

No. 608,296.

Patented Aug. 2, 1898.

C. J. MULDOON.
STOPPER FOR BOTTLES, &c.
(Application filed Feb. 29, 1896.)

(No Model.)

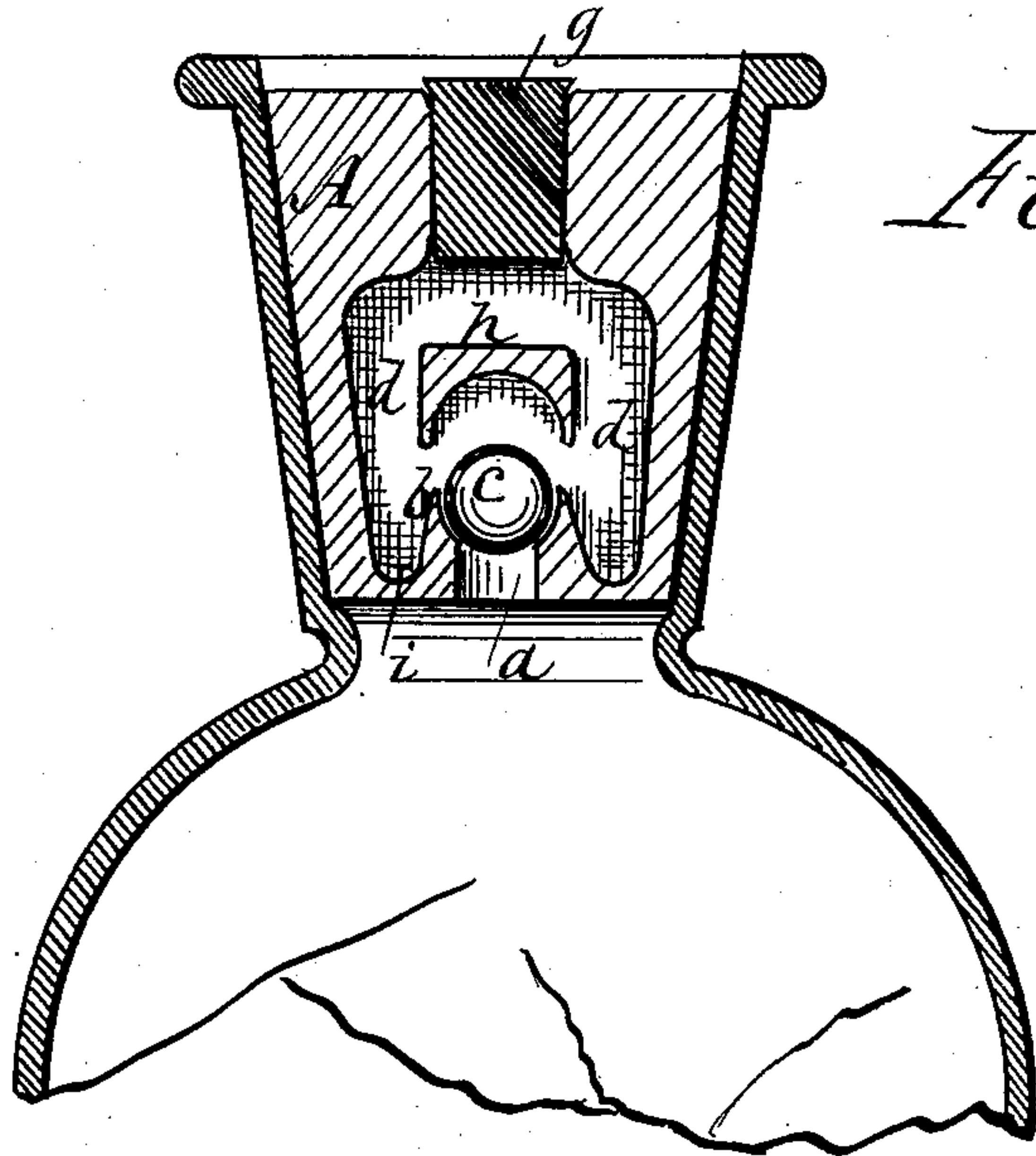


Fig. 1.

Fig. 2.

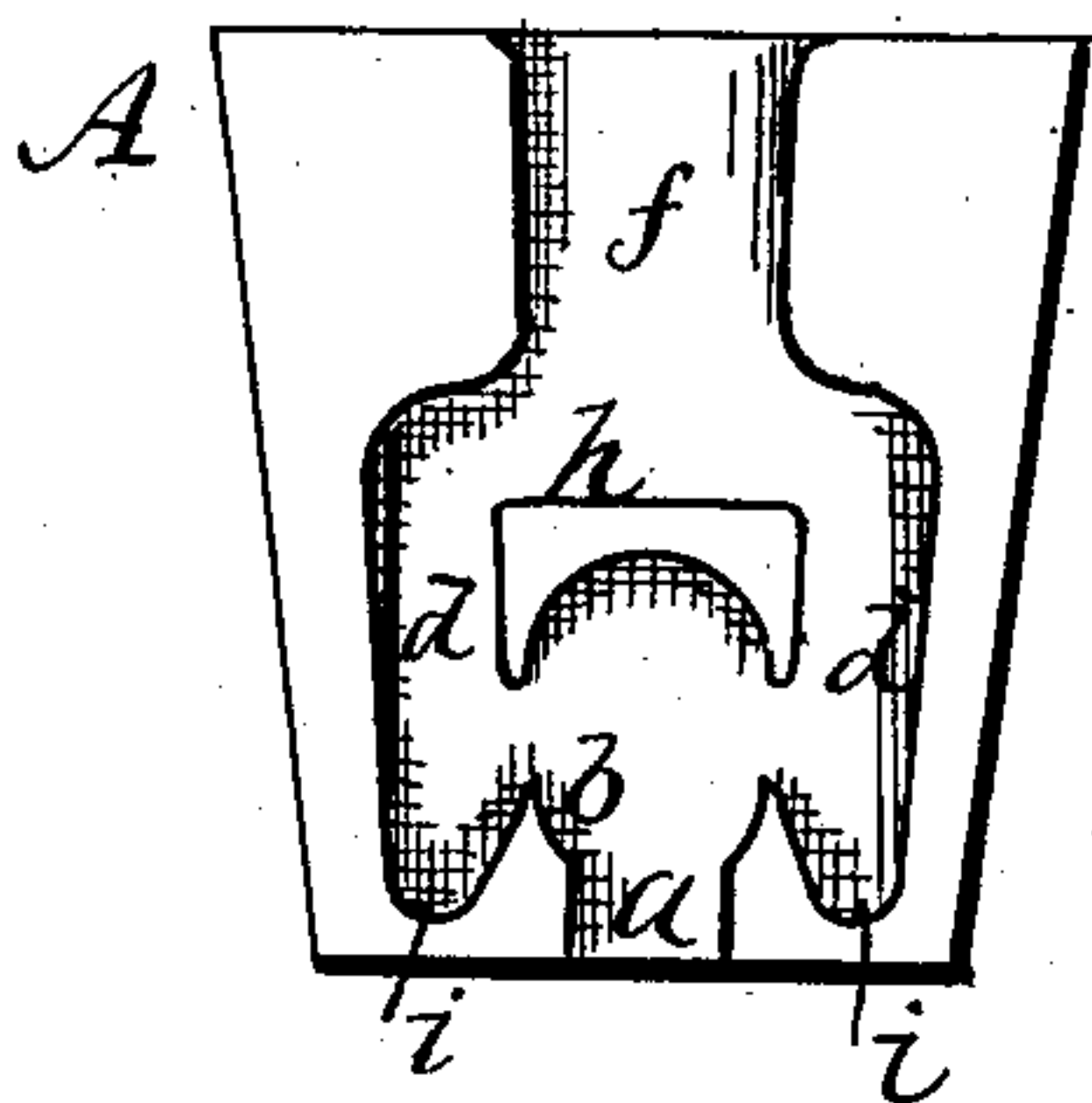
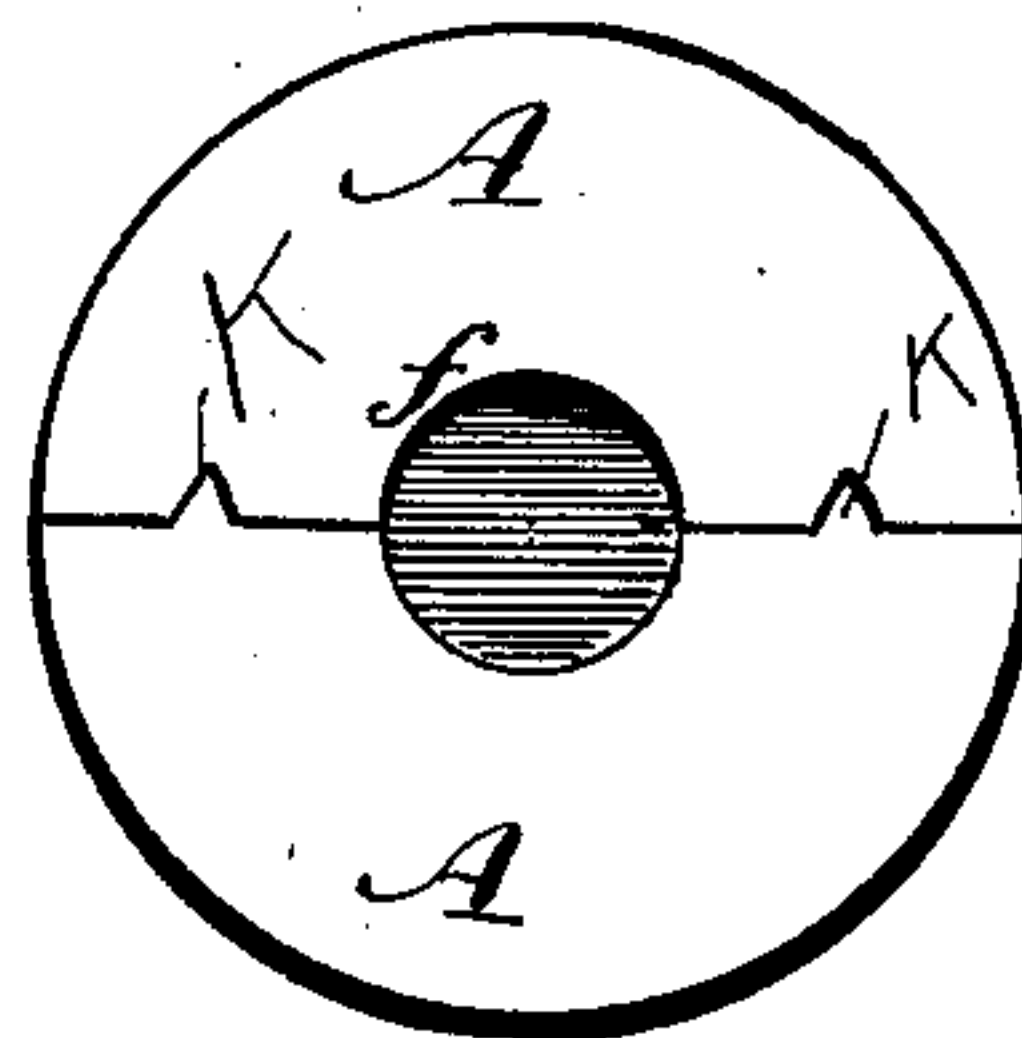


Fig. 3.



Fig. 4.



Witnesses:

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CHARLES J. MULDOON, OF ROCHESTER, NEW YORK.

STOPPER FOR BOTTLES, &c.

SPECIFICATION forming part of Letters Patent No. 608,296, dated August 2, 1898.

Application filed February 29, 1896. Serial No. 581,393. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. MULDOON, of Rochester, in the county of Monroe and State of New York, have invented a certain
5 new and useful Improvement in Stoppers for Bottles or other Receptacles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this
10 application.

My improvement relates to a bottle provided in the neck with means whereby when the bottle is once emptied it cannot be re-filled. Such devices are already known.

15 My invention consists of a stopper of cork form made in two parts divided centrally and longitudinally, with the waterway made in each half of the stopper and so arranged that the valve can be inserted before the parts are
20 cemented together, all as hereinafter described and claimed.

In the drawings, Figure 1 is a central vertical section through the neck of a bottle containing one of my stoppers. Fig. 2 is an elevation of one of the sections of a stopper embodying my invention. Fig. 4 is a top plan view of one of my stoppers, and Fig. 3 shows the ball-valve thereof.

30 The stopper is made of glass and is cemented in the neck of the bottle, as shown in Fig. 1. It is composed of two halves A A, divided longitudinally and having two flat sides which are fitted and cemented together.

35 *k k* are ribs on the inner face of one of the halves which fit in corresponding grooves of the other half, the object of which is to center the parts and bring them in proper alignment, thereby making accurate fitting of the parts composing the valve-seat and an abutment hereinafter described.
40

In the flat face of each half of the stopper is made one-half an induction-passage *a*, which admits liquid through the stopper. Above this is a half valve-seat *b*, in which fits
45 a valve *c* of any desired form. Opening from above the valve-seat are two side passages *d d*, which unite at the top in a single central discharge-passage *f*, in which is fitted a cork *g*. If desired, the stopper may be set so low
50 in the neck of the bottle that a cork may be fitted in the neck above the stopper. Over

the valve-seat and directly under the central discharge-passage *f* is an abutment or imperforate valve-retainer *h*, which covers the induction-passage *a* in any line drawn from any
55 point in the discharge-passage *f* to the valve-seat *b* and completely covers the valve itself and which serves the double purpose of inclosing the valve and of preventing the passage downward of a wire to reach the valve. 60
If a wire is inserted, it strikes the abutment and is deflected one side and passes down the side passage into a depression *i* below the valve, where it stops.

The depressions *i* are continuous with and
65 form part of the side passages *d d*. These side passages themselves form a continuous passage which is of greater diameter than said induction or discharge passage and has an inlet through the central induction-pas- 70
sage *a* and an outlet through the central discharge-passage *f*.

The valve *c* is a ball-valve which when the bottle is tilted rolls freely into any position between the retainer *h* and the valve-seat *b*. 75
It will be noticed that the opening from the induction-passage *a* into the side passages *d d* and thence to the discharge-passage *f* is a free opening for the flow of liquid and that the use of a ball-valve, as *c*, in a stopper having 80
the construction shown produces the least obstruction to the outflow of liquid and the greatest obstruction to the introduction of wires or other devices in an attempt to hold the valve open and to the insertion of a tube 85
or other means for forcing liquid into the bottle when in an inverted or tilted position.

As herein described, said stopper is divided into two similar parts on a plane passing through the axis of the stopper, and the ribs 90
on one of said parts and the depressions on the other thereof are the means for producing accurate registry of said two similar parts. The object of this arrangement of the stopper is to enable the parts to be made of pressed 95
glass, so as to insert the valve before the parts are cemented together, the whole being made in cork form and combining all the parts in one body, adapted to be cemented in the neck of a bottle. To this end each half 100
of the stopper is constructed with a depression forming one half of the waterway, the

valve-seat, and the abutment, so that when the parts are cemented together face to face the square faces of the half valve-seats and half abutments meet, requiring no attachment of
5 separate fixtures.

In pouring the liquid the inverting of the bottle causes the valve to drop away from its seat, leaving the passages open for the discharge of the liquid. When the bottle is set
10 upright again, the valve closes and no liquid can enter the bottle. If desired, the valve may be made in the form of a float, so that it will rise and close in the seat if the bottle is plunged in a vessel of liquid in an inverted
15 position.

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

1. A bottle-stopper having a central induction-passage at the bottom of the stopper, a
20 central discharge-passage at the top of the stopper, a valve-seat above said induction-passage, the whole consisting of two longitudinal sections, each formed with an arched partition and longitudinal recesses whereby,
25 when the sections are placed together, a central valve-retaining cavity and longitudinal passages will be produced in the stopper, said passages connecting the induction and discharge passages, and a valve in said valve-seat.
30

2. A bottle-stopper having a central induction-passage at the bottom of said stopper, a central discharge-passage at the top of the
35 stopper, a valve-seat above said induction-passage, the whole consisting of two longitudinal sections, each formed with a partition extending from the face thereof and said two partitions constituting a single partition intersecting every straight line connecting the
40 discharge and induction passages and each section having longitudinal recesses passing around said partition whereby, when the sections are placed together, a central valve-retaining cavity and longitudinal passages will
45 be produced in the stopper, said passages con-

necting the induction and discharge passages, and a valve in said valve-seat.

3. A bottle-stopper having a central induction-passage at the bottom of the stopper, a
50 central discharge-passage at the top of the stopper, a circular valve-seat above said induction-passage, the whole consisting of two longitudinal sections, each formed with an arched partition, and longitudinal lateral recesses whereby, when the sections are placed
55 together, a central spherical, valve-retaining cavity and longitudinal, lateral passages are produced in the stopper, said passages connecting the induction and discharge passages, and said arched partitions together constituting a single partition intersecting all straight
60 lines connecting the discharge and induction passages, and a spherical valve in said valve-seat.
65

4. A bottle-stopper having a central induction-passage at the bottom of the stopper, a central discharge-passage at the top of the
70 stopper, a circular valve-seat above said induction-passage, the whole consisting of two longitudinal sections, each formed with an arched partition, and longitudinal lateral recesses whereby, when the sections are placed together, a central, spherical, valve-retaining
75 cavity and longitudinal, lateral passages are produced in the stopper, said passages connecting the induction and discharge passages, and said arched partitions together constituting a single partition intersecting all straight
80 lines between the discharge and induction passages, and projections on one of said sections and depressions on the other thereof for causing said sections to register with each other.

In witness whereof I have hereunto signed
85 my name in the presence of two subscribing witnesses.

CHAS. J. MULDOON.

Witnesses:

R. F. OSGOOD,
L. W. SMITH.