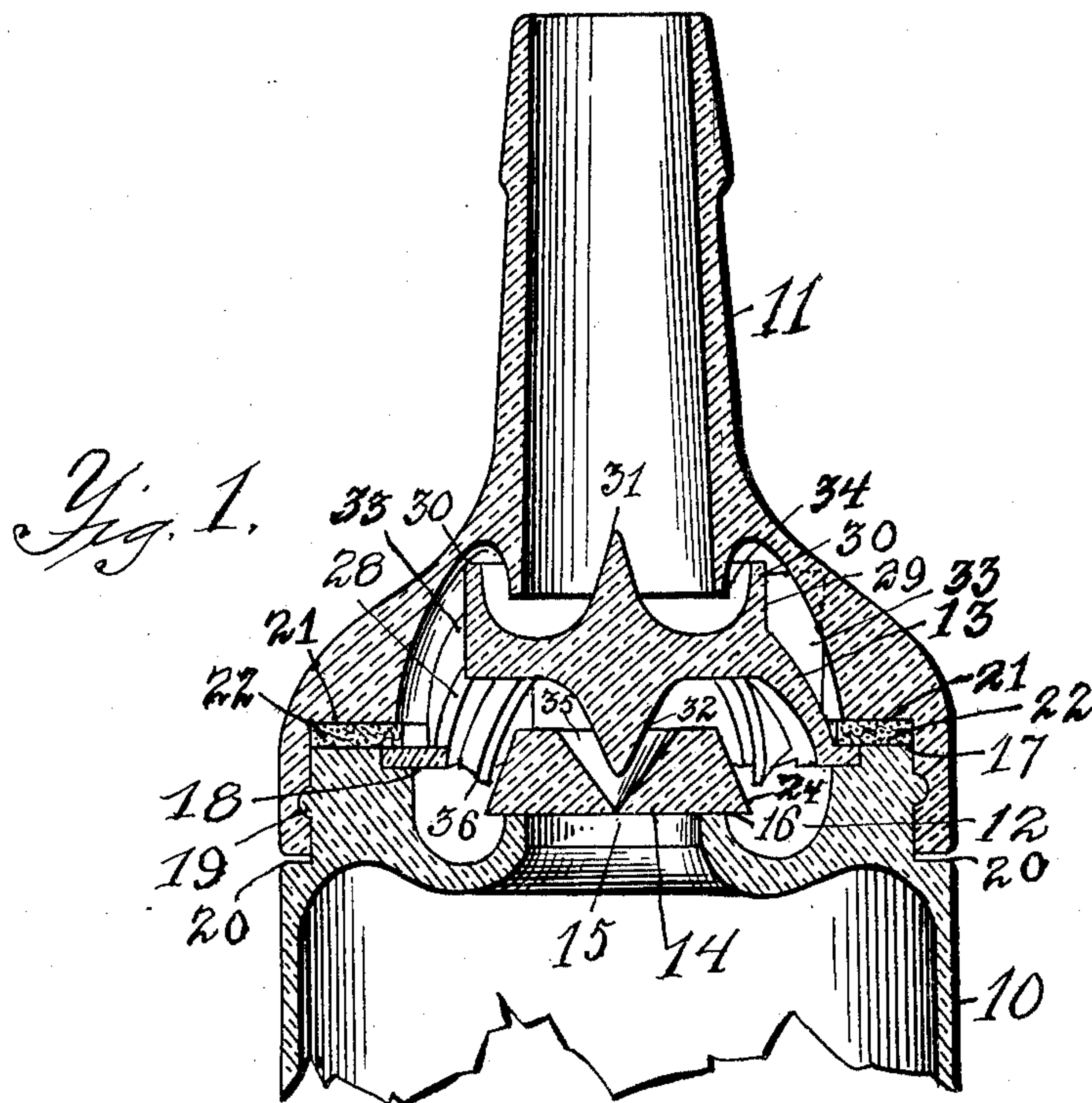


G. C. JENNER & H. K. SHELTERS.
NON-REFILLABLE BOTTLE.
APPLICATION FILED MAY 3, 1910.

996,928.

Patented July 4, 1911.

2 SHEETS—SHEET 1.



Witnesses
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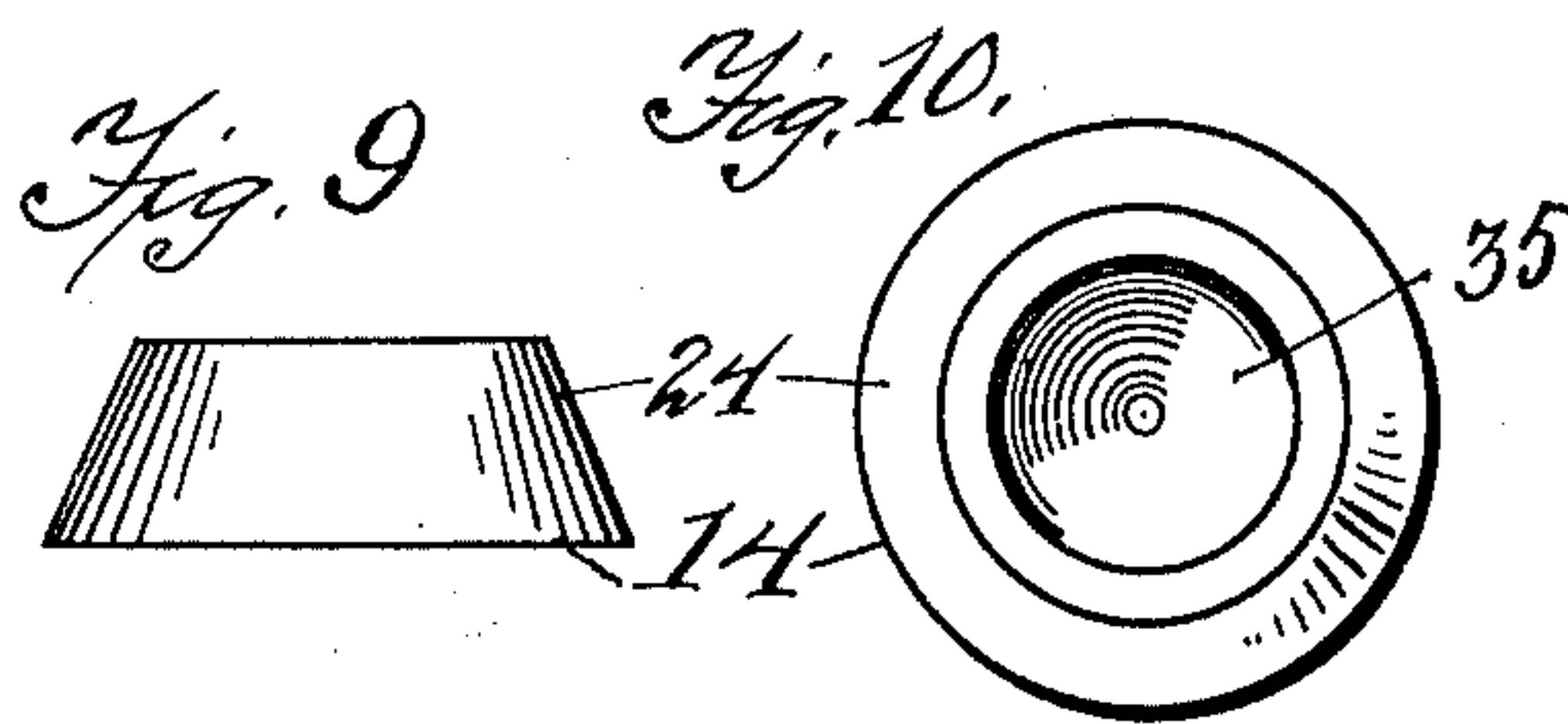
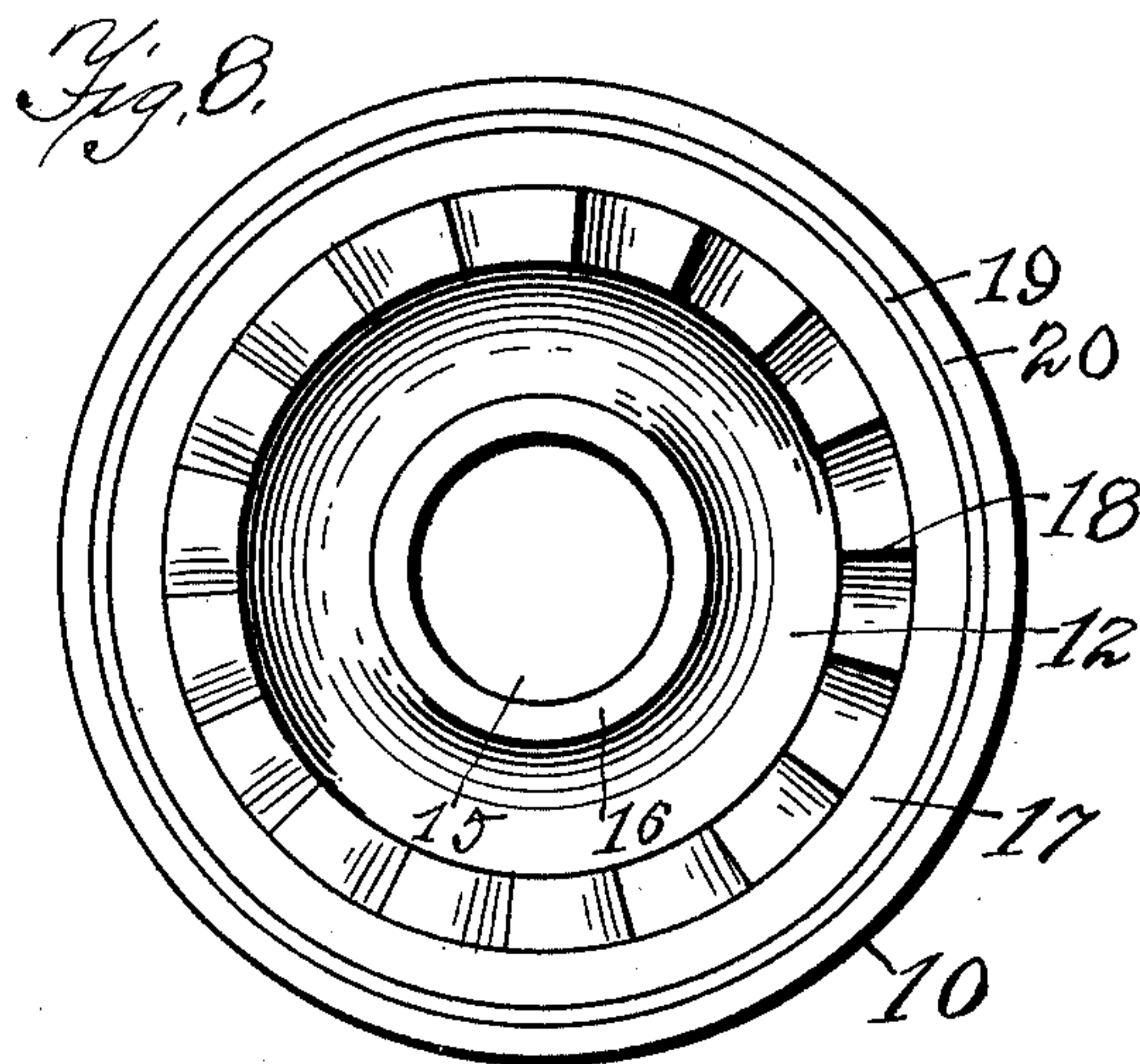
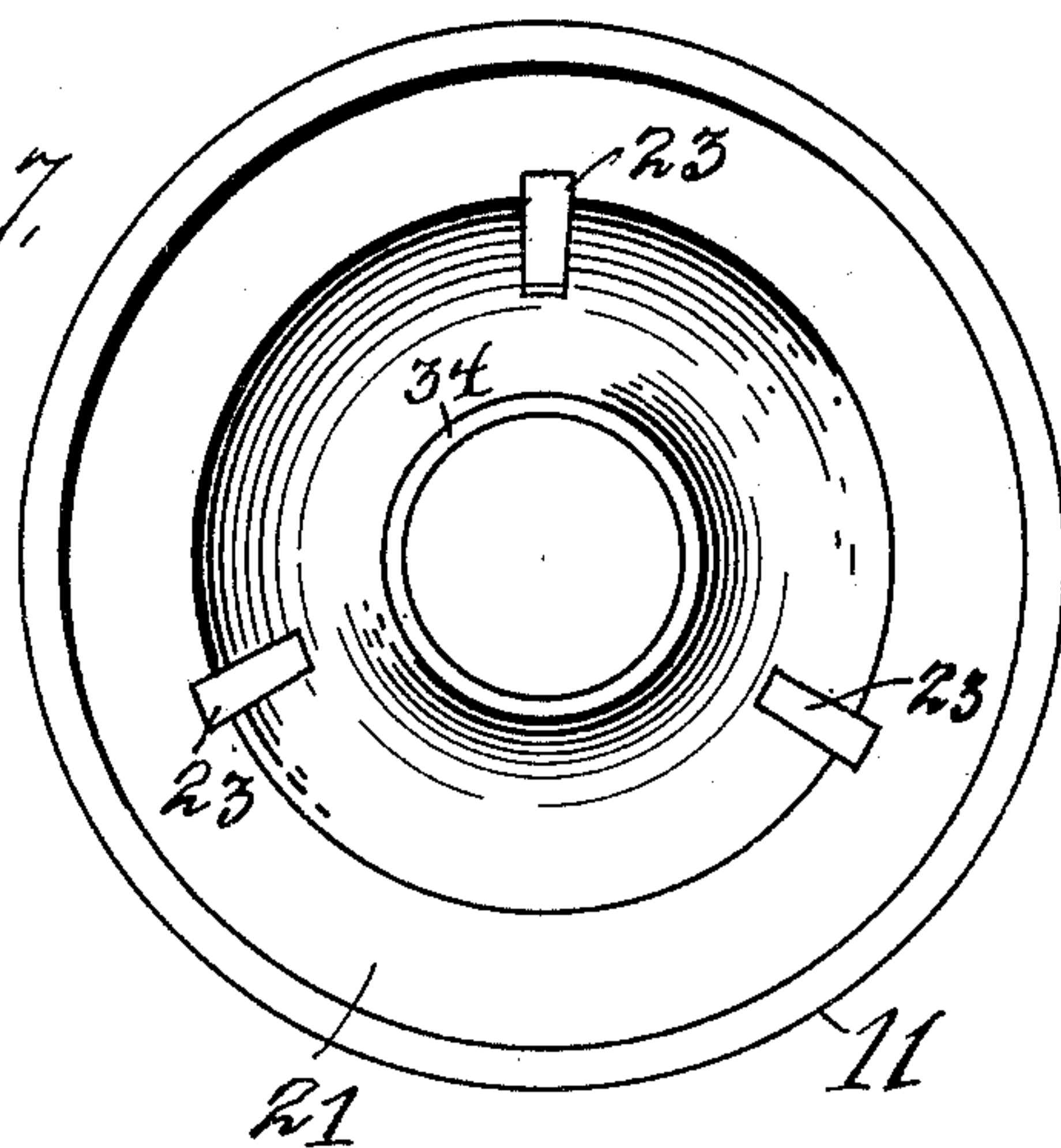
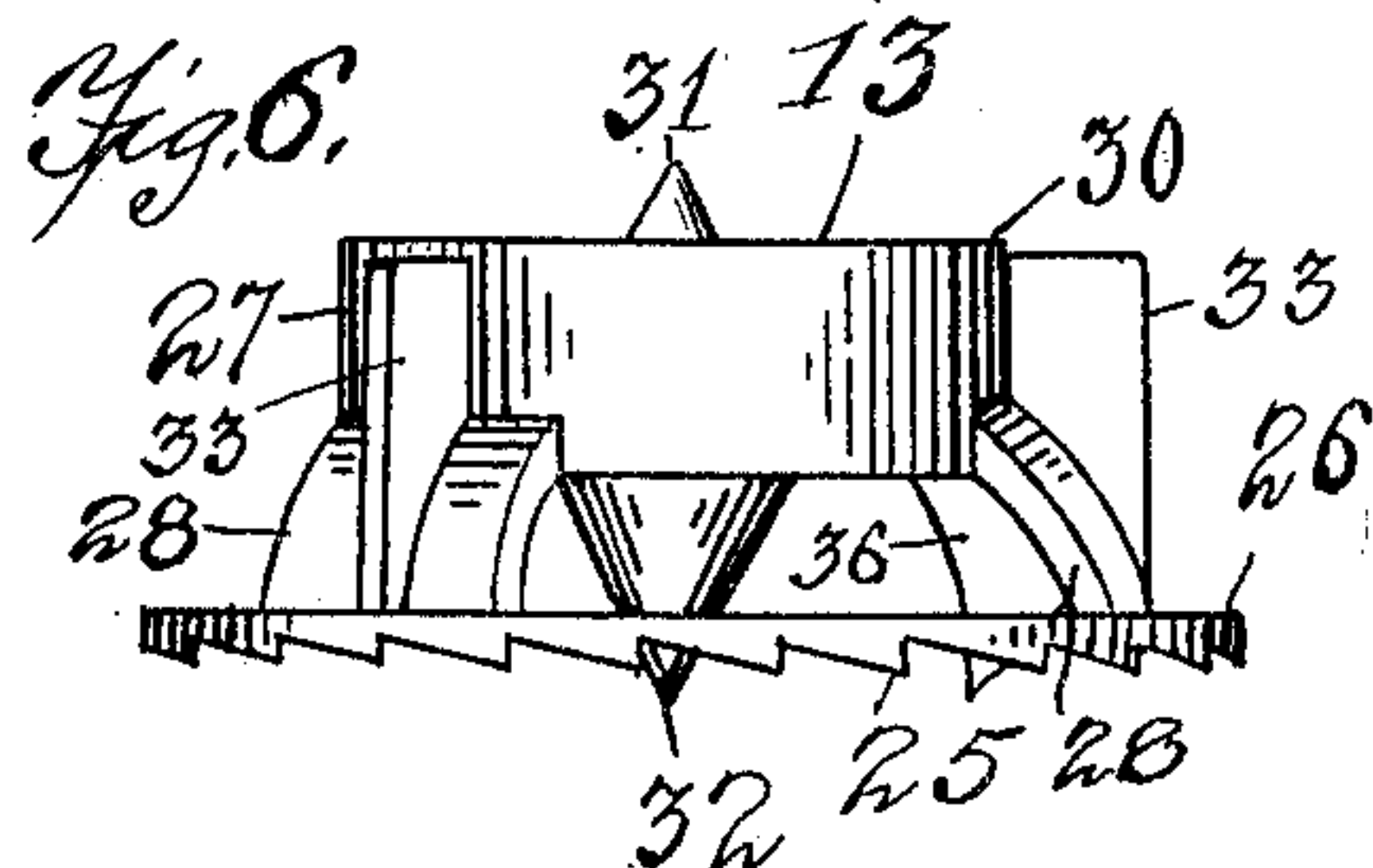
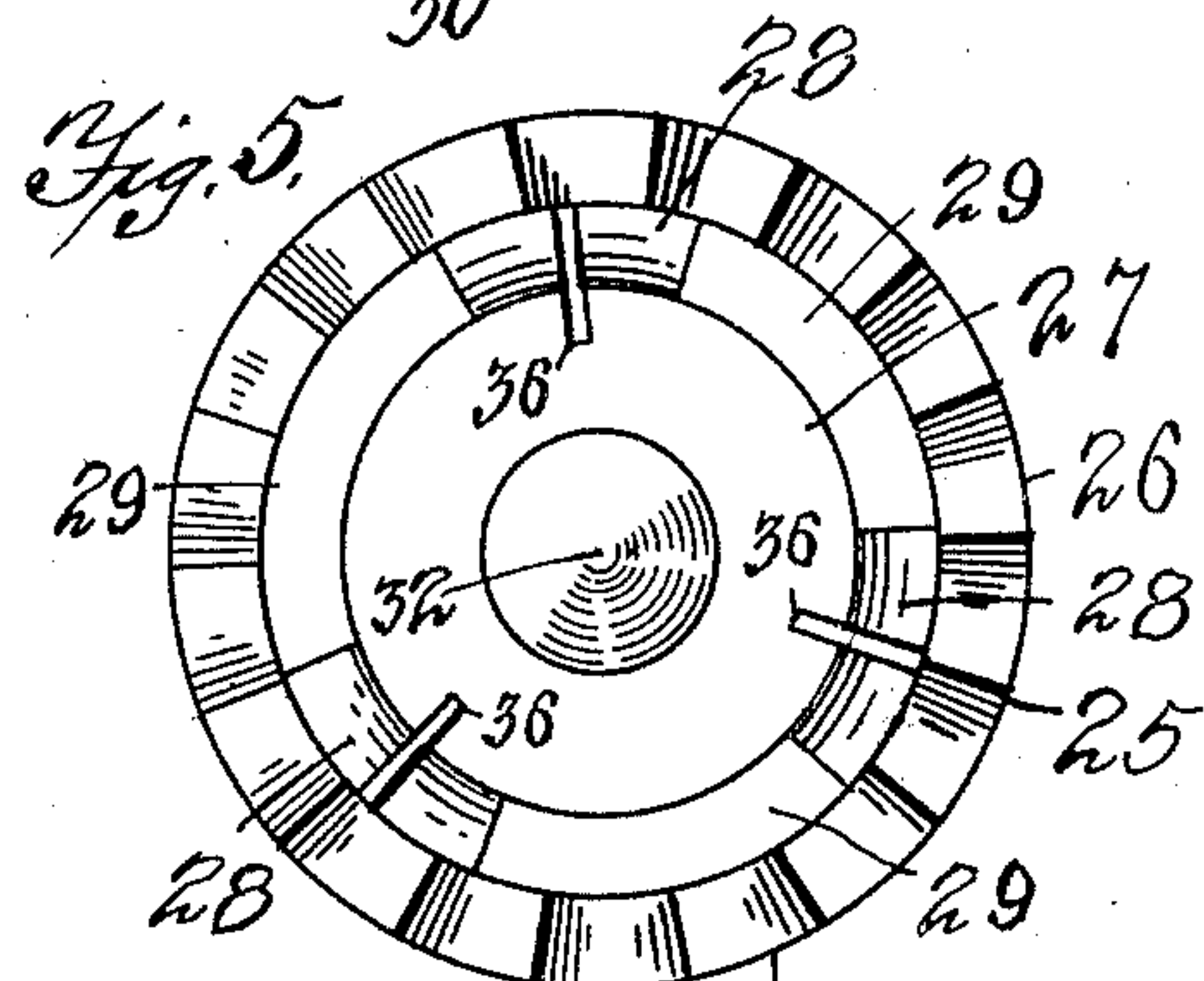
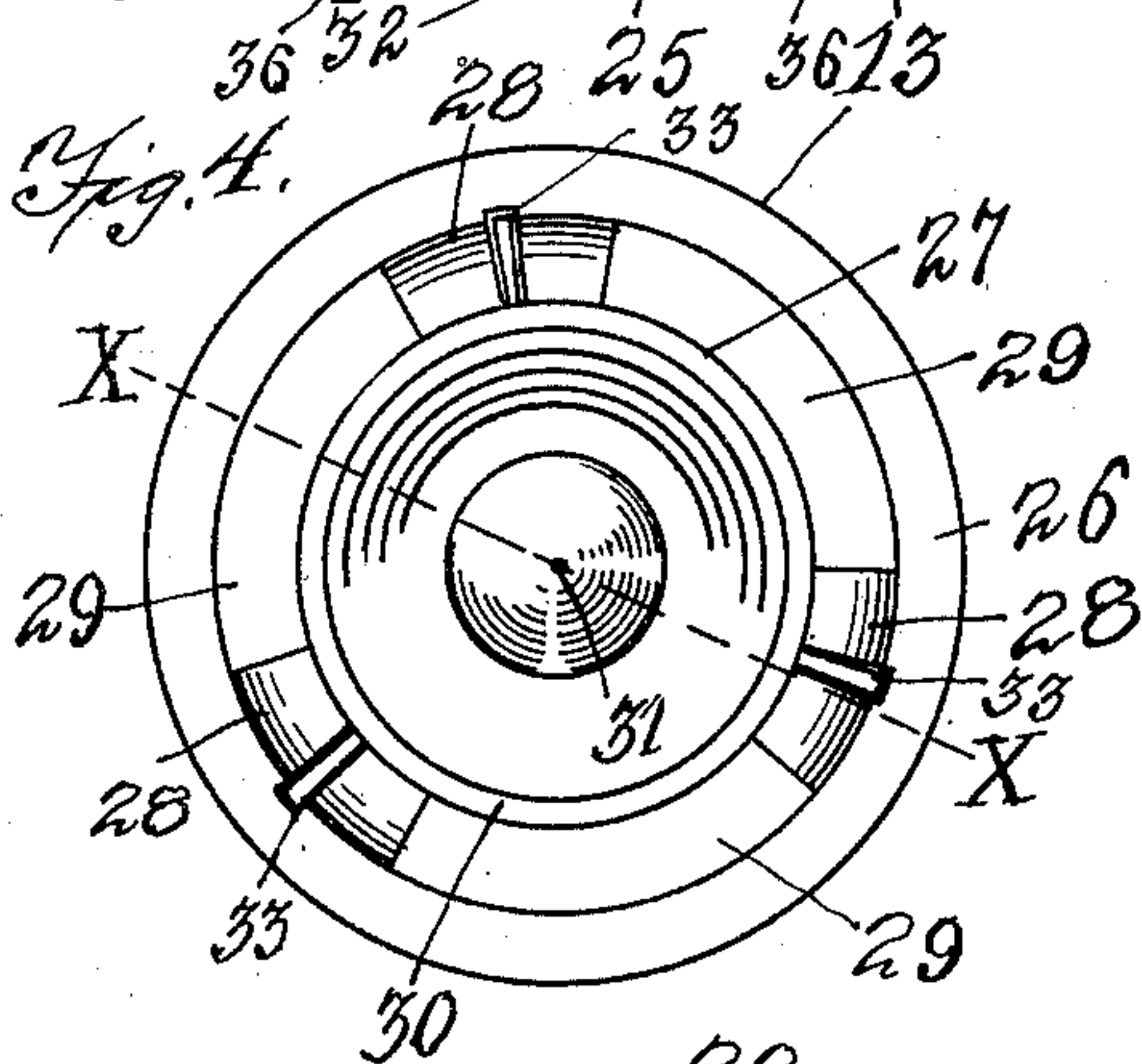
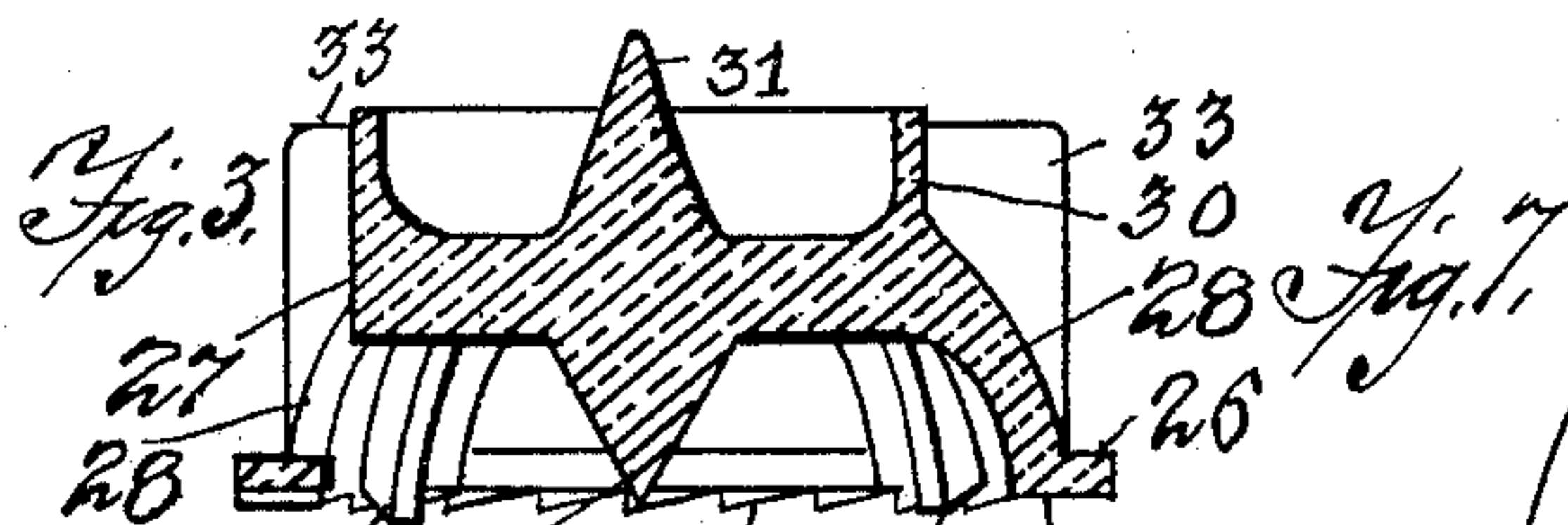
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UNITED STATES PATENT OFFICE.

GEORGE C. JENNER AND HARRY K. SHELTERS, OF JAMESTOWN, NEW YORK.

NON-REFILLABLE BOTTLE.

996,928.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed May 3, 1910. Serial No. 559,094.

To all whom it may concern:

Be it known that we, GEORGE C. JENNER and HARRY K. SHELTERS, citizens of the United States, and residents of Jamestown, in the county of Chautauqua and State of New York, have invented new and useful Improvements in Non-Refillable Bottles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

The invention relates to improvements in non-refillable or self-sealing bottles, suitable for holding liquids; and the object of our invention is to provide a bottle with a mechanical seal, which when the parts are locked together allows of the easy outflow of the liquid, but renders it impossible for any liquid to be admitted to the bottle.

The parts of the bottle are so made that they may be easily blown or cast from glass in suitable molds, thereby rendering the bottle comparatively cheap in its construction and easily assembled. They are also made so that the flow of the liquid from the bottle is aided rather than retarded, since the parts break up the liquid so that a continuous stream will pour from the mouth of the bottle when turned to about a forty-five degree downward angle, and when raised above said downward angle the parts immediately assume their self-sealing position so that it is impossible for liquid to flow out or in.

The novelty consists in the construction and arrangement of the parts as described in this specification, pointed out in the claims and shown in the accompanying drawings.

In the drawings Figure 1 is a vertical sectional view of the upper portion of the bottle showing the parts in the self-sealing position which they normally assume when the bottle is placed upright. Fig. 2 is a perspective view of the lower portion of the bottle showing the inner opening or mouth therein and the locking ratchet around the outer portion. Fig. 3 is a sectional view of the locking plate at line X X in Fig. 4. Fig. 4 is a top plan view of the locking plate. Fig. 5 is a plan view of the locking plate. Fig. 6 is a side elevation of the bottom of the locking plate. Fig. 7 is a plan view of the bottom of the upper or neck portion of the bottle. Fig. 8 is a plan view of the top of the lower portion of the bottle. Fig. 9 is a side elevation, and Fig. 10 is a

top plan view of the valve plate or stopper for the inner mouth of the bottle.

Similar numerals refer to corresponding parts in the several views.

The outer portion of the bottle is composed of two principal parts, the neck and body portions. The numeral 10 indicates the lower body or receptacle portion of the bottle. The numeral 11 indicates the neck portion. A locking plate 13 and a valve 14 complete the enumeration of the bottle parts. The lower or receptacle portion 10 of the bottle is drawn to a mouth 15 at its upper end, which mouth has a projecting level or flat surface 16 around the orifice to receive thereon the valve 14. Around the projecting flat surface 16 the upper end of the part 10 is hollowed out at 12 so as to project said flat surface somewhat above its surrounding surface so that the valve 14 may always find a seat upon the flat surface 16. The upper end of part 10 is provided near its outer side with a circular raised flat portion 17 and just inside of part 17 is provided with a series of vertically extending ratchet teeth 18. Around the outer side of the upper end of part 10 a coarse thread 19 is provided above a shoulder 20. The neck portion 11 consists of that portion of the bottle extending from shoulder 19 upward. Part 11 is provided with a corresponding thread or spiral groove within its lower end to receive the thread 14 of part 10. Above said thread on part 11 a shoulder 21 is provided around the interior of the neck portion to receive a packing ring 22 preferably of cork, between shoulder 21 of part 11 and the flat face 17 of part 10, as shown in section in Fig. 1. On the inner side of shoulder 21 a plurality of radial and vertical notches or recesses 23 are provided which notches extend down and slightly into the shoulder 21 and seal 22. A round locking plate 13 is provided which fits upon circular ratchet teeth 18 within part 17. Plate 13 is provided with ratchet teeth 25 which correspond to and mesh in ratchet teeth 18. Ratchet teeth 25 are upon the under side of outer ring 26 of locking plate 13. Locking plate 13 has the raised central portion 27 which is supported on ring 26 by connecting braces 28 at spaced intervals in order to form the openings 29 for the outflow of the fluid from the bottle. The upper side of central portion 27 is provided with a circular upwardly projecting rim 30 and a central conical point 31 for a

purpose hereinafter set forth. A corresponding downwardly projecting conical point 32 is provided central of the under side of plate 13.

5 A plurality of flanges 33 are provided preferably extending out central of braces 28 and in line with and corresponding to the number of vertical notches or recesses 23 in part 11. Flanges 33 extend upward from
10 plate 13, the upper ends being preferably narrowed slightly so that they will readily seek the notches 23 when part 11 is turned upon thread 19 of part 10. It is apparent that when the flanges 33 enter notches 23 the
15 locking plate 13 will be turned with the neck portion 11, and it is essential that the ratchet teeth upon part 10 and locking plate 13 shall so face as to permit of the turning of part 11 upon part 10 on thread 19, but
20 will not permit the movement in the opposite direction to release the parts, that is, part 11 can be turned on to but not off from part 10. It is also obvious that the turning of part 11 upon part 10 will squeeze the
25 packing 22 tightly between the two parts, thereby forming a liquid seal, and securely and undetachably uniting the three parts, the locking plate 13 being held by the flanges 33 in notches 23 and the ratchet teeth
30 18 and 25 securely holding and locking all the parts at that point to which they may be turned. The packing 22 securely seals the joint between the parts 10 and 11 by the tight squeeze given by turning one part
35 upon the other so that no cement or other fastening is necessary for the joint between the parts. The neck portion 11 is formed in the usual bottle shape with the exception that at the lower end of the opening within
40 the bottle neck the sides are extended downward in a circular projecting rim or flange 34. Flange 34 extends downward inside of the upwardly extending flange or rim 30 of locking plate 13 so that in combination with
45 point 31, it is practically impossible to insert any foreign object like a wire or other instrument which might be used to attempt to open or force the valve 14. Valve plate 14 preferably extends out beyond the flat
50 upper surface 16 of the mouth of part 10 so that even were it possible for an instrument to be inserted into the cavity containing said valve plate 14 it could not even then get under the same. The upper side of the
55 valve 14 is formed with a conical shaped depression 35 corresponding to the shape of downwardly extending point 32, but somewhat larger than said point 32, so that while point 32 holds valve 14 to its work it still
60 allows said valve sufficient room to open the orifice 15 and allow the fluid to flow out of the bottle. In order to still further guard valve 14 its outer side 24 is made in the form of a truncated cone, and a plurality of
65 flanges 36 are provided on the under side of

the cupping shaped locking plate 13. Flanges or guards 36 form a practical continuation of flanges 23 on the under side of locking plate 24 and extend down to the point at which it is desired to stop said valve 70 14 so that while the fluid freely flows out of the bottle, valve 14 can not get out of position, for flanges 36 and cone 32 permit of the bottle being inverted without allowing valve 14 to tip so far as to be unable to in- 75 stantly recover itself when the bottle approaches the horizontal from the inverted position, the weight of the glass valve 14 instantly causing it to seek the flat upper edge 16 of mouth 15 and close the same. The 80 bottle may be rolled on its side and the valve 14 will be held firmly against the mouth 15 by one or more of the lower ends of flanges 36 as it slips beneath them.

In using the bottle, the lower portion or 85 receptacle 10 is filled with the liquid. The valve 14 is placed upon the mouth 15. A locking plate 24 is placed with its ratchet 25 upon ratchet 18, the cork packing ring 22 is then placed upon the flat upper edge 90 17 of part 10, and extends out over the upper side of ring 26 of locking plate 13 thereby holding the locking plate firmly in position upon the ratchet teeth 18. The neck portion 11 is then placed over the assembled 95 parts and turned on to thread 19. As the neck portion is turned the flanges 33 seek the locking openings or notches 23 in the part 11 and when once the flanges 33 enter the notches 23, the part 11 will begin to turn the 100 locking plate 13 upon the ratchet teeth 18. Part 11 is turned until the parts are firmly screwed together, the resilient packing 22 forming a liquid seal between the parts 10 and 11 and the flanged locking plate 13 with 105 the ratchet teeth 18 and 25 automatically and non-detachably or permanently locking the parts together. By simply inverting the bottle, the liquid in part 10 passes out through the mouth 15 and openings 29 in 110 locking plate 13 and through the neck of the bottle, the parts serving to break the blow of the liquid so that it runs freely and smoothly out of the bottle neck. When once the bottle is emptied, it is impossible to 115 refill it without breaking the same.

We claim as new:

1. A bottle comprising a body portion and a neck portion, means for attaching one portion to the other, said body portion having 120 an opening therefrom to said neck portion, a valve seat around said opening, a valve for said valve seat, a locking plate inclosed by said body and neck portions, said locking plate engaged and operated by one of said 125 portions in attaining an attachment which permanently prevents the separation of said portions and plates, guards on said locking plate for said valve, said locking plate having openings therethrough for liquid. 130

2. A bottle comprising a body portion and a tubular neck portion, screw threads for attaching said portions, said body portion having a mouth leading to said neck, a valve seat around said mouth, a valve for said valve seat, a locking plate within said neck portion to guard said valve plate, said locking plate having openings therethrough, projections on said locking plate and neck and body portions, said locking plate and neck and body portions having recesses which are engaged by said projections in a non-detachable connection by the screwing together of said portions.

3. A bottle composed of body and neck portions, screw threads on said parts for the attachment of the same to one another, said body portion having a mouth, a valve seat around said mouth, a locking plate having projections thereon and opening for liquid therethrough, said neck and body portions having openings therein to receive said locking plate projections when said parts are screwed together and thereby form a non-detachable connection, and a valve plate for said valve seat guarded by said locking plate to control the mouth of said body portion.

4. A bottle composed of two parts, screw threads for uniting said parts, ratchet teeth on one of said parts, a locking plate having openings therethrough for liquid, reverse ratchet teeth on said locking plate to engage said ratchet teeth on one of said parts, one of said parts formed as a bottle portion having a mouth, a valve seat around said mouth, a valve plate for said valve seat, guards on said locking plate for controlling said valve plate, and flanges on said locking plate to be engaged by one of said parts in screwing the parts together to un-detachably unite said parts by the permanent engagement of said ratchet teeth.

5. A bottle composed of a neck portion and a body portion, screw threads on said portions for uniting the same, an inclosed packing ring for the joint between said portions, said body portion having a mouth opening into said neck, a series of ratchet teeth on said body portion, a valve plate for said mouth, a locking plate to hold and control said valve plate and seal said mouth when in a horizontal or upright position, said locking plate having openings there-
55 through for liquid, a series of ratchet teeth

on said locking plate oppositely placed in reverse order to the ratchet teeth on said body portion, flanges on said locking plate to engage said neck portion and be turned thereby to cause said ratchet teeth to be un-
60 detachably engaged as said portions approach one another on said screw threads.

6. A non-refillable bottle composed of two parts having screw threads to unite the same, a series of ratchet teeth on the lower
65 part, a locking plate having openings for liquid therethrough, a corresponding series of oppositely placed ratchet teeth on said locking plate to permanently engage the parts when turned by said upper part, a
70 central mouth on said lower part, a valve plate on said mouth having a depression in its upper side, and a projection on the under side of said locking plate extending into said valve plate depression to control
75 and hold said valve plate.

7. A non-refillable bottle, comprising a neck and body portion, screw threads on said portions for uniting the same, a packing for an inclosed joint between the two
80 portions, ratchet teeth on said body portion, said neck portion having a series of notches on its inner side, a locking plate having openings therethrough for liquid, flanges on said locking plate to engage said notches to
85 turn said plate, ratchet teeth on said locking plate in reverse relation and corresponding to the ratchet teeth on said body portion, an upward extending circular flange and conical point on the upper side of said
90 locking plate, a central downward conical projection and a series of downwardly projecting flanges on the under side of said locking plate, said body portion having a
95 central mouth, a valve plate for said mouth having a conical shaped opening on its upper side to receive the downward conical point on said locking plate to hold and control said valve in combination with said
100 downwardly projecting flanges, substantially as and for the purpose specified.

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

GEORGE C. JENNER.
HARRY K. SHELTERS.

Witnesses:

A. L. FURLOW,
I. A. ELLSWORTH.