

No. 817,181.

PATENTED APR. 10, 1906.

W. A. MILLER.
SELF SEALING BOTTLE.
APPLICATION FILED MAY 4, 1905.

2 SHEETS—SHEET 1.

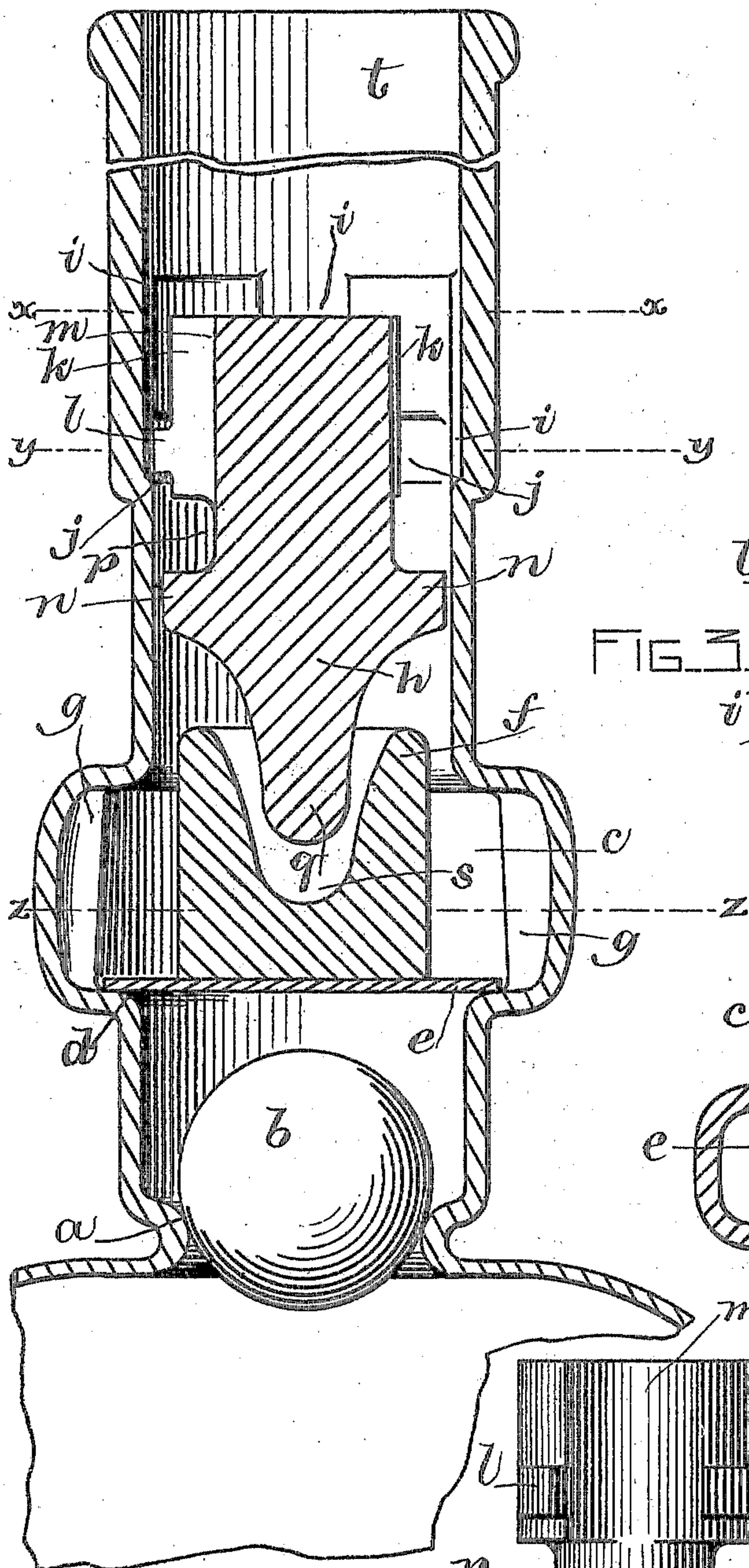


FIG. 1.

WITNESSES

Malbone & Brewster
Edward Sullivan

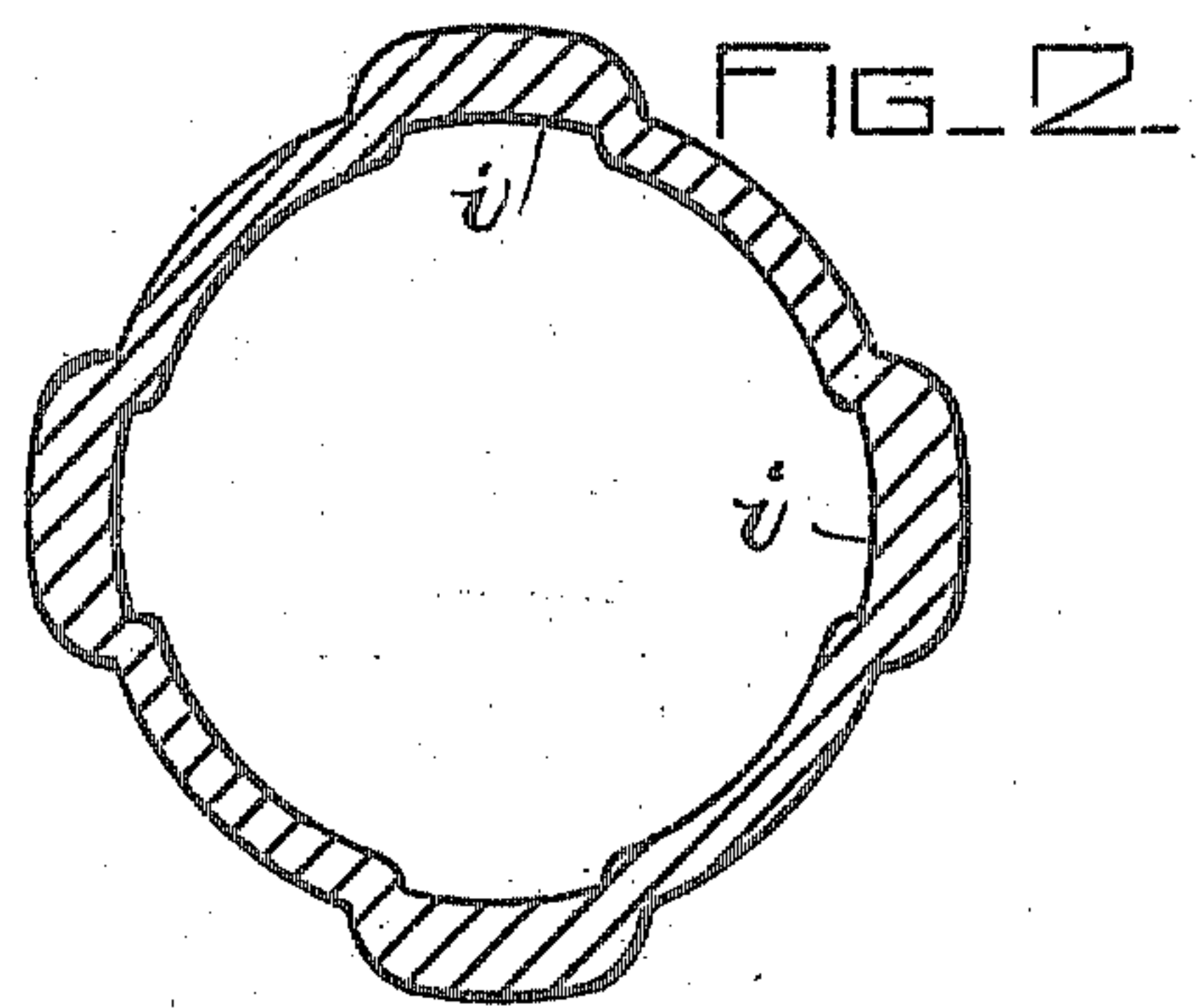


FIG. 2.

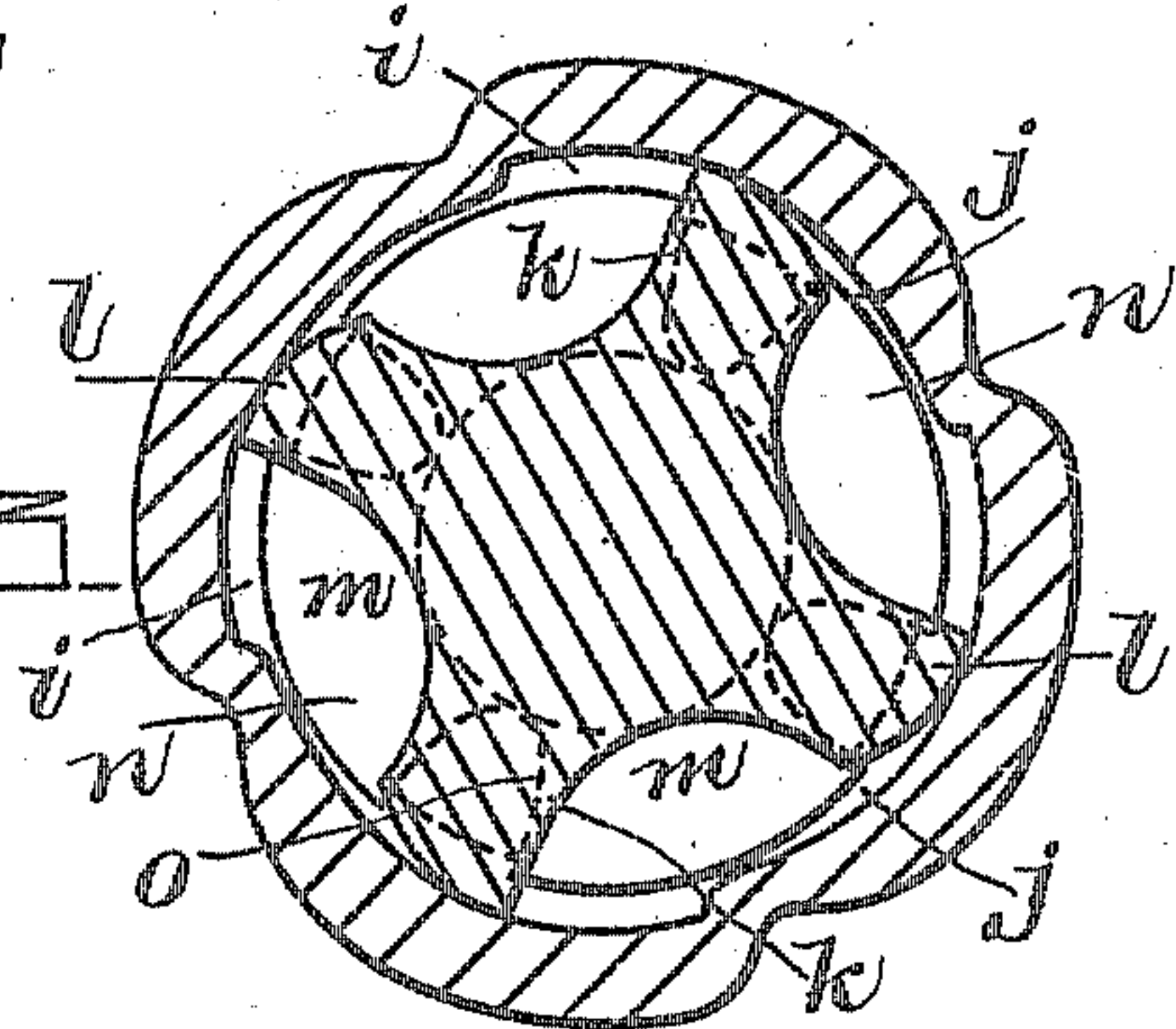


FIG. 3.

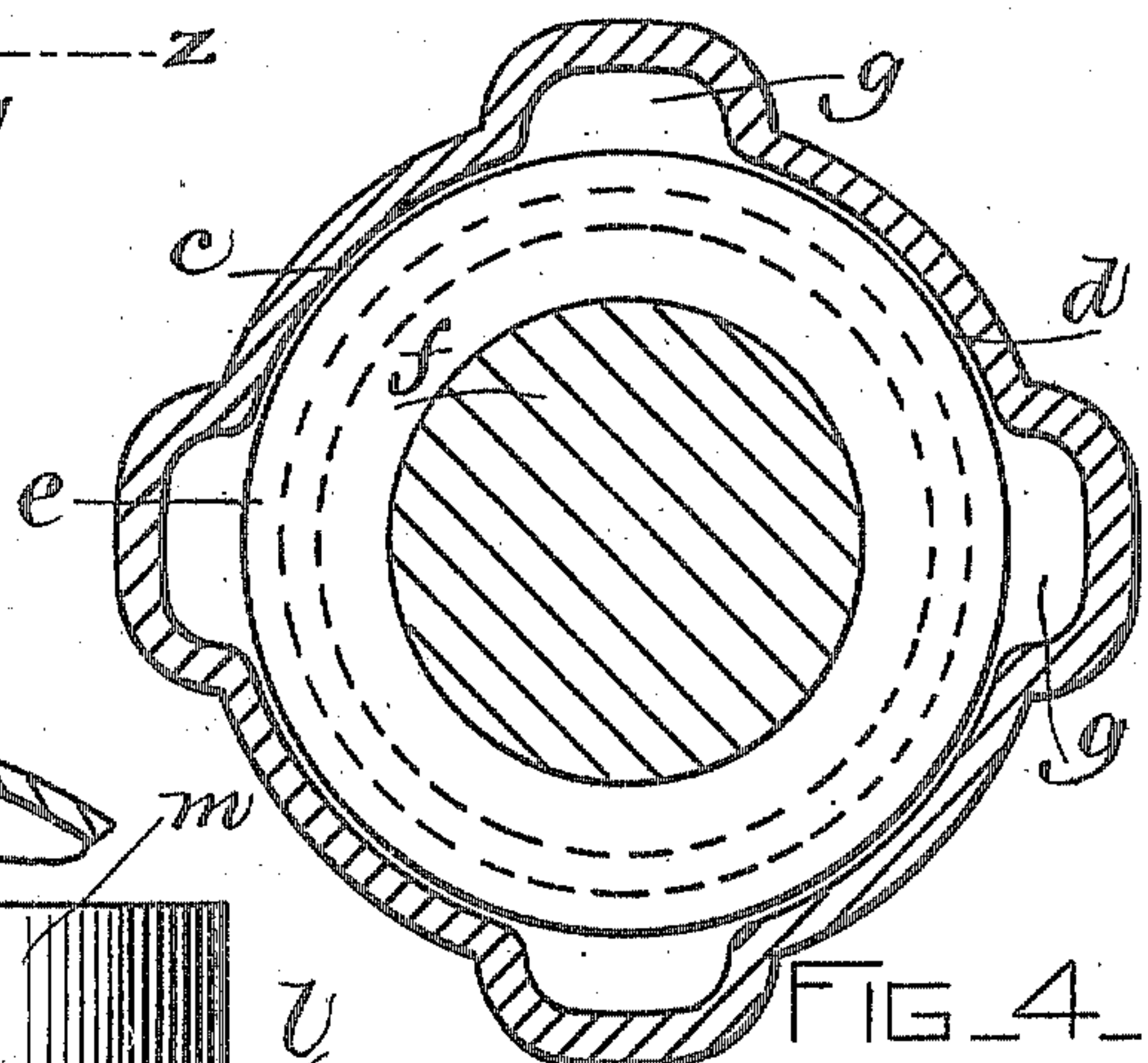


FIG. 4.

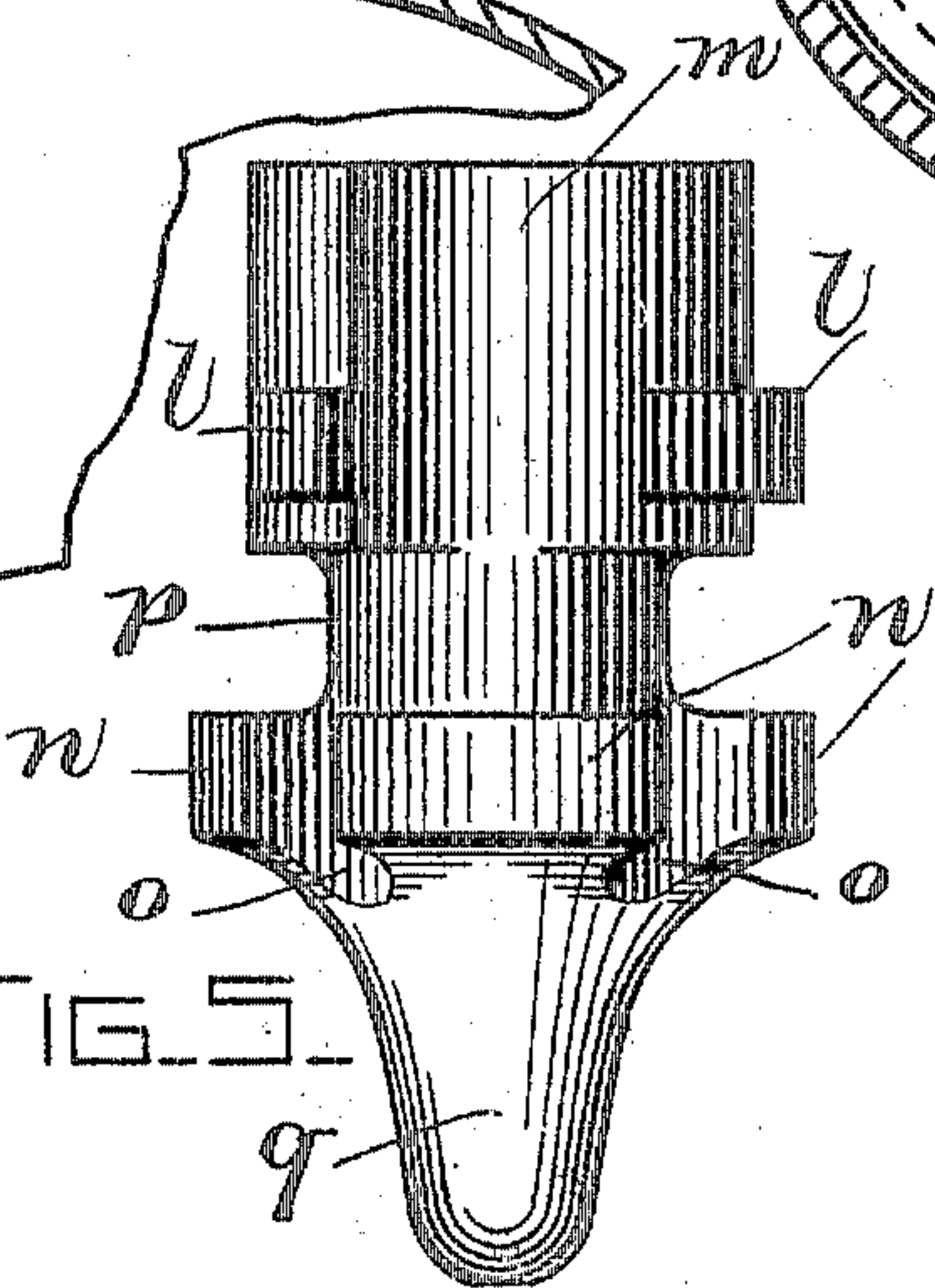


FIG. 5.

INVENTOR

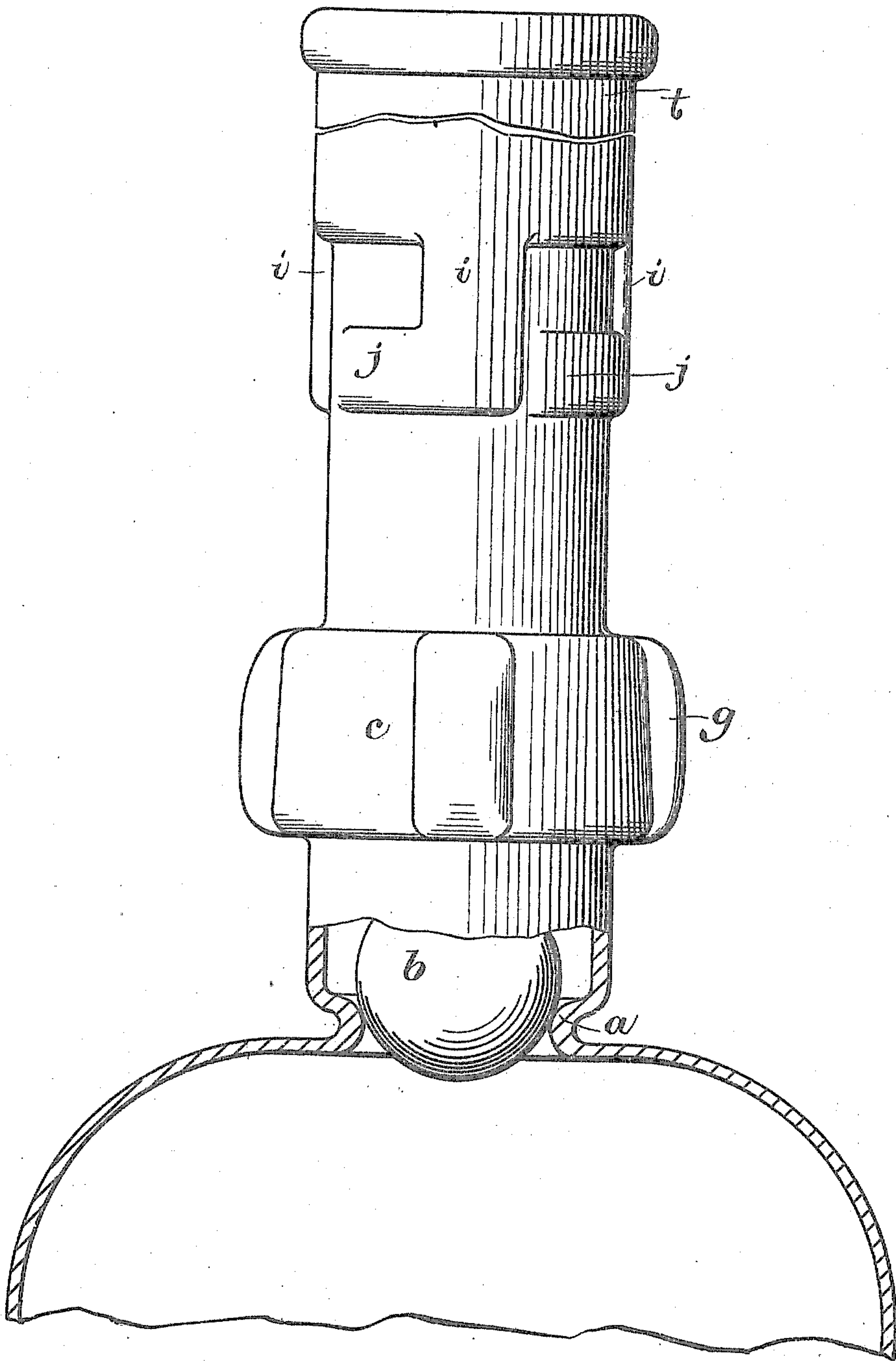
William A. Miller,
By Chas. F. How
his Attorney.

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2 SHEETS—SHEET 2.



WITNESSES

Edward Sullivan.
Walter Halbone Brewster

FIG. 6.

INVENTOR

William A. Miller
By Chas. J. Horner
his Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM A. MILLER, OF BOSTON, MASSACHUSETTS.

SELF-SEALING BOTTLE.

No. 817,181.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed May 4, 1905. Serial No. 258,868.

To all whom it may concern:

Be it known that I, WILLIAM A. MILLER, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Self-Sealing Bottles, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to improvements in self-sealing bottles suitable for holding proprietary beverages and other fluids and provided with devices located in the neck of the bottle, permitting it to be emptied, but not refilled.

The object of my invention is to produce a self-sealing bottle capable of manufacture on a commercial scale—that is, one which is not so difficult to make as to be beyond the reasonable cost of such an article.

Bottles have been proposed which require such extraordinary care of the glass-blower that the cost is excessive. This is particularly true of bottles having interflowing ducts formed in the bottle-neck to coact with inserted parts of the sealing devices. For this reason I have made my sealing device containing the ducts or fluid-passages as an integral plug that may be easily molded, which, after filling the bottle, is permanently fastened into the neck of the bottle.

My invention consists in a bottle having a series of fluid-seals and an obstruction or plug in the neck of the bottle provided with interflowing channels, which plug prevents tampering with the seals or valves controlling an attempt to refill the bottle, and the invention further consists of the devices and arrangement of parts to be more particularly set out.

The drawings show in Figure 1, a longitudinal sectional view of a bottle-neck containing my self-sealing device; Fig. 2, a cross-section of the neck at the line $x x$, as in Fig. 1; Fig. 3, a cross-section of the neck at the line $y y$ of Fig. 1; Fig. 4, a cross-section of the neck at the line $z z$ of Fig. 1; Fig. 5, an elevation of the plug; Fig. 6, an elevation of the bottle-neck with a portion of the bottle broken in section at the junction with the said neck.

The bottle is made of any suitable material which is not affected by water or alcohol, and is of any shape desired up to the neck. At the junction of the neck with the body of the bottle a seat a is formed, which is covered by a ball b . Above this ball the neck is bulged outward, forming a chamber c , containing

the seat d , which is covered by the disk e . This disk is usually made of mica, and it is held to its seat by a weight f of any suitable material. The neck of the bottle is contracted above the chamber c to guide the weight f , and to allow the liquor to flow easily by the mica-disk e channels g are blown lengthwise of the chamber c , which channels project beyond the walls of the said chamber. A plug h , which is of unusual construction, is fitted tightly in the neck of the bottle above the weight f . My preferred construction for securing the plug in the bottle consists in blowing several longitudinal grooves i in the neck of the bottle, which turn at right angles to run, as at j , around the bottle, the grooves gradually decreasing in depth as they depart from the longitudinal portion. The upper portion of the plug is formed with several teeth, as k , projecting radially outward from the elongated body portion of the plug, and beveled lugs l at the peripheries of the teeth enter the grooves i as the plug is inserted in the neck of the bottle. Then the plug is given a sharp turn with a wrench and the lugs follow along the grooves j until they jam tightly against their wedge-shaped faces. Cement may be applied to the lugs and grooves j to insure a permanent joint. Between the teeth k of the plug wide ducts m are provided in the plug for the liquor, and to prevent the insertion of a wire to tamper with the disk or ball valves the baffles n are located below and in line with the ducts m . Between the baffles channels o are provided, leading from the valves in an axial direction and connecting through the horizontal groove p , located between the baffles n and the teeth k with the ducts m . The lower portion q of the plug tapers to a tip, which enters a cavity s in the weight f .

The bottle is first filled with liquor and the ball b is dropped on the seat a . Then the mica disk e is doubled and pushed down to the seat d of the chamber c . The weight f is now dropped on the disk e , and finally the plug is inserted and locked by the bayonet-joint, formed by the grooves i and j in connection with the lugs l of the plug. The arrangement of the elements of the plug, as described, as an integral structure which may be molded is of great importance, as channels of ample proportions are thereby provided for the liquor, which is a difficult matter if the channels are to be blown in the bottle. The ducts m , through which the liquor passes

to the neck of the bottle, are of considerable cross-section to break up any gushing or spraying of the liquor as it issues from the neck of the bottle, due to the choking of the entering
5 air through the angular channels and fluttering valves.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

10 In a self-sealing bottle, the bottle-neck, means within the bottle-neck permitting escape but preventing inflow of fluid to the bottle, and devices in the neck of the bottle constituting one member of a bayonet-joint, com-
15 bined with a plug in the neck of the bottle, teeth radiating from the plug toward the wall

of the bottle-neck, lugs projecting from the teeth arranged to register with the devices in the bottle-neck completing the bayonet-joint, baffles radiating from the plug out of
20 the plane of the teeth and spaced longitudinally between the teeth forming thereby irregular passages through the plug for the passage of liquor, substantially as described.

In testimony whereof I have signed my
25 name to this specification, this 1st day of May, 1905, in presence of two subscribing witnesses.

WILLIAM A. MILLER.

Witnesses:

CHAS. F. HOWE,

HENRY P. ROBERTS.