

No. 781,466.

PATENTED JAN. 31, 1905.

F. L. SHORT.
NON-REFILLABLE BOTTLE.
APPLICATION FILED MAY 16, 1904.

FIG. 1.

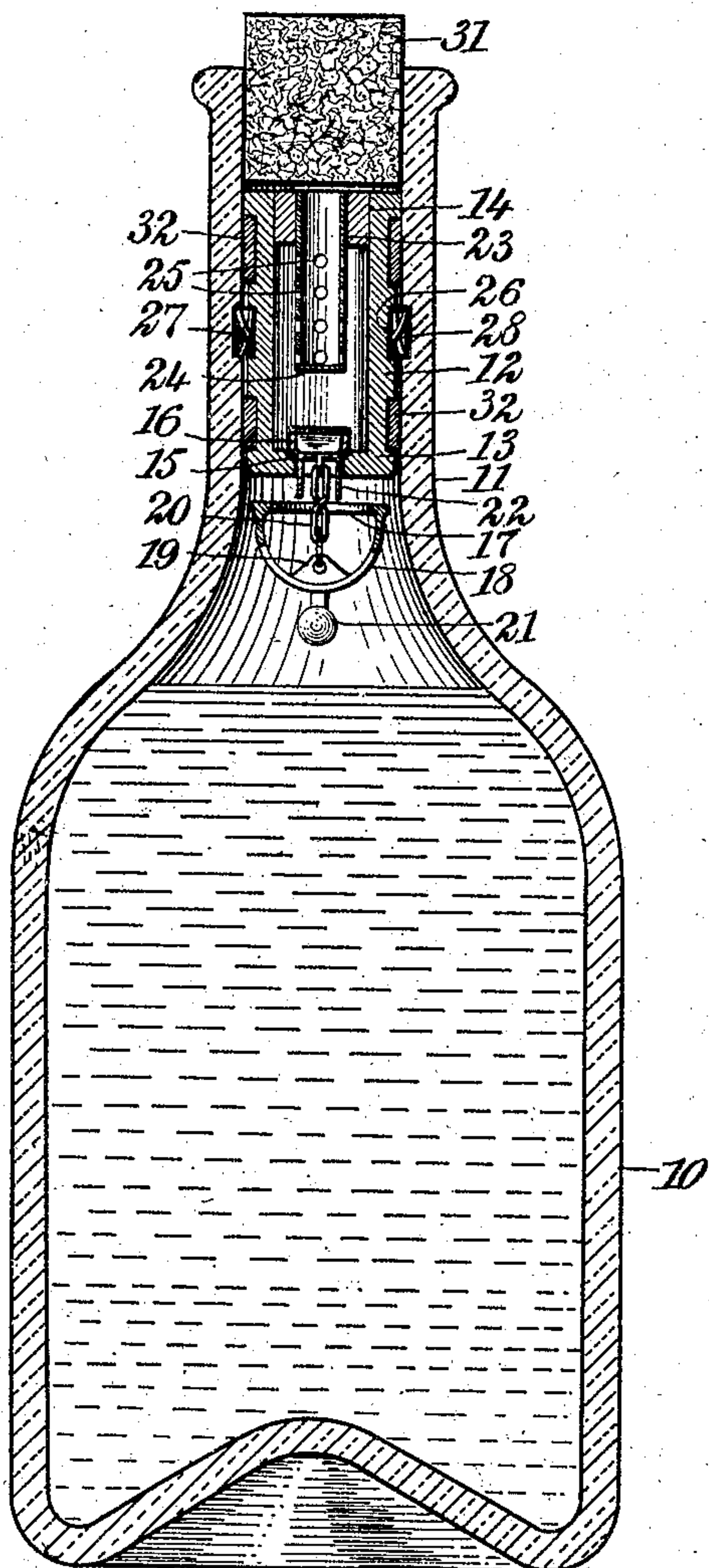


FIG. 2.

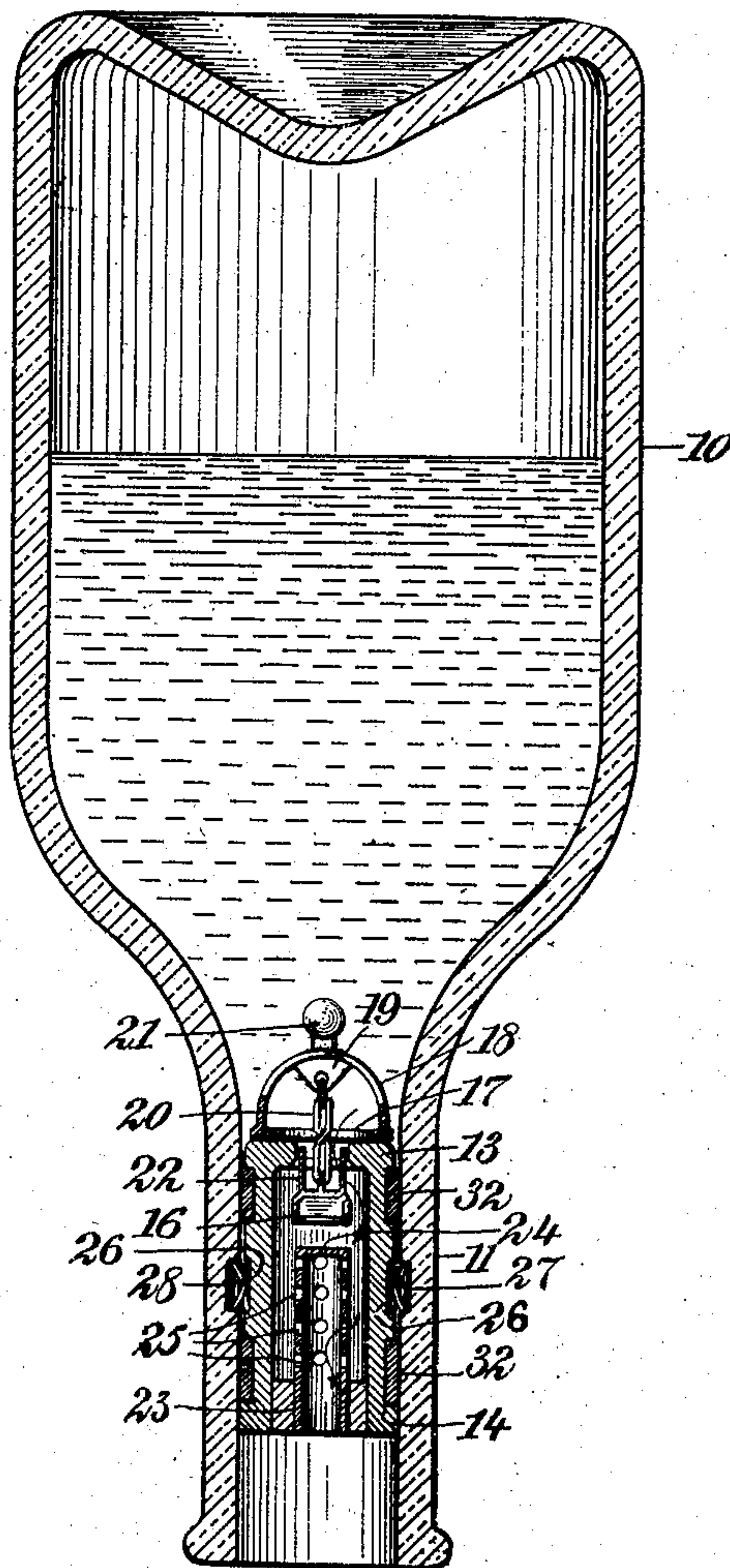


FIG. 3.



WITNESSES:

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FRANK L. SHORT, OF ST. LOUIS, MISSOURI.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 781,466, dated January 31, 1905.

Application filed May 16, 1904. Serial No. 208,135.

To all whom it may concern:

Be it known that I, FRANK L. SHORT, a citizen of the United States, and a resident of St. Louis, in the State of Missouri, have invented
5 a new and Improved Non-Refillable Bottle, of which the following is a full, clear, and exact description.

My invention relates to bottles and like receptacles, and has for its principal objects the
10 provision of a closure for such containers which will prevent their being refilled without its becoming apparent that this has been done.

It consists in the various features and combinations hereinafter described and claimed.

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 figures.

20 Figure 1 is a central vertical section through a bottle to which one embodiment of my invention is applied. Fig. 2 is a similar view showing the bottle in its inverted or delivery position, and Fig. 3 is a detail in side elevation
25 of the spring-retainer.

10 designates a bottle having a neck 11, in which my improved closure is inserted. As here illustrated, this consists of a sleeve 12 of such diameter that it will fit within the
30 neck and having at one end an inner partition 13 and at the opposite end an outer partition 14. In the former partition is an opening about which is a suitable seat 15, and with this seat coacts a valve 16, which is preferably
35 hollow, being conveniently formed of sheet metal to render it buoyant in the liquid which the bottle is to contain. The valve is weighted at its inner side, this weighting being here shown as effected by a generally annular member 17, which is of somewhat less diameter
40 than the neck of the bottle and has extending between its sides a cross-bar 18, which is preferably curved from the ring in substantially a semicircle. From the side of this bar adjacent to the ring projects a lug 19, which is
45 perforated to receive the link of a connector 20, which joins it to the valve, this being here shown as of bent wire and of such length that the ring is allowed to hang at some distance
50 from the partition. Upon the opposite side

of the cross-bar from the lug is mounted a suitable weight 21. Projecting inwardly from the valve toward the ring are separated fingers 22, which coact with the sides of the opening and serve to guide the valve to its seat. 55 The outer partition 14 also has an opening in which is inserted a tube 23, extending into the sleeve part way to the valve and having its inner end closed by a wall 24 and its side wall perforated at 25. Between the ends of 60 the sleeve in its exterior is formed an annular recess 26, which may be brought into registration with a similar recess 27 in the neck of the bottle.

The parts may be locked together by a 65 spring-ring or retainer 28, having at each side alternately-arranged slots 29, extending part way to the opposite side of the ring, thus leaving intermediate engaging projections 30, which are preferably alternately curved inward and outward from the general vertical plane of the ring. This ring as well as the sleeve and its associated parts are preferably formed from some non-corrodible metal.

In use the bottle, before the application of 75 the closure, is filled with the liquid which it is to contain. The retainer is now placed in the recess 26 and the sleeve is inserted in the neck of the bottle until the ring reaches and expands into the recess 27, when the oppositely-extending projections engage the side walls of both recesses and lock the sleeve in place, rendering it impossible to remove it without breaking the neck of the bottle. To 80 prevent leakage between the sleeve and bottle-neck, packing-rings 32, of cork or other suitable flexible material, may be placed about the sleeve in annular recesses near its ends. When the bottle is in the position illustrated in Fig. 1 of the drawings, the valve will be 85 held closely upon its seat by the weight and prevent both evaporation and the introduction of liquid, but, in addition, a cork or stopper 31 may be introduced into the neck of the bottle, this being particularly desirable in 90 transportation. When one wishes to pour the liquid from the bottle, it is inverted, as is particularly shown in Fig. 2, at which time the annular member of the weight will rest upon the inner side of the partition, permit- 100

ting the valve to be forced downwardly by the flow and the fluid to escape freely through the valve-opening, the perforations in the tube, and the end of said tube. This latter member
 5 by virtue of its closed end and the small diameter of its lateral openings prevents the introduction of a tool for lifting the valve from its seat in an endeavor to illicitly introduce liquid. It is impossible to fill the bottle
 10 when it is but partially inclined, since it requires an almost vertical inverted position to relieve the valve of its weight, the position of the weight with relation to the annular member and the coaction of the curved bar
 15 with the sides of the bottle-neck tending to maintain the valve in contact with its seat until complete inversion is nearly attained. If an attempt is made to force the liquid into the bottle under pressure when it is in its in-
 20 verted position, the valve will float in the liquid and be promptly seated, preventing its entrance.

This device provides a closure which may be manufactured at a comparatively low figure,
 25 will not get out of order, and effectually prevents the refilling of the receptacle with liquid after the original contents have been poured out. Moreover, it does not materially interfere with the free delivery of the liquid.
 30 After emptying the bottle to which the device is applied the former may be broken to release the closure, which may thus be used repeatedly.

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

1. The combination with a bottle, of a partition in the neck thereof provided with an opening and a seat surrounding the opening, a valve cooperating with the seat, an annular

member situated at the opposite side of the
 40 partition, a cross-bar joining the sides of the member, and a connector between the valve and cross-bar.

2. The combination with a bottle, of a partition in the neck thereof provided with an
 45 opening and a seat surrounding the opening, a valve cooperating with the seat, an annular member situated at the opposite side of the partition, a cross-bar curved from the annular member and joining the sides of the member,
 50 and a connector between the valve and cross-bar.

3. The combination with a bottle, of a partition in the neck thereof provided with an
 55 opening and a seat surrounding the opening, a valve cooperating with the seat, an annular member situated at the opposite side of the partition, a cross-bar joining the sides of the member, a connector between the valve and
 60 cross-bar, and a weight carried by the cross-bar.

4. A closure comprising a sleeve, transverse partitions therein, one of which is provided with a seat at its inner side, a valve cooperating with the seat, an annular member situated
 65 at the opposite side of the partition from the valve, a cross-bar joining the sides of the member, a connector between the valve and cross-bar, and a tube extending inwardly from another partition and having a closed end and
 70 perforated side walls.

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

FRANK L. SHORT.

Witnesses:

BRANSFORD VAN LEATON,
 GEORGE R. HUDDLESTON.