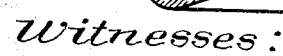
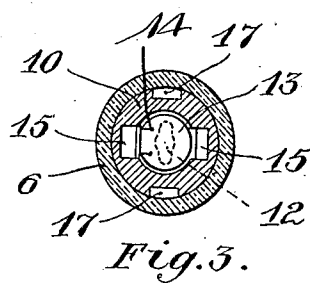
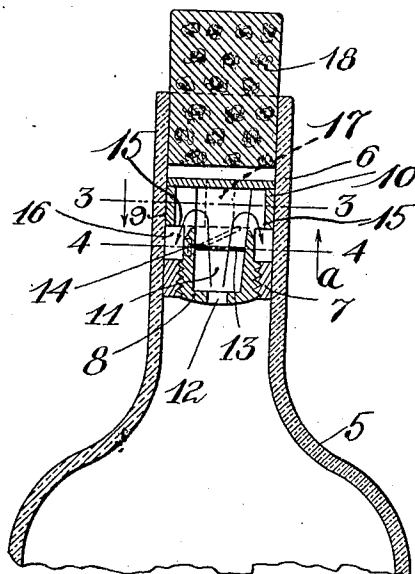
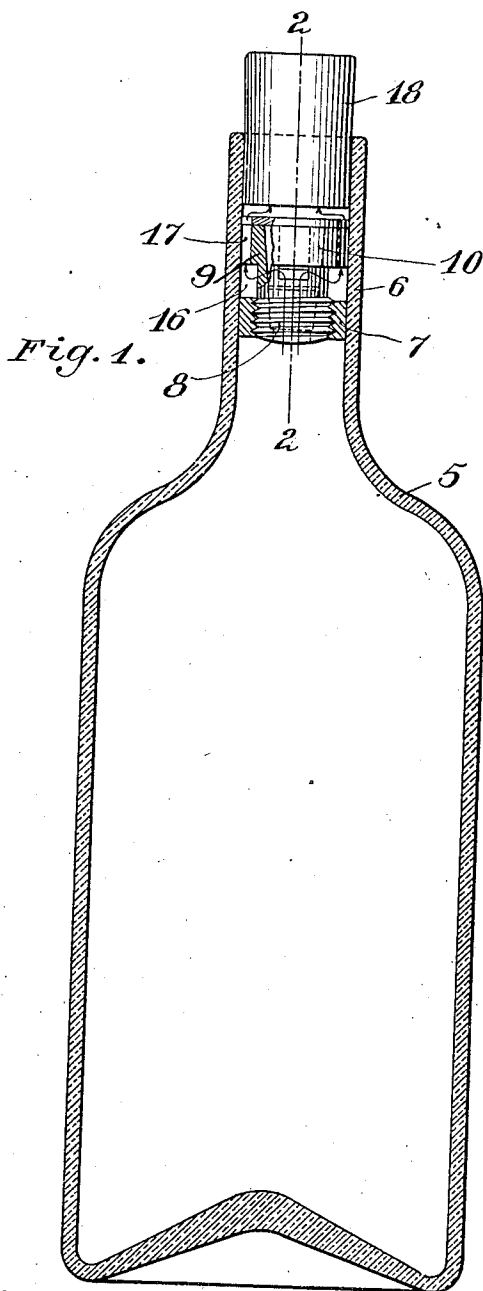


No. 851,925.

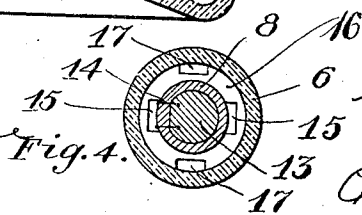
PATENTED APR. 30, 1907.

G. V. DOHERTY.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JUNE 20, 1906.



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UNITED STATES PATENT OFFICE.

GEORGE V. DOHERTY, OF BOSTON, MASSACHUSETTS.

NON-REFILLABLE BOTTLE.

No. 851,925.

Specification of Letters Patent.

Patented April 30, 1907.

Application filed June 20, 1906. Serial No. 322,574.

To all whom it may concern:

Be it known that I, GEORGE V. DOHERTY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to an improvement in non-refillable bottles, the object of the invention being to provide a device which can be inserted in the neck of an ordinary bottle, *i. e.*, a bottle having a neck with a straight bore, and which, when so inserted, will prevent liquid from being inserted in the bottle, but will not prevent the flow of liquid outwardly from the interior of said bottle. It is a well known fact that many bottles, especially bottles for liquor having the label of a well known firm thereon, are refilled after the original contents of the package have been used, with inferior goods, and this device is adapted to prevent this being done.

The invention consists in a stopper constructed as hereinafter described and particularly as pointed out in the claims, and further the invention consists in the combination of said stopper with a bottle having a sleeve upon the interior of the neck of said bottle to which the stem of said stopper is fastened.

Referring to the drawings: Figure 1 is a section, partly in elevation, of a bottle with my improved stopper attached thereto, said stopper partly in section and the cork thereabove being shown in elevation. Fig. 2 is a section, taken on line 2—2 of Fig. 1, the stopper being shown in section, and the cork in section, the bottle being broken away to save space in the drawings. Fig. 3 is a section, in plan view, taken on line 3—3 of Fig. 2. Fig. 4 is a section, in plan, taken on line 4—4 of Fig. 2, viewed in the direction of the arrow *a*.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 5 is a bottle having a neck 6 with a straight bore. In the interior of the neck of the bottle is fastened a sleeve 7 interiorly screw-threaded and engaging the screw-threaded stem 8 of the stopper 9. Said stopper consists, as a whole, of the stem 8 and the cylindrical head 10. The head 10 is of larger diameter than the stem 8. The stopper 9 is hollow being provided with an interior chamber 11 and having a hole 12 opening through the bottom thereof. The pe-

riphery of the head 10 snugly fits the interior of the bottle neck 6, an annular passage 16 being formed between the periphery of the stem 8 and the interior of the bottle, as the sides thereof, and between the bottom of the head 10, where it projects beyond the stem 8, and the top of the sleeve 7.

In the interior of the stopper 9 is located a valve 13, which is pivoted by means of a wire 14 to said stopper. Ports 15, 15, located above the valve 13, extend from the chamber 11 into the annular passage 16. The head 10 is provided upon its periphery with grooves 17, 17 which extend longitudinally of the stopper entirely across said head, thus opening from the passage 16 into the space in the bottle neck above the top of the stopper 9. A cork 18 is inserted in the neck of the bottle above the stopper 9.

The operation of the device hereinbefore specifically described is as follows: Assuming a bottle filled with liquid the stopper 18 is removed and the bottle decanted, the liquid passing from the interior of said bottle through the hole 12 into the chamber 11, in the direction of the arrows (Figs. 1 and 2), past the valve 13, which is tipped by said liquid from the position indicated in dotted lines (Fig. 2) to that shown in full lines in said figure, thus allowing the liquid to pass into the upper portion of the chamber 11, through the ports 15, 15 into the annular passage 16 and around said annular passage through the grooves 17 in the head 10 and thus into that portion of the interior of the neck located above the stopper 9 and outwardly therefrom.

It will be seen that if it is attempted to insert liquid in the bottle 5, the valve 13 will be immediately closed by said liquid and thus the passage through the chamber 11 and through the hole to the interior of the bottle would be closed, preventing the bottle from being filled.

The advantage derived by the construction hereinbefore described of my improved device for preventing bottles from being refilled consists, in addition to not being able to fill the bottle after it has once been emptied, in the extreme simplicity and cheapness of the device, which is preferably formed of porcelain, the same being adapted to fit the straight neck of the ordinary bottle of commerce.

It will be understood that the wire 14 acts

as a spring to hold the valve 13 normally closed or in the position illustrated in full lines, Fig. 2, so that no matter whether the bottle when empty is inverted lying on its side or lying right side up, said valve will remain closed. It will be understood that when the stopper 9 has been screwed in the sleeve 7, it is fastened thereto preferably by means of cement.

10 Having thus described my invention, what I claim and desire by Letters Patent to secure is:

1. As an article of manufacture, a bottle, a sleeve fast to the interior of the neck of said bottle, and a hollow stopper having a hole in the bottom thereof, said stopper consisting of a head adapted to fit the neck of said bottle and a stem of smaller diameter than said head having screw-threaded engagement with said sleeve, and a valve pivoted within said stopper, said stopper having an annular passage extending therearound between said head and sleeve, said stopper being provided with ports connecting the interior thereof with said annular passage above said valve, said head having grooves therein extending from said passage out of the upper end of said stopper.

2. As an article of manufacture, a hollow stopper for a bottle, having a hole in the bottom thereof, said stopper consisting of a head adapted to fit the neck of said bottle and a screw-threaded stem of smaller diameter than said head, and a valve pivoted within said stopper, said stopper having ports above said valve extending from the interior thereof to the exterior of said stem, said head having grooves in its periphery

extending thereacross longitudinally of said stopper.

3. As an article of manufacture, a bottle, a sleeve fast to the interior of the neck of said bottle, and a hollow stopper having a hole in the bottom thereof, said stopper consisting of a head adapted to fit the neck of said bottle, and a stem of smaller diameter than said head having screw-threaded engagement with said sleeve, and a valve pivoted within said stopper, said stopper having an annular passage extending therearound between said head and sleeve, said stopper being provided with ports connecting the interior thereof with said annular passage above said valve, said head having a plurality of grooves in the periphery thereof extending from said passage out of the upper end of said stopper.

4. As an article of manufacture, a hollow stopper for a bottle, having a hole in the bottom thereof, said stopper consisting of a head adapted to fit the neck of said bottle and a stem of smaller diameter than said head, a valve pivoted within said stopper, and a spring acting to hold said valve normally closed, said stopper having a port above said valve extending from the interior thereof to the exterior of said stem, said head having a groove in its periphery extending thereacross longitudinally of said stopper.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE V. DOHERTY.

Witnesses:

CHARLES S. GOODING,
ANNIE J. DAILEY.