

(No Model.)

C. E. WYCKOFF.
VALVE STOPPER AND MEASURING DEVICE.

No. 557,931.

Patented Apr. 7, 1896.

Fig. 1

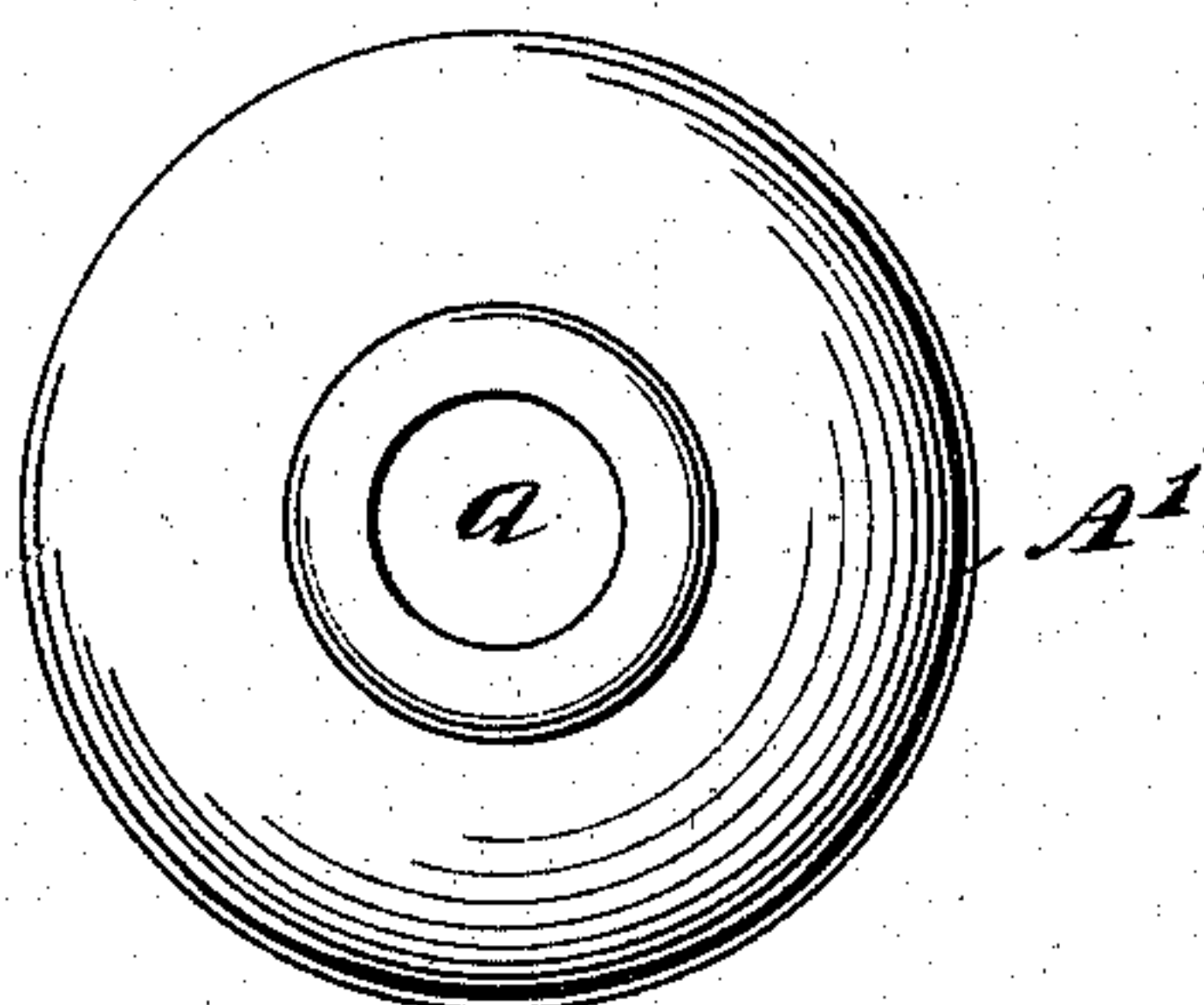


Fig. 3.

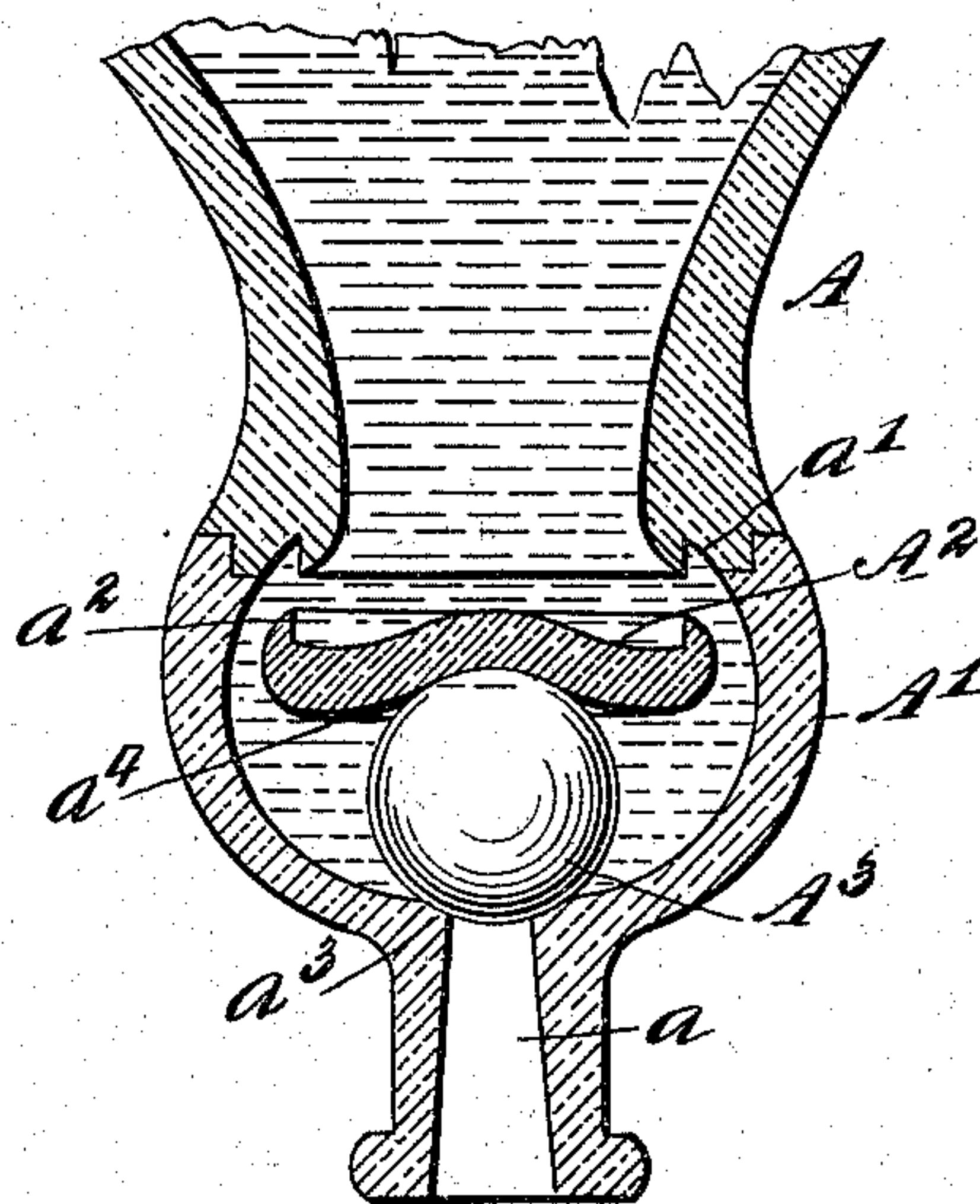


Fig. 2

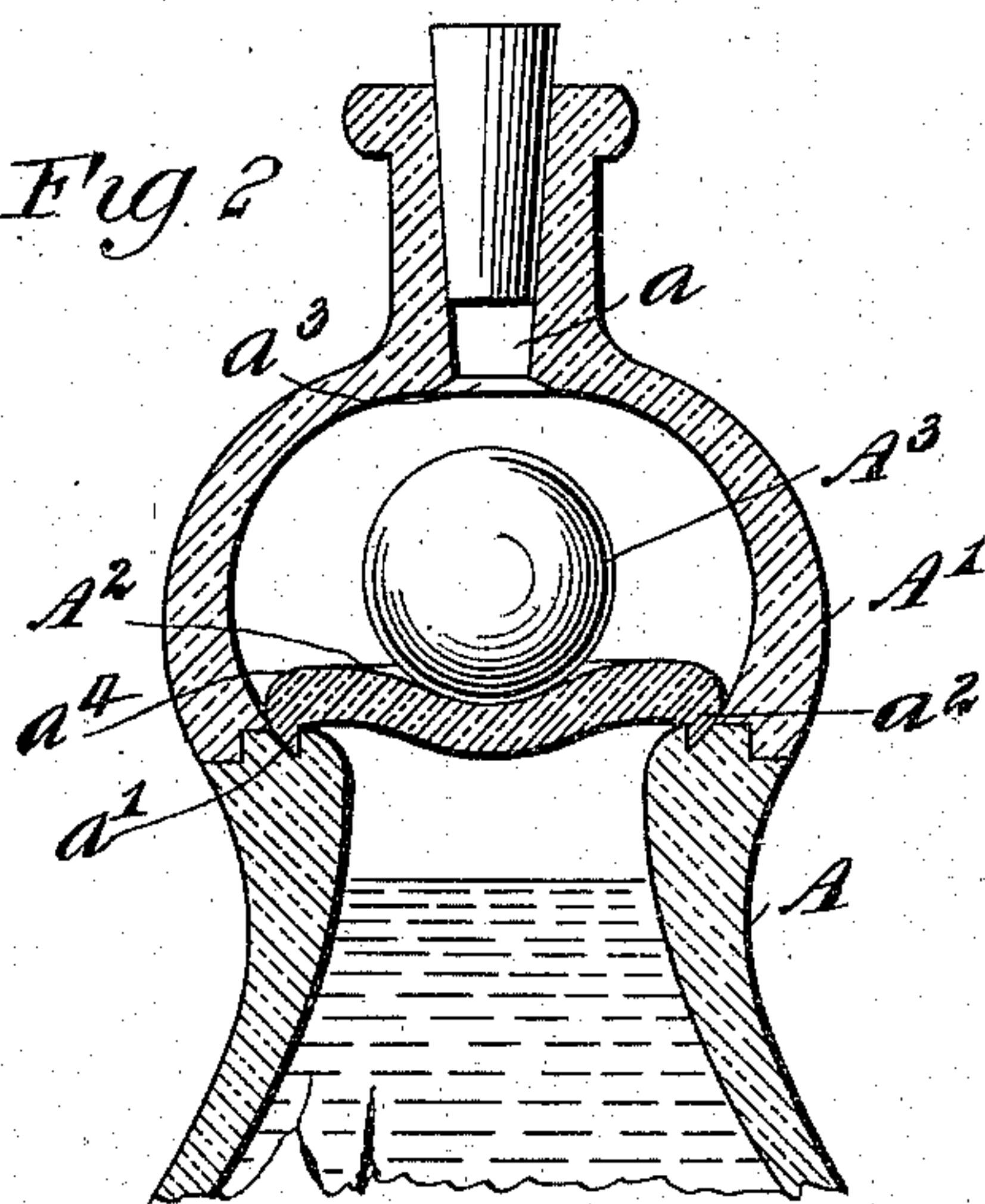


Fig. 4.

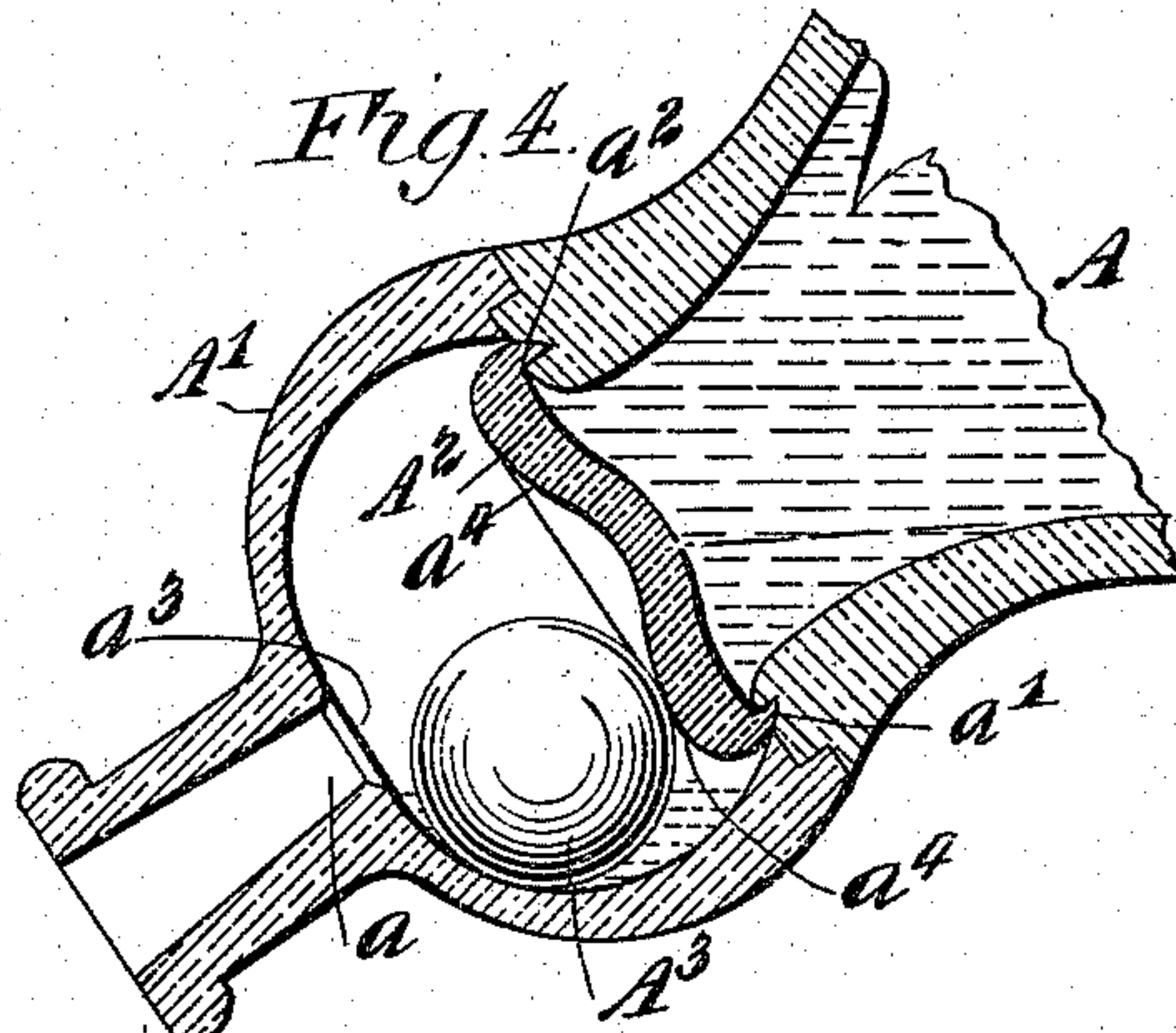


Fig. 5.

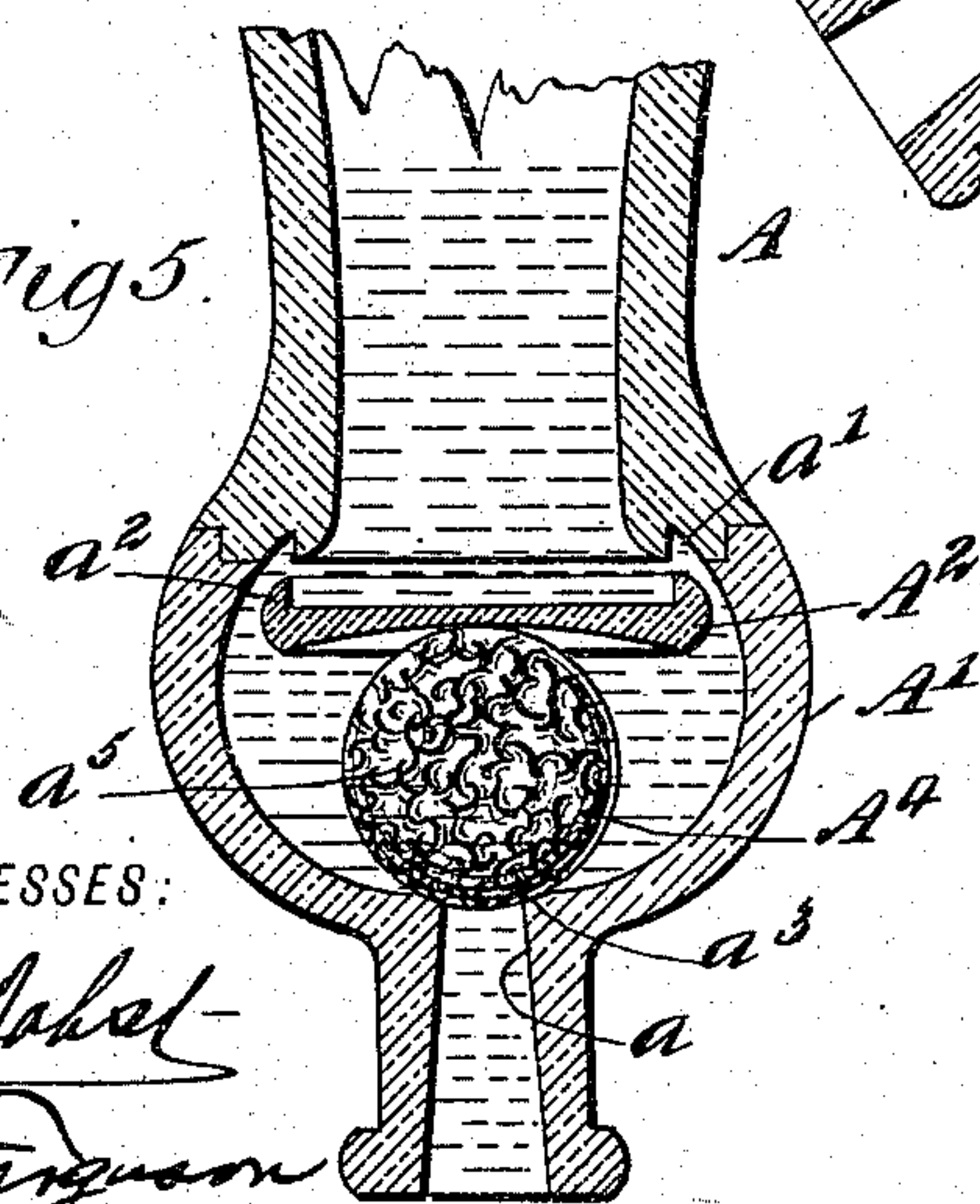
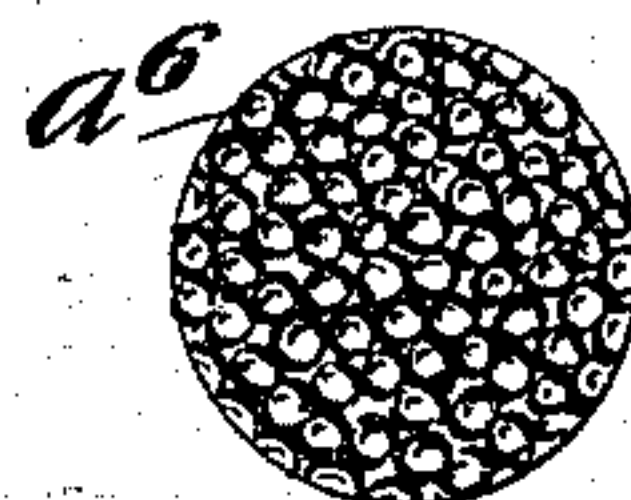


Fig. 6



WITNESSES:

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CORNELIUS EMERICK WYCKOFF, OF BROOKLYN, NEW YORK.

VALVE-STOPPER AND MEASURING DEVICE.

SPECIFICATION forming part of Letters Patent No. 557,931, dated April 7, 1896.

Application filed September 16, 1895. Serial No. 562,705. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS EMERICK WYCKOFF, of Brooklyn, in the county of Kings and State of New York, have invented new and Improved Valve-Stoppers and Measuring De-

5 vices for Original Packages, of which the following is a full, clear, and exact description. This invention relates to valve-stoppers and measuring devices in connection therewith
10 for packages for containing liquids, medicinal preparations, or toilet powders; and the object of the invention is to provide a valve-stopper adapted to prevent the refilling of a package after the same shall have been emp-

15 tied of its original contents, and, further, to discharge the contents of the package in measured quantities. I will describe a device embodying my invention, and then point out the novel features
20 in the appended claims.

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 views.

25 Figure 1 is a top view of a package embodying my invention. Fig. 2 is a sectional elevation of the same, showing the package in an upright position. Fig. 3 shows a package as inverted to discharge material into the meas-
30 uring device preparatory to its final discharge. Fig. 4 shows the position of the parts as the measured material is finally discharged. Fig. 5 shows a modification of the valve mechanism so constructed that there may be a con-
35 tinuous discharge of material from the package when the same is inverted as shown in Fig. 3, and Fig. 6 shows another modification of a portion of the valve.

Referring to the drawings, A designates
40 the neck or outlet of an original package, and A' is a cap-piece secured thereon in any desired manner—such, for instance, as by cementing it after the package shall have been filled. This cap-piece A' has a contracted
45 outlet a in its upper central portion. The interior wall of the cap-piece is substantially hemispherical, and the outer wall may be of substantially the same contour; but of course it may be of any other design without depart-
50 ing from the spirit of my invention.

The upper end of the neck portion A of the package is provided with an annular groove

or recess a' , forming a seat for the downwardly-extended annular flange a^2 of a plate-valve A², designed to close the outlet of the
55 package. This plate-valve A² is shown as concaved in its upper side.

Within the cap-piece A' is a spherical body A³, consisting of any suitable material. This spherical body A³ serves both as a valve-stop-
60 per for the contracted outlet a and also as a locking or retaining device for the plate-valve A²—that is, when the package is inverted, as shown in Fig. 3, the spherical body will engage in a valve-seat a^3 at the inner end of the
65 contracted outlet a , allowing the plate-valve to fall sufficiently away from its seat to form a passage for the discharge of material from the package to the interior of the cap A', which forms a measuring device, as well as
70 the valve-casing, and as the spherical body A³ is in contact with the seat a^3 the material cannot discharge through the contracted outlet a until the package is tilted substantially
75 to the position shown in Fig. 4, and then the spherical body will roll to the lower side and force the plate-valve A² to its seat, thus preventing a further discharge of material from the body to the interior of the cap-piece; but
80 the material already discharged into the cap-piece may be poured out of the outlet a .

It will be seen that the spherical body A³ is of sufficient size to engage a portion of the upper interior wall of the cap-piece, and also engages the raised annular top portion a^4 of
85 the plate-valve A².

It may be desired to provide for a continuous flow of liquid or other material from the original package through the contracted outlet a when the package is inverted. To pro-
90 vide for this, I employ a spherical body A⁴, having a series of unconnected interstices a^5 formed in its surface. These interstices, as shown in Fig. 5, are of irregular or longitudinally-curved formation. In Fig. 6, how-
95 ever, they are shown as substantially hemispherical depressions a^6 . It is obvious in this construction that when a package is inverted, as shown in Fig. 5, the spherical body A⁴ will engage with the valve-seat a^3 , allowing the
100 plate-valve A² to fall away from its seat, and the contents of the package may then discharge through the interstices of the spherical body and through the contracted outlet a .

I prefer the unconnected interstices, as the same do not materially alter the spherical contour of the body A^4 , as would be the case were continuous channels or depressions formed therein, and continuous channels or depressions would allow the insertion of a wire or similar instrument to engage with the plate-valve.

In the construction shown and described it will be seen that it is impracticable to insert an instrument beneath the plate-valve A^2 for the purpose of holding the same away from its seat and allow the refilling of the package by means of a pressure-pump or similar means.

The example of my improvement as first described is adapted more essentially for powders, medicinal compounds, or liquids which it is desired to measure in certain quantities, and the example of my improvement shown in Fig. 5 is designed, essentially, for packages from which it is desired to discharge a liquid or other material directly from the package to a receiver.

It is obvious that slight changes may be made in the construction of this device without departing from the spirit of my invention—that is, for instance, the annular groove or channel a' may be omitted and the end of the package-outlet made flat and the lower side of the plate-valve adapted to engage thereon. It is also apparent that the cap-piece A' may be made of any desired size or extended laterally, as it is only necessary in

the operation of the device that the space between the top inner wall and the highest top surface of the plate-valve shall be equal to the diameter of the spherical body A^3 or A^4 .

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

1. A package or receptacle, having an annular channel in the upper end of its outlet, forming a valve-seat, a plate-valve having an annular flange adapted to engage in said annular valve-seat, a cap-piece secured to the outlet of the package and having a contracted outlet in its upper central portion, and a spherical body in said casing having a diameter substantially equal to the distance between the upper inner surface of the cap-piece and the highest top portion of the valve, whereby when said package is inclined, the spherical body may roll laterally and serve as a lock for the valve, substantially as described.

2. The combination with the neck or outlet of a package, of a cap-piece secured thereon and having a contracted outlet, a plate-valve within the cap-piece and adapted to engage the upper end of the package-outlet, and a spherical body in said cap-piece having interstices in its surface, substantially as specified.

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Witnesses:

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