

No. 826,724.

PATENTED JULY 24, 1906.

F. H. HUBBARD.
NON-REFILLABLE BOTTLE.
APPLICATION FILED MAY 16, 1906.

Fig. 1.

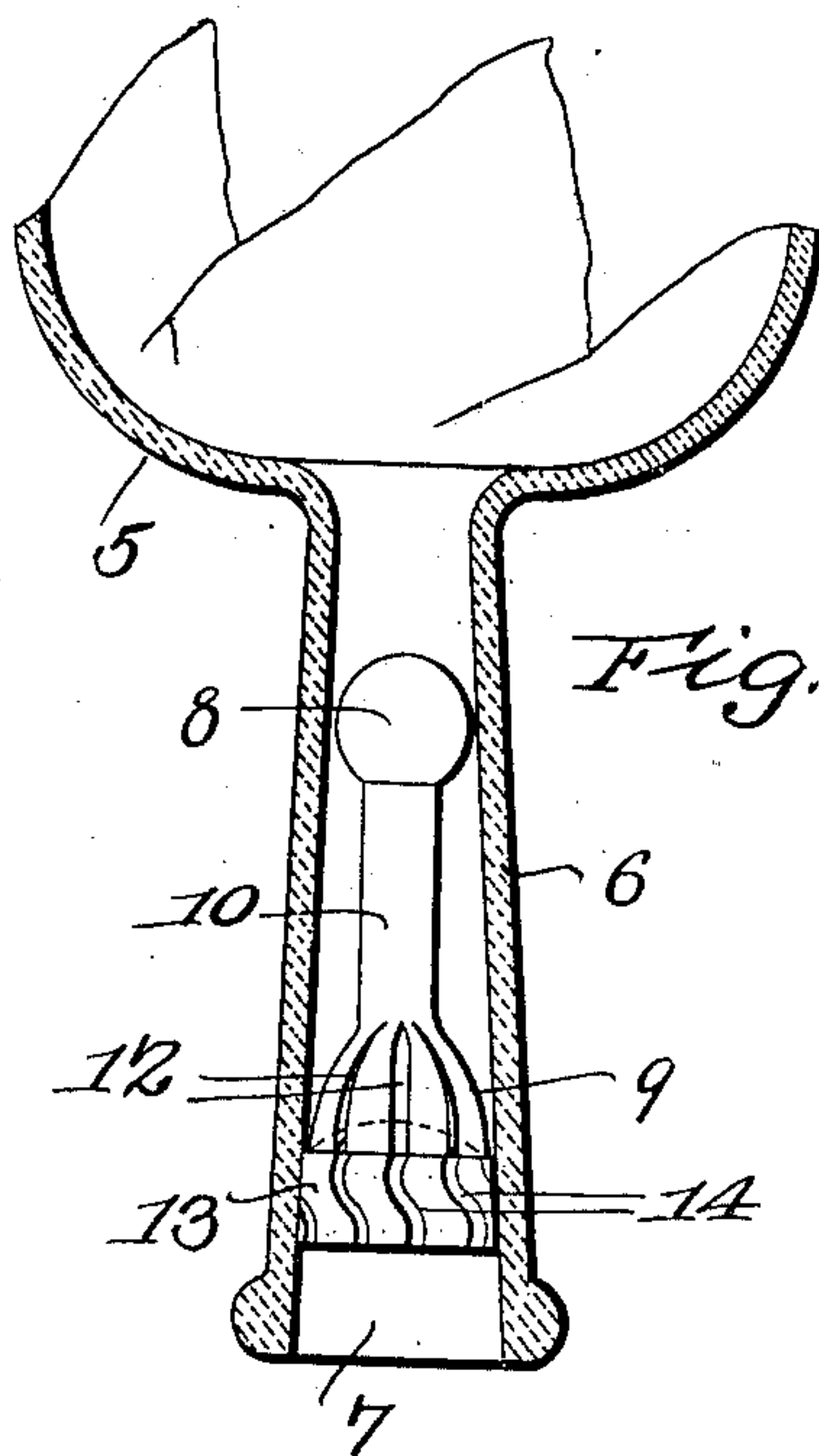
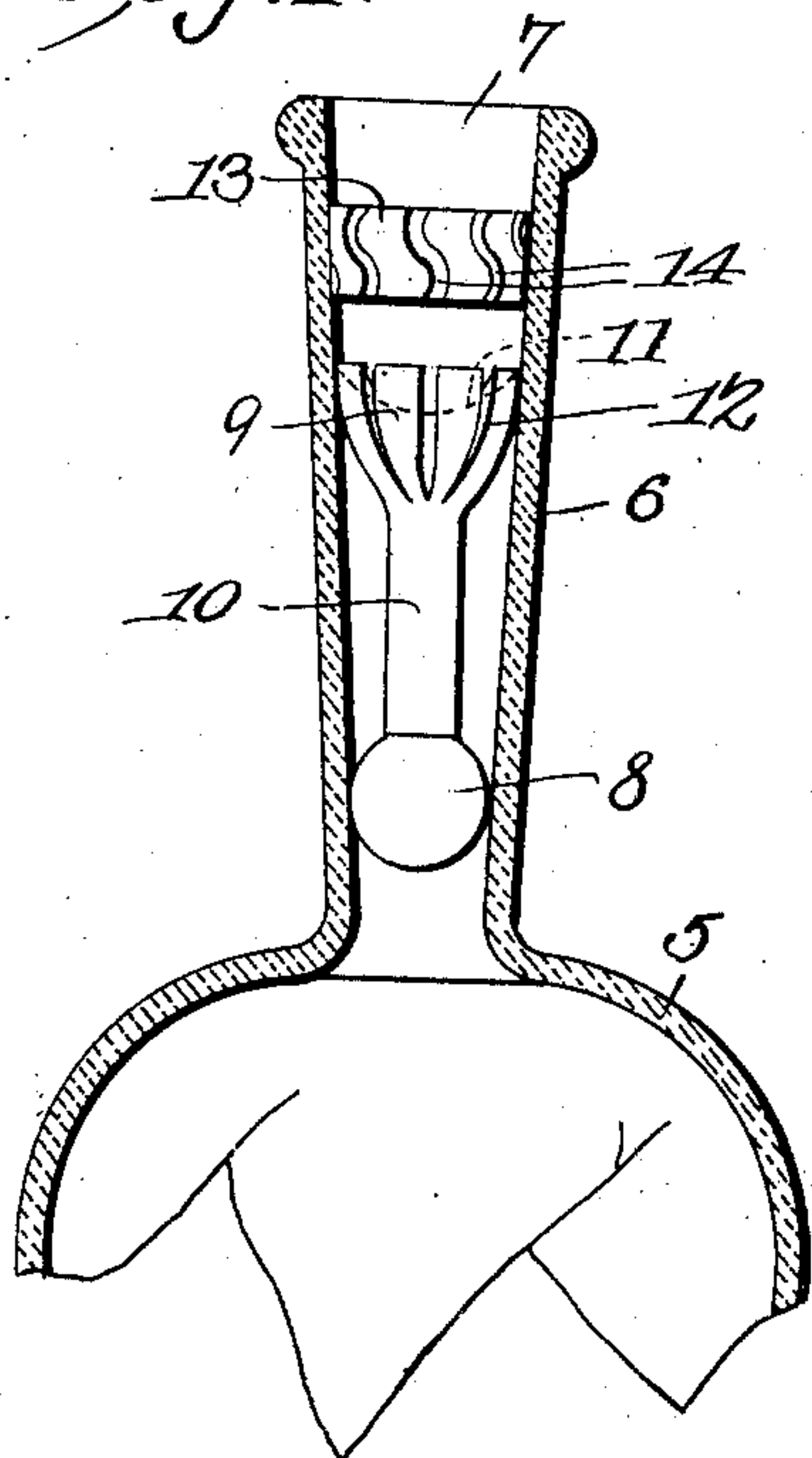


Fig. 2.

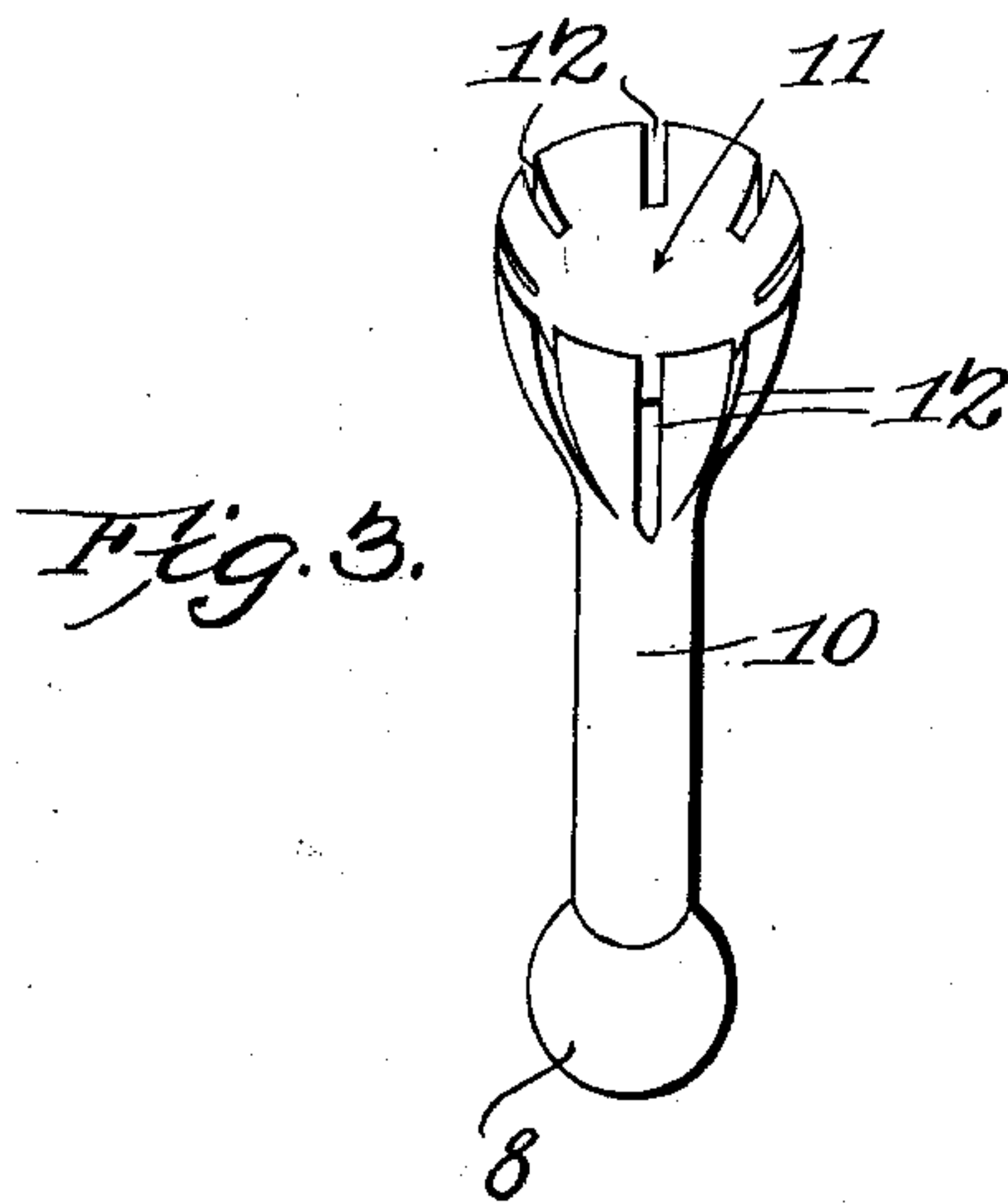


Fig. 3.

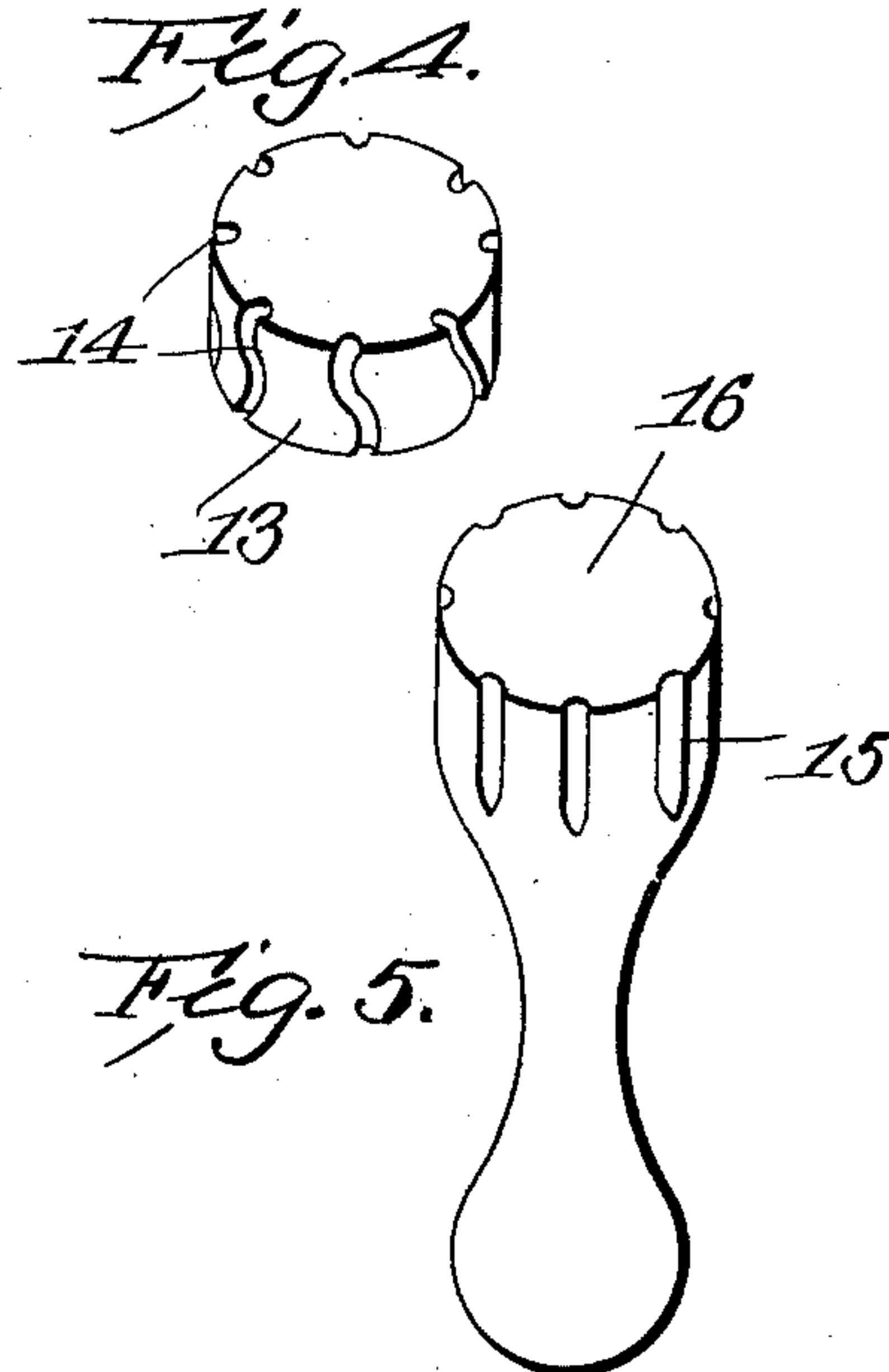


Fig. 4.

Fig. 5.

WITNESSES:

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FRANK H. HUBBARD, OF KOKOMO, INDIANA.

NON-REFILLABLE BOTTLE.

No. 826,724.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed May 16, 1906. Serial No. 317,178.

To all whom it may concern:

Be it known that I, FRANK H. HUBBARD, a citizen of the United States, residing at Kokomo, in the county of Howard and State of Indiana, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

This invention relates to non-refillable bottles and other liquid-containing receptacles, and has for its object to provide a comparatively simple and inexpensive bottle of this character which cannot be refilled without danger of detection, thereby preventing the fraudulent substitution of an inferior grade of goods for that originally contained in the bottle.

A further object of the invention is to provide a bottle having a tapering neck in which is seated a longitudinally-movable valve provided at one end with a concavity having a plurality of discharge-grooves communicating therewith, so that when the bottle is inverted the contents thereof will flow through said grooves to the mouth of the bottle.

A further object of the invention is to provide a stopper or closure spaced from the valve and formed with peripheral tortuous passages adapted to register with the grooves in the valve when the latter is moved to open position.

A still further object of the invention is to generally improve this class of devices so as to increase their utility, durability, and efficiency as well as to reduce the cost of manufacture.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, and illustrated in the accompanying drawings, it being understood that various changes in form, proportions, and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a longitudinal sectional view of a non-refillable bottle constructed in accordance with my invention. Fig. 2 is a similar view showing the bottle inverted and the valve in open position to permit the discharge of the contents of the bottle. Fig. 3 is a perspective view of the valve detached. Fig. 4 is a similar view of the plug or closure detached. Fig. 5 is a perspective view illustrating a modified form of the valve.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The bottle consists of a body portion or liquid-containing chamber 5, provided with a neck 6, the walls of which are inclined or tapered downwardly from the mouth 7 to the juncture of said neck with the body portion of the bottle, as shown.

Disposed within the neck of the bottle is a valve having one end thereof provided with a globular terminal 8 and its opposite end formed with an enlarged head 9, connected to the terminal 8 by means of a reduced shank 10. The upper face of the head 9 is formed with a depression or concavity 11, and formed in the side walls of the head are a plurality of longitudinally-disposed grooves 12, which communicate with the concavity 11, as shown. Disposed in spaced relation to the head of the valve and cemented or otherwise rigidly secured to the inclined walls of the neck 6 is a plug or stopper 13, provided with a plurality of tortuous discharge grooves or channels 14, adapted to register with the groove 9 when the valve is moved to open position, so as to permit the ready discharge of the contents of the bottle. The grooves or channels 14 are each preferably in the form of an ogee curve, so as to prevent the insertion of a wire, nail, or other tool by an unauthorized person in an attempt to unseat the valve and refill the bottle with an inferior grade of goods.

In filling the bottle the liquid is introduced through the mouth of the neck and the valve placed in position with the globular terminal 8 in contact with the inclined walls of the neck, after which the plug or closure 13 is placed in position and cemented or otherwise rigidly secured to said neck, as best shown in Fig. 1 of the drawings.

In order to discharge the contents of the bottle, it is merely necessary to reverse the latter, which causes the valve to move longitudinally within the neck 6 and the grooves 12 to register with the passages 14 in the plug 13, thus permitting the liquid to flow through the grooves 12 to the concavity 11, and thence through the passages 14 to the mouth of the bottle, as clearly illustrated in Fig. 2 of the drawings.

As soon as the bottle is placed in upright position the valve 10 will automatically seat itself, and thus prevent any attempt to refill the same. Should an attempt be made to

fraudulently refill the bottle by immersing the neck thereof in the liquid, the valve will automatically float to closed position, while any attempt to force the liquid under pressure into the bottle when the latter is inverted will by reason of the concavity 11 force the valve longitudinally of the neck until the globular terminal 8 engages the inclined walls of the neck, thus preventing the entrance of the liquid.

In Fig. 5 of the drawings there is illustrated a modified form of the invention in which the concavity or depression is dispensed with, the grooves 15 being disposed longitudinally of the valve and opening through the flat upper surface 16 of said valve, as shown.

The valve and plug may be formed of glass, metal, or other suitable material and may be provided with any number of discharge passages or grooves.

From the foregoing description it will be seen that there is provided an extremely simple, inexpensive, and efficient device admirably adapted for the attainment of the ends in view.

Having thus described the invention, what is claimed is—

1. A bottle having a tapered neck, a valve seated within the neck and provided at one end thereof with a plurality of longitudinally-disposed grooves, and a stopper spaced from the valve and provided with discharge-passages to permit the passage of the liquid when the valve is moved to open position.

2. A bottle having a tapered neck, a valve seated within the neck and provided at one end thereof with a concavity having a plurality of longitudinal grooves communicating therewith, and a stopper spaced from the concaved end of the valve and provided with a plurality of angularly-disposed discharge-passages to permit the passage of the liquid when the valve is moved to open position.

3. A bottle having a tapered neck, a valve seated in the neck and having one end thereof provided with an enlarged head the face of which is formed with a depression and the side walls thereof provided with a plurality of longitudinally-disposed grooves communicating with said depression, and a plug spaced from the valve and rigidly secured to the interior walls of the neck, said plug being provided with a plurality of peripheral angularly-disposed discharge-passages to permit the passage of the liquid when the valve is moved to open position.

4. A bottle having a tapered neck, a valve seated within the neck and having a plurality of longitudinal grooves formed in one end thereof, and a plug spaced from the valve and having a plurality of peripheral ogee discharge-passages formed in the walls thereof to permit the passage of the liquid when the valve is moved to open position.

5. A bottle having a tapered neck, a longitudinally-movable valve seated within the neck and consisting of a shank provided at one end with a globular terminal adapted to engage the walls of said neck and at its opposite end with an enlarged head having a plurality of longitudinally-disposed grooves formed therein, a plug rigidly secured to the interior walls of the neck and arranged in spaced relation to the valve, said plug being provided with a plurality of discharge-passages each in the form of an ogee curve to permit the passage of the liquid when the valve is moved to open position.

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

FRANK H. HUBBARD.

Witnesses:

E. M. LOUDER,

C. E. MIDDLETON.