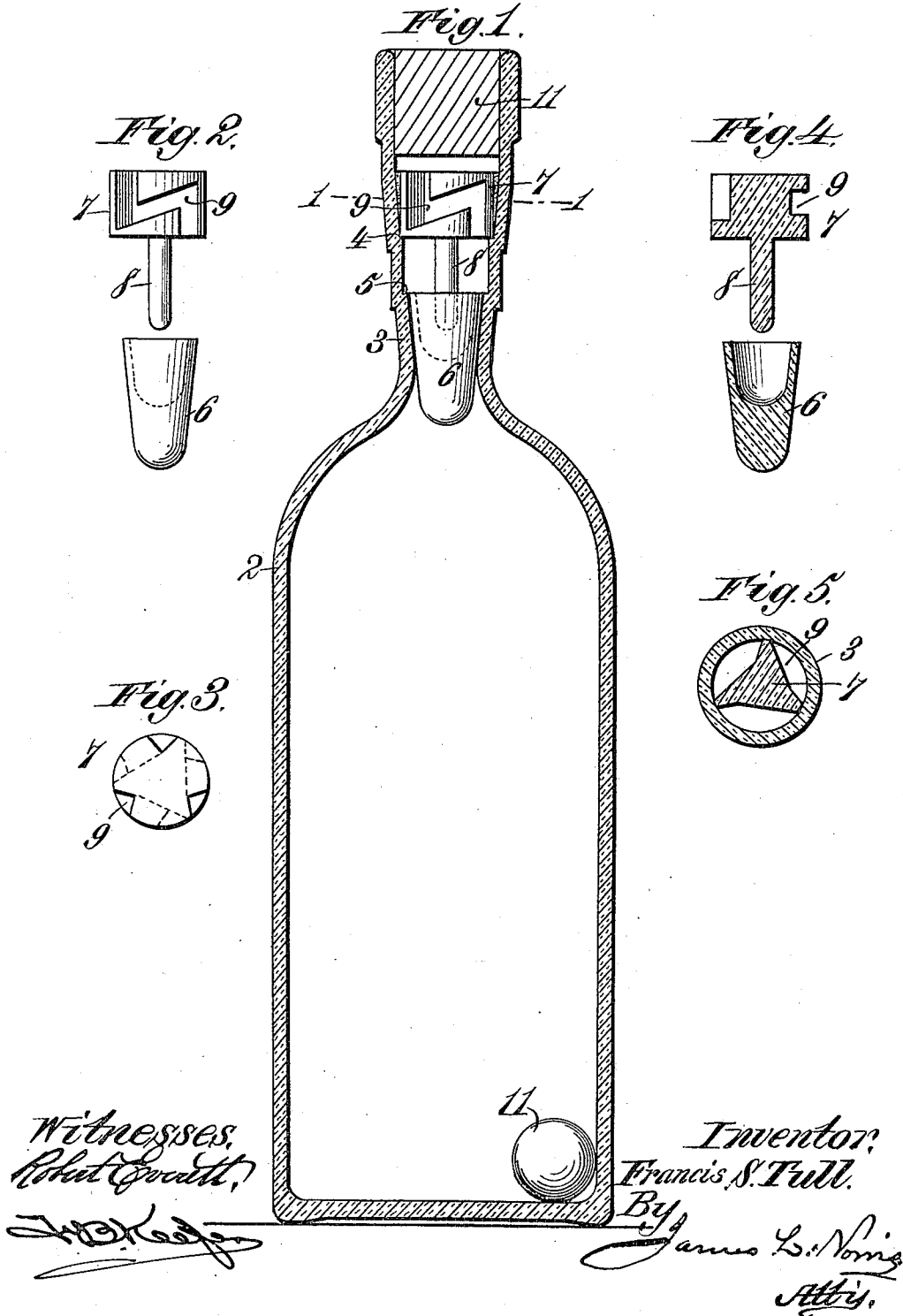


No. 839,679.

PATENTED DEC. 25, 1906.

F. S. TULL.
NON-REFILLABLE BOTTLE.
APPLICATION FILED MAR. 23, 1906.



UNITED STATES PATENT OFFICE.

FRANCIS SCHOLAIS TULL, OF HOUSTON, TEXAS.

NON-REFILLABLE BOTTLE.

No. 839,679.

Specification of Letters Patent.

Patented Dec. 25, 1906.

Application filed March 23, 1906. Serial No. 307,760.

To all whom it may concern:

Be it known that I, FRANCIS SCHOLAIS TULL, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

The invention relates to a non-refillable bottle, and more particularly to that class of bottles having a neck portion adapted for the reception of means for the prevention of liquids entering the bottle after once being filled, though allows the contents of the said bottle being emptied when found desirable.

The object of the invention is the provision of means insertible within the neck portion of the bottle and when properly located prevents the insertion of a straw or wire to position the said means for the introduction of liquid after the bottle has once been filled.

Another object of the invention is the provision of means at the interior of the bottle to prevent a vacuum and to afford a free flow of the contents from the bottle when desiring to empty the same.

Other objects of the invention are the provision of means which are simple in construction, durable, efficient in operation, and inexpensive in the manufacture.

With these and other objects in view the invention consists in the construction, combination, and arrangement of parts, as hereinafter described and as embodied in the drawings accompanying the same, which disclose the preferred embodiment of the invention. However, it is to be understood that changes, variations, and modifications may be made without departing from the spirit of the invention and as come properly within the scope of the claims hereunto appended.

In the drawings, Figure 1 is a vertical section of the bottle, disclosing the preferred embodiment of the invention. Fig. 2 is an elevation of the locking member and valve. Fig. 3 is a plan view of the locking member. Fig. 4 is a vertical sectional view of the locking member and valve. Fig. 5 is a cross-section on the lines 1 1 of Fig. 1.

Similar characters of reference indicate corresponding parts throughout the several views.

In the drawings the numeral 2 designates a bottle, preferably of glass, though may be made of any suitable material and shape, and has a neck portion 3 of differential di-

ameter, forming at the interior wall thereof internal shoulders 4 and 5, and the portion below the latter being tapered in a direction toward the bottom of the bottle, thus forming a contracted portion in the neck at the entrance thereof to the body of the said bottle.

The contents is supplied to the interior of the bottle 2 through the neck portion 3 thereof, and after being filled to the desired extent a tapering cup-shaped valve 6 is inserted into the neck portion 3 and is seated in the contracted or tapered portion of the said neck 3. Situated above said cup-shaped valve 6 is a locking member 7, having a stem 8, extending centrally thereof at one side and adapted to limit the movement of the valve 6 from its seat. Said locking member is held in the neck of the bottle 3 against the internal flange 4 and is secured by cementing the same to the contiguous wall of said neck, though may be secured in any other suitable manner—for instance, by slightly heating the glass neck to cause the same to become melted, thereby sealing said locking member. The locking member 7 and the valve 6 are preferably constructed of glass, though, if found desirable, the same may be made of any other suitable material. However, it is my aim to make such parts of glass, for the reason that if the contents of the bottle should contain acid the parts will not become affected thereby. At an even distance in the body of the locking member 7 are upset Z-shaped passages 9 housed by the contiguous wall of the neck 3 of the bottle. Said passages 9 allow the contents of the bottle 2 to be discharged therefrom when the valve 6 is moved from its seat in the neck 3 of said bottle 2 and due to the peculiar formation of the said passages 9 prevent the insertion of any instrument, such as a straw or wire, below the locking member 7 with an endeavor to unseat the cup-shaped valve 6 for the purpose of fraudulently refilling the bottle. In the mouth portion of the neck 3 of the bottle 2 is inserted a removable cork 10 for closing the same after the said bottle has been filled with its contents. At the interior of the bottle 2 is a freely-movable object 11, preferably of glass, and is ball-shaped in contour, which moves throughout the area of the interior of the bottle 2 and is adapted to engage the valve 6, so as to force the same from its seat and

above the flange 5 when the bottle is so manipulated or handled to allow its contents to be discharged therefrom. A vacuum is caused at the interior of the bottle 2, thereby
 5 preventing the said valve 6 from freely unseating itself, and by the arrangement of the movable object 11 contacting therewith and due to the weight of said object will move the valve 6 from its seat should the same be-
 10 come adhered thereto.

It will be evident that should any person desire to refill the bottle 2 the construction of the several parts located in the neck 3 of the bottle will prevent such accomplish-
 15 ment, as it is impossible to insert any instrument at the neck portion 3 of the bottle to disarrange the parts for the purpose of allowing refilling of the bottle, and due to the particular arrangement of such parts the same are freely movable with a view of allow-
 20 ing the free flow of its contents when desiring to empty the bottle 2 after the withdrawal of the cork 10. The stem 8 of the locking member 7, extending downwardly therefrom
 25 a distance and at a central point, limits the movement of the valve 6 from its seat within the space afforded by the position of said locking member 7 and the seat of the valve 6.

It will be apparent that should an attempt
 30 be made to refill the bottle by shaking the same to cause the liquid to flow thereinto the ball-shaped object 11 will be displaced at the interior of the bottle 2 and be caused to im-
 35 pinge on the bottom of the valve 6, thereby fracturing the same, and also in its movement is liable to break the body of the bottle, thus

injuring the same for the reception of the liquid.

Having described the invention, what is claimed is—

1. In a non-refillable bottle, a tapering neck, a cylindrical plug having a plurality of distorted passages and a depending reduced stem of uniform diameter throughout its length, a conical valve having a spherical cavity therein adapted to engage the said stem, and means within the bottle for operat-
 40 ing the valve.

2. In a non-refillable bottle, a tapering neck, a cylindrical plug having a plurality of distorted passages and a depending reduced stem of uniform diameter throughout its length, a conical valve having a spherical cavity therein of greater diameter than the diameter of the stem and adapted to engage
 50 the extremity of the stem, and means within the bottle for operating the valve.

3. In a non-refillable bottle, a tapering neck, a peripherally-slotted cylindrical plug having a reduced stem of uniform diameter throughout its length depending therefrom, a conical valve having a spherical cavity there-
 60 in of a depth equal to one-half of its length, and means within the bottle for operating said valve.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit-
 65 nesses.

FRANCIS SCHOLAIS TULL.

Witnesses:

L. R. BRYAN,
 M. A. KUNZ.