

No. 669,067.

Patented Mar. 5, 1901.

J. A. ARTHUR.
BOTTLE SEAL.

(Application filed Apr. 10, 1900.)

(No Model.)

Fig. 1.

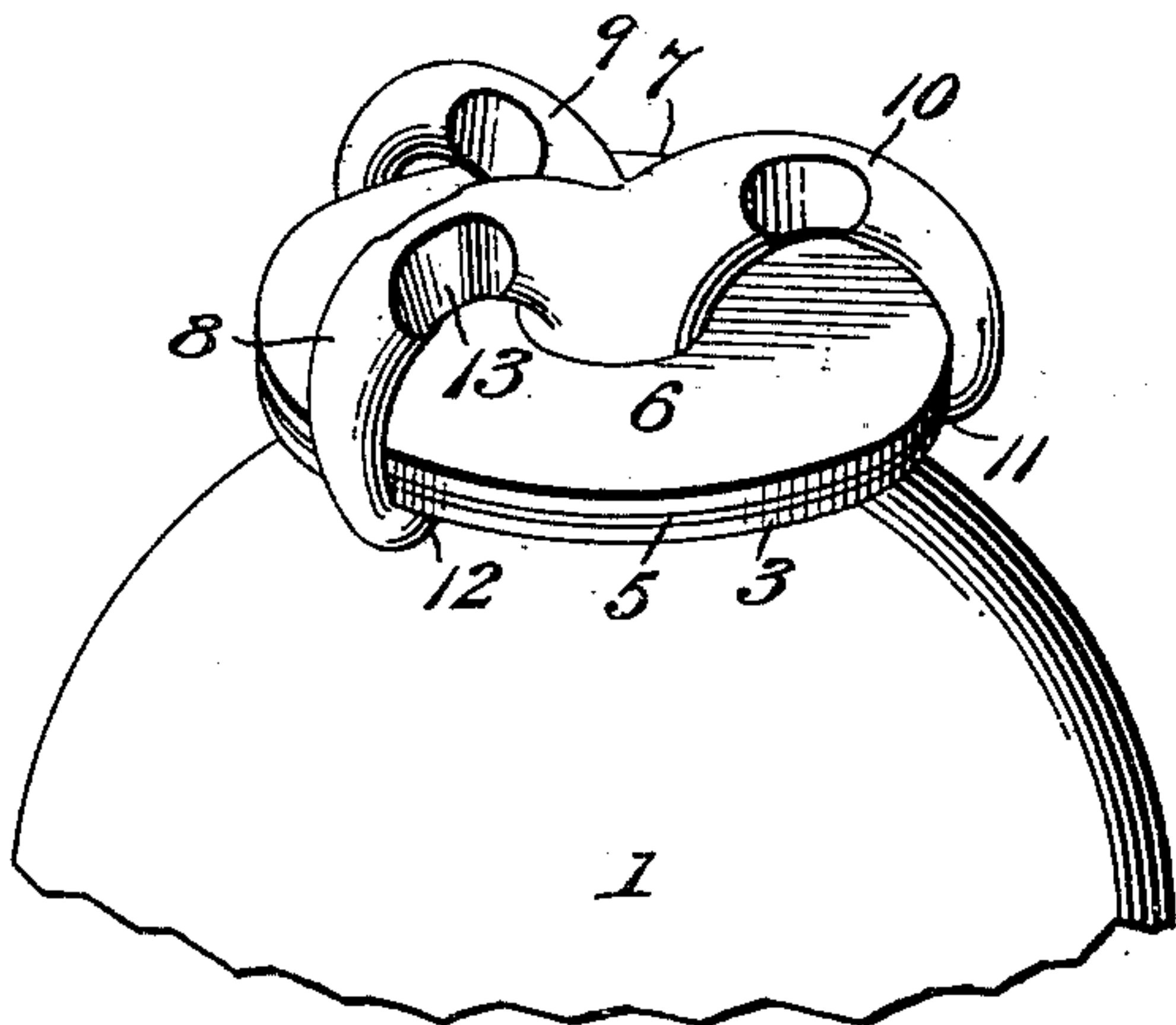


Fig. 2.

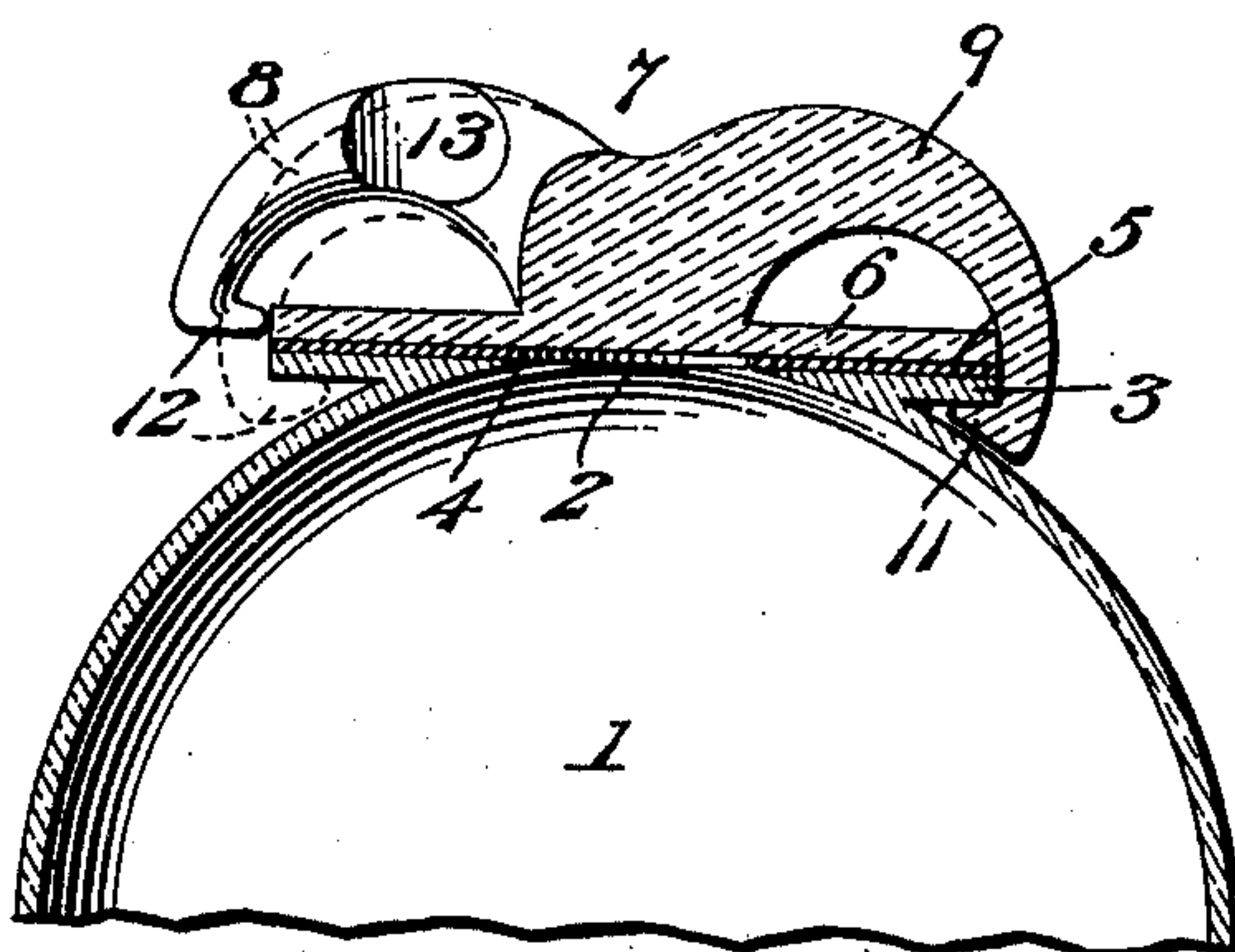


Fig. 3.

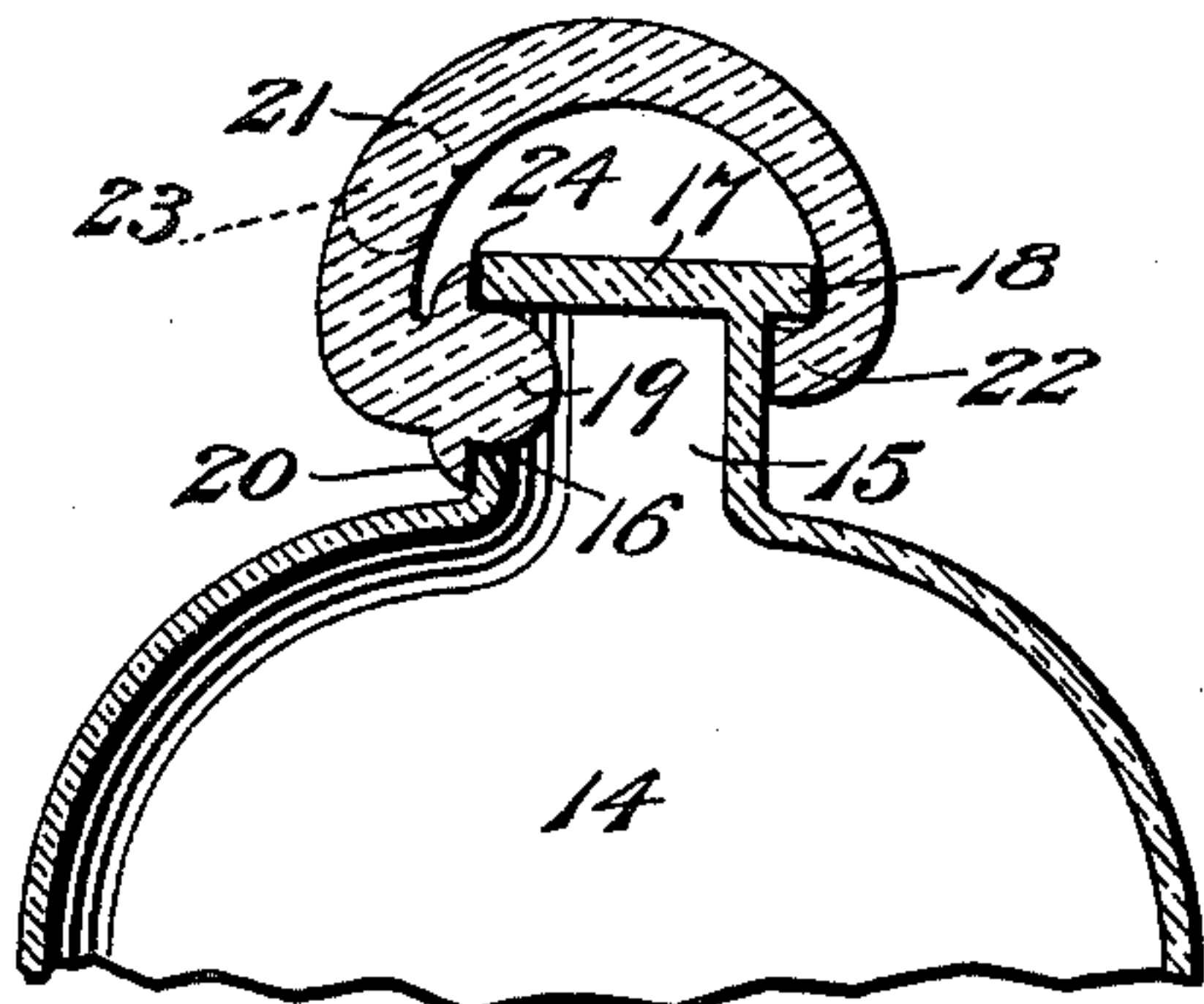


Fig. 4.

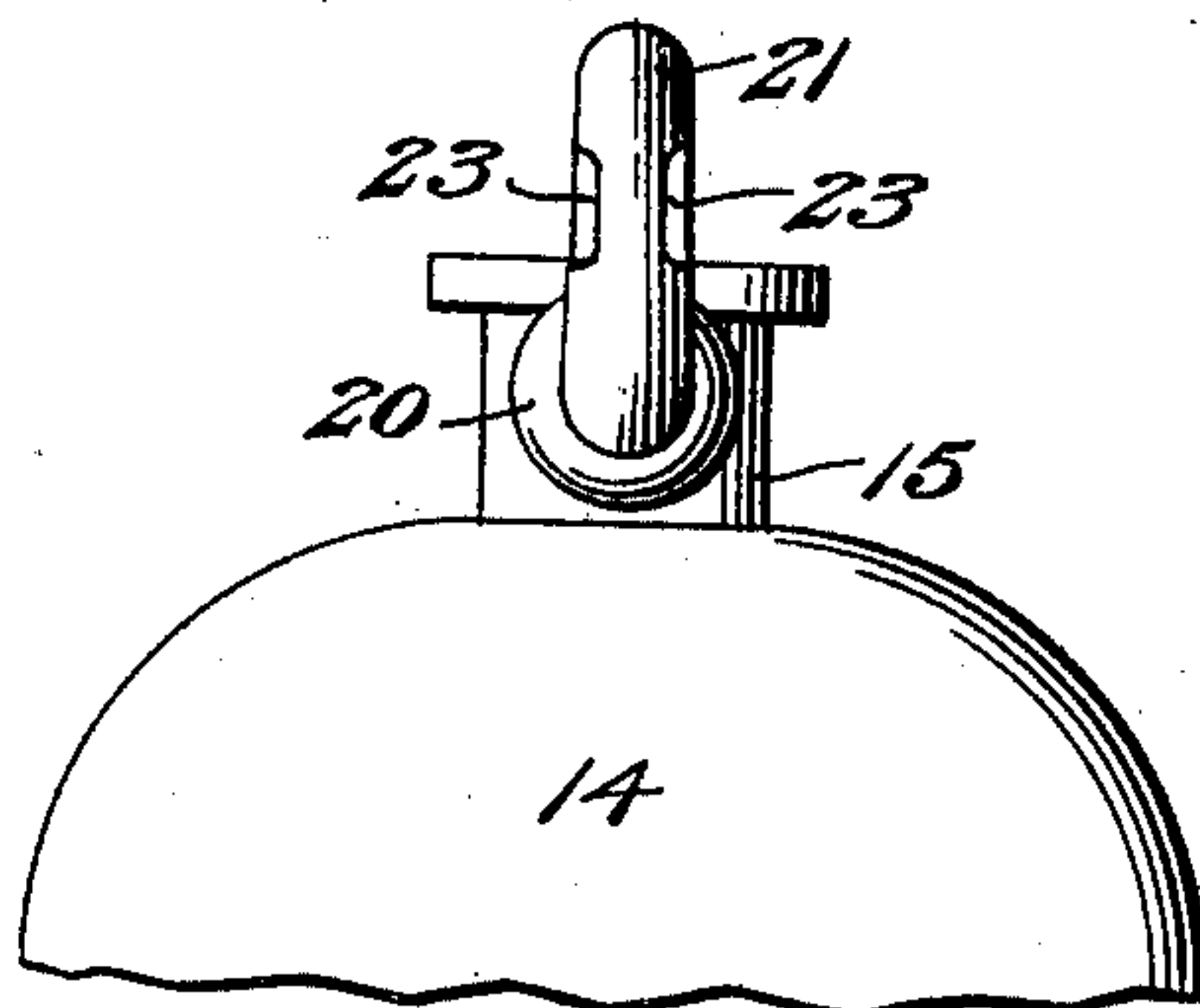


Fig. 5.

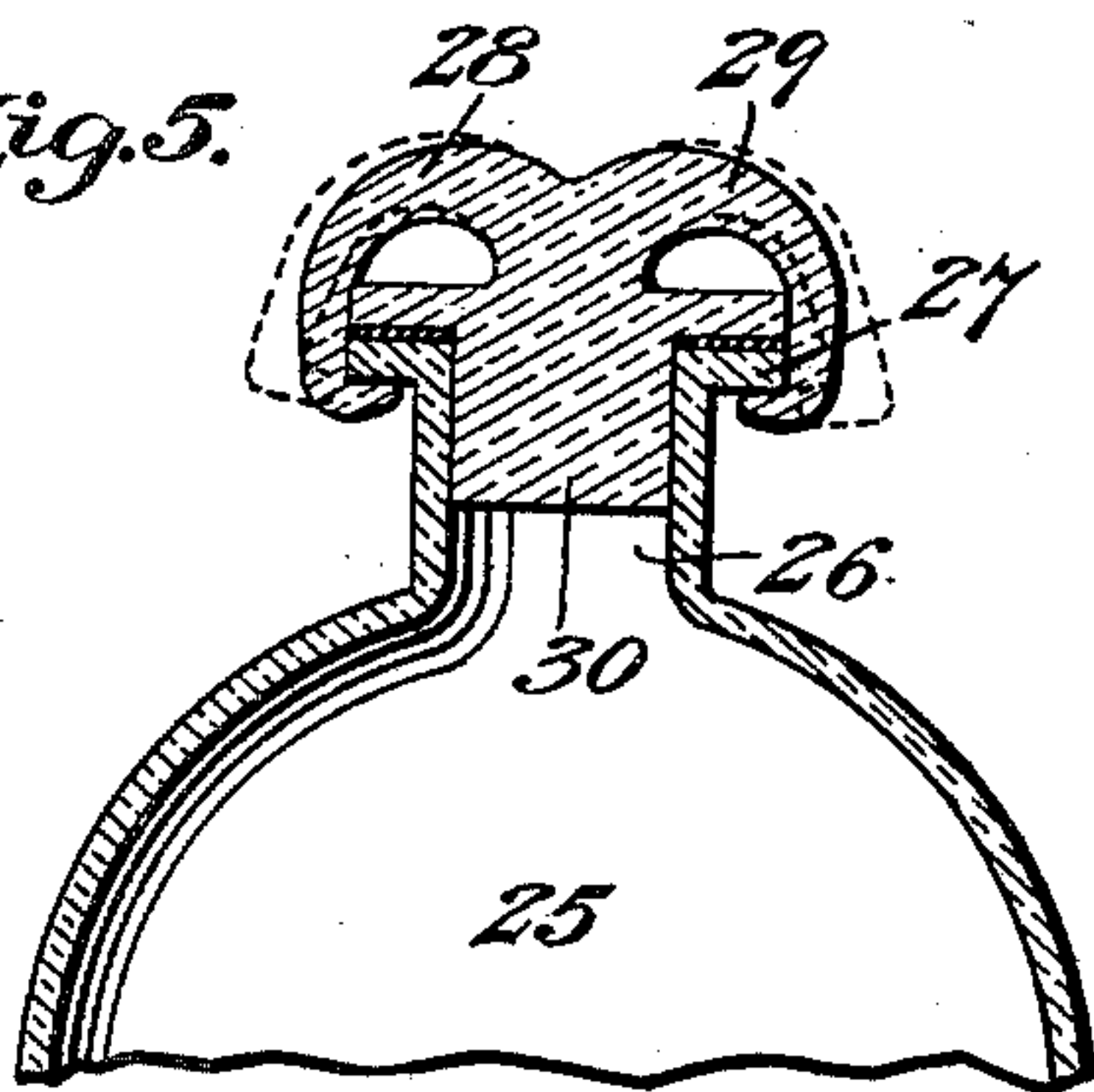
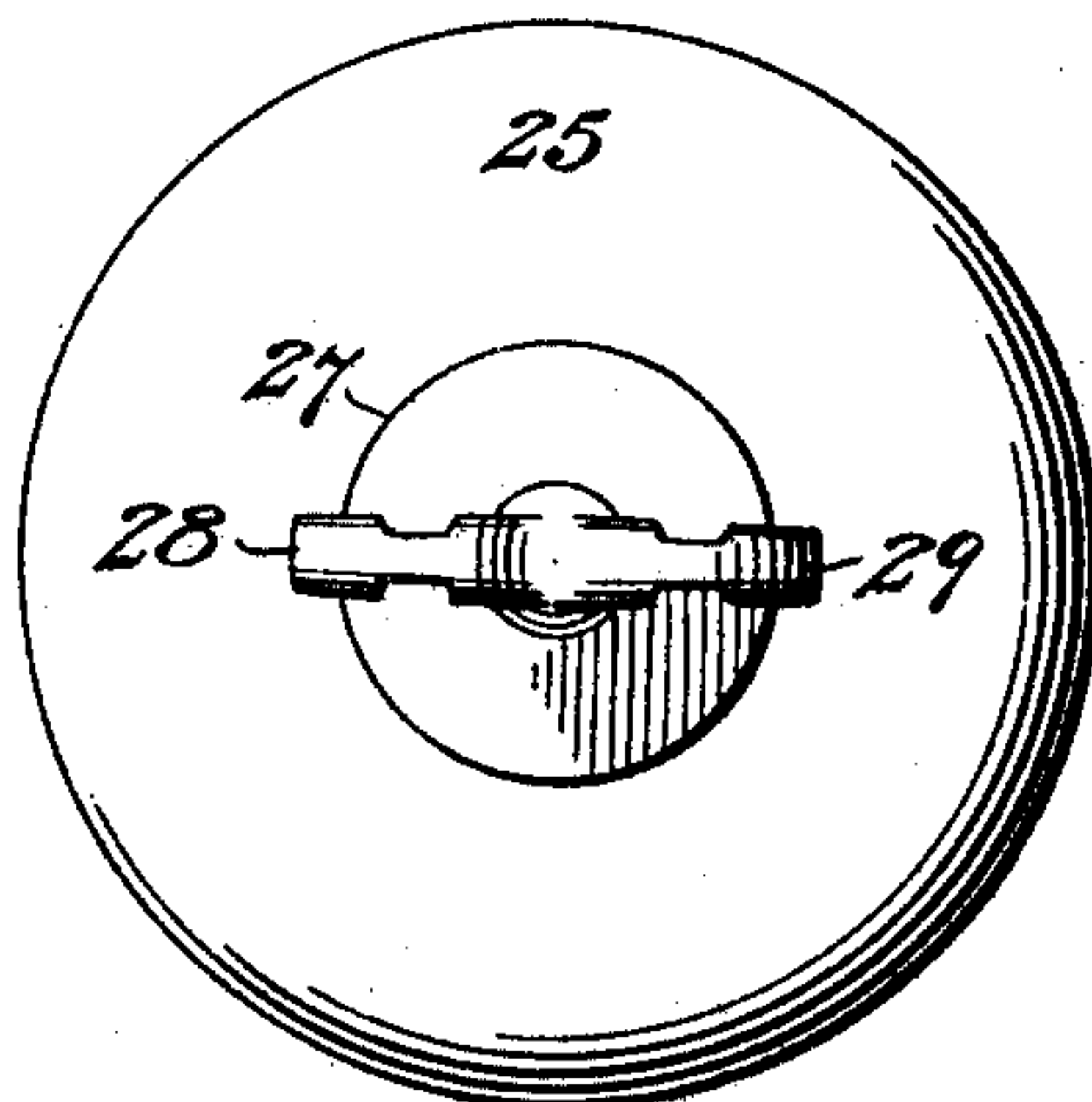


Fig. 6.



Witnesses

Edwin G. McKee
Lauris E. Juchin

By Joseph A. Arthur Inventor

E. J. J. J. J.
Attorney

UNITED STATES PATENT OFFICE.

JOSEPH A. ARTHUR, OF WHEELING, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO JOSEPH F. PAULL, OF SAME PLACE.

BOTTLE-SEAL.

SPECIFICATION forming part of Letters Patent No. 669,067, dated March 5, 1901.

Application filed April 10, 1900. Serial No. 12,361. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. ARTHUR, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented a new and useful Bottle-Seal, of which the following is a specification.

My invention relates to improvements in bottle seals or closures, and has for its object the production of a simple, inexpensive, and effective bottle-closure which will be highly advantageous from the various standpoints of the manufacturer, dealer, and consumer. A bottle or special package of this class in order to be acceptable to the manufacturer must be so constructed as to necessitate the mutilation of the seal at the time of the initial emptying of the bottle, so that the latter cannot be reused, and thereby creating a constant demand for bottles from the factory. From the standpoint of the dealer the construction and arrangement of the package must be such that he will be absolutely protected from surreptitious imitations of the original contents by such substantial mutilation as will render this substitution perfectly obvious to an intending purchaser, and from the standpoint of the consumer provision must be made whereby he can tell at a glance whether the package sold to him by the dealer is the original package containing the genuine goods which he desires to purchase.

The object of my invention, therefore, is to provide a bottle of novel form with a seal or closure designed to be manufactured in quantity, capable of being readily affixed permanently to the bottle by the dealer or bottler of the goods, and which in order to be removed for the purpose of delivering the bottle of its contents must be mutilated in a substantial manner, not only to prevent the surreptitious use of the bottle, but to render perfectly obvious the fact that the original contents have been removed.

To the accomplishment of this object my invention consists in providing a seal or closure proper of glass or like material with one or more sealing-prongs designed to be fused and bent into permanent locking relation with a part of the bottle and to be broken to

effect its or their removal and the release of the closure.

The invention further consists in certain structural details and peculiarities of arrangement, which will be hereinafter fully described, illustrated in the accompanying drawings, and defined in the appended claims.

In said drawings, Figure 1 is a perspective view of one embodiment of my invention, showing the bottle sealed. Fig. 2 is a central vertical section therethrough, showing one of the prongs elevated as it comes from the factory and illustrating in dotted lines the manner in which after fusing it is bent into engagement with the flange at the mouth of the bottle. Fig. 3 is a central longitudinal section through another embodiment of the invention, in which the stopper or closure proper constitutes one of the interlocking or retaining parts of the seal. Fig. 4 is a side elevation of the subject-matter of Fig. 3. Fig. 5 is a sectional view through still another embodiment of the seal, and Fig. 6 is a top plan view thereof.

Referring to the numerals of reference designating corresponding parts and structural peculiarities in the several views, 1 indicates a bottle which is neckless and is provided at its mouth 2 with an annular mouth-flange 3, the upper or outer flat surface of the flange 3 and the inner surface of the bottle converging to form a comparatively sharp circular wall 4, which defines the mouth 2, the sharp wall 4 being designed to render impracticable the closing of the mouth by the insertion of an ordinary cork.

5 indicates a gasket or other suitable air-seal seated upon the top of the mouth-flange 3 and upon which is placed the closure or cap-disk 6 of my novel seal, which, as an entirety, may be indicated by the numeral 7. The cap-disk or closure 6 conforms in general dimensions to the maximum dimensions of the mouth-flange 5, and from its center ramify three radiating retaining members or prongs 8, 9, and 10, all of which are longitudinally curved and two of which—that is to say, the prongs 9 and 10—are provided with inturned engaging ends 11, located below the cap-disk or closure 6 and extended within the periphery thereof, the relative location of the contigu-

ous surfaces of the cap-disk 6 and retaining ends 11 being such as to permit the snug interposition of the periphery of the mouth-flange 3. In other words, the prongs 9 and 10 and their angular retaining ends 11 are so constructed and arranged as to permit the cap-disk 6 to be passed in a substantially horizontal plane into position upon the mouth-flange in order to cause the retaining ends 11 of the prongs 9 and 10 to slip under and engage the mouth-flange 3 of the bottle. The third prong (indicated by the numeral 8 (instead of being sufficiently curved or bent to present its retaining end 12 below the plane of the cap-flange 6 is, on the contrary, of such form as will normally present the retaining end 12 in a higher plane than the under surface of the disk 6 in order to clear the gasket when the disk is being slid to place to effect the engagement of the other prongs. One of the prongs 8 9 10 or all of them, as shown, may be tapered toward their extremities from their point of union above the disk, and adjacent to said disk each prong is cut away at its opposite sides to form weakened webs 13, which facilitate the breaking off of either prong when it is desired to unseal the bottle.

The seals or closures, as described, are manufactured and sold in bulk, together with corresponding packages or bottles, and are in this shape delivered to the bottler or dealer. The bottles are then filled and the closure slipped to place, as shown in full lines in Fig. 2 of the drawings. By the application of heat the prong 8 is now fused at an intermediate point, and its end is bent down until its retaining end 12 can be bent under the mouth-flange 3 in the manner of the similar engagement of the retaining ends 11 of the prongs 9 and 10. The simple operation of fusing and bending the prong 8 effects the permanent sealing of the bottle or package, and the original contents of the latter cannot be delivered therefrom until one of the prongs or retaining members is broken, for which purpose, as before stated, the weakening-webs 13 are preferably provided. It will thus be seen that the surreptitious reuse of the bottle will be prevented, inasmuch as the integrity of the closure must be irreparably destroyed in order to gain access to the bottle, and the seal will therefore fulfil the requirements of all parties concerned—to wit, the manufacturer, bottler, and consumer.

In Figs. 3 and 4 I have illustrated another embodiment of my invention which comprehends a bottle 14, provided with a neck 15, pierced by a transversely-opening mouth 16 and topped by a permanent integral closing-disk 17, which, except immediately adjacent to the mouth 16, projects beyond the neck of the bottle to form a flange 18. The mouth or opening 16 is closed by a plug or stopper 19, surrounded by a peripheral flange 20, and

from which extends, preferably at its center, an integral loop 21, corresponding in general shape and function with the prongs of the seal shown in the preceding figures. The loop 21 extends horizontally from the stopper 19 and is then bent in recurved form to bring its inturned retaining end 22 slightly above the top of the bottle to permit the insertion of the stopper in the mouth. In order to effect the engagement of the retaining end 22 with the flange 18, the loop 21 is fused and bent down in the manner described in connection with the prong 8 of the seal 7, and, like said prong, the loop 21 is provided, preferably adjacent to the stopper, with a weakening-web 23, which facilitates the breaking off of the retaining portion of the loop to permit the withdrawal of the stopper 19. If desired, a gasket 24 may be interposed between the flange 2 and the adjacent surfaces of the bottle-neck. It will be observed that this form of my invention is identical with the preceding form in its broad aspect, inasmuch as it comprehends retaining devices carried by the seal and engaging the opposite edges of a portion of the bottle structure. A distinguishing characteristic, however, of this second form is that one of the retaining devices also constitutes the stopper or closure proper, while in the first form the retaining devices served to retain but were separate from the closure.

In Figs. 5 and 6 I have shown a still further modification comprehending an ordinary bottle 25, having the longitudinally-disposed neck 26, with whose terminal flange 27 a pair of fusible retaining members or prongs 28 and 29 of a stopper 30 are designed to engage. This form of the invention is substantially identical with the first form described, with the exception that a neckless bottle is not employed. A depending stopper is formed upon the under face of the closure, and two diametrically-opposed prongs or retaining members are employed instead of three, as shown in the first figures.

It may be observed that a characteristic feature of each form of the invention shown is a retaining member having a closure at one end, this closure being the cap-disk 6 in Fig. 1 of the drawings and the stoppers 19 and 30 in Figs. 3 and 5, respectively.

From the foregoing it will be observed that I have produced a simple, inexpensive, and highly-effective seal for original packages comprehending a single glass casting constructed and arranged in a manner to provide a series of retaining members, one or more of which are designed to be fused or bent into locking relation with a portion of the bottle structure; but while the present embodiment of my invention appears at this time to be preferable I do not wish to limit myself to the details of construction illustrated and described, but reserve the right to effect such

modifications of structure, design, and general arrangement as may come properly within the scope of the appended claims.

What I claim is—

- 5 1. A seal for original packages comprising a fusible recurved member, a closure at one end of said member, and a retaining device at the opposite end of the member, said device being arranged in angular relation thereto.
- 10 2. A seal for original packages comprising a closure, as for instance, a cap-disk or stopper, and a recurved fusible member extending from one side of the closure and having terminal retaining means located at the opposite
- 15 side of the closure.
3. A seal for original packages comprising a closure, and a recurved, fusible member springing from one side of the closure and arranged to have its end bent around the edge
- 20 of the closure, and terminal retaining means upon the recurved member designed to engage a projecting part of the package to hold the closure in place.
4. A seal for original packages comprising
- 25 a closure, and a plurality of integral, fusible retaining members extending from the upper face thereof and bent around the edge of the closure for engagement with the package.
5. A seal for original packages, comprising
- 30 a closure, and a plurality of recurved fusible retaining members, springing from the center of the closure and having their ends located beyond its edge, and terminal retaining means carried by each member.
- 35 6. A seal for original packages, comprising a disk, a plurality of fusible, recurved retain-

ing members, springing from a common point upon the disk, and retaining devices located in different planes and carried by the members.

7. A seal for original packages, comprising a closure, a plurality of recurved retaining members, springing from the upper face of the closure and having intumed ends located below the closure and within the periphery thereof, and an additional recurved fusible member likewise springing from the upper side of the closure and provided with an intumed end located above the closure and beyond the periphery thereof.

8. The combination with a bottle having a flange at its discharge end, of a glass closure for the bottle, and an integral glass retaining member springing from one side of the closure and bent around the edge thereof for engagement with the flange of the bottle at a point beyond the opposite side of the closure.

9. A neckless bottle provided with an annular mouth-flange and a constricted mouth, said mouth being defined by a sharp circular edge formed by the juncture of the outer face of the flange and the inner surface of the bottle, said surfaces being disposed in acute angular relation.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH A. ARTHUR.

Witnesses:

JOHN H. SIGGERS,
FLORENCE E. WALTER.