

H. R. TURNER.
 NON-REFILLABLE BOTTLE AND STOPPER.
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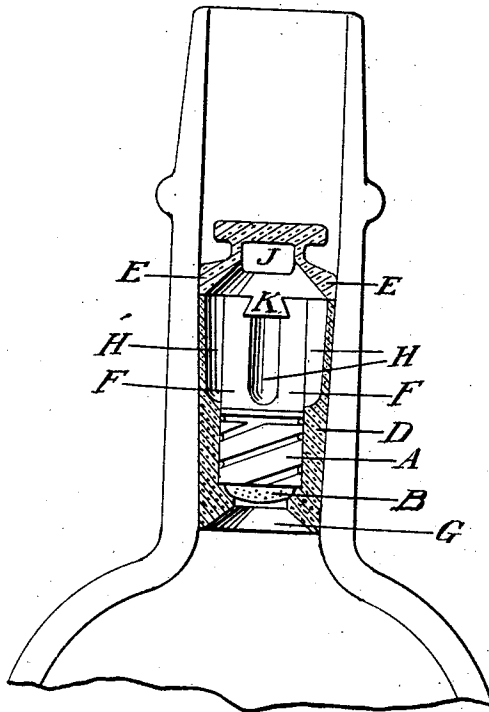


Fig. 1

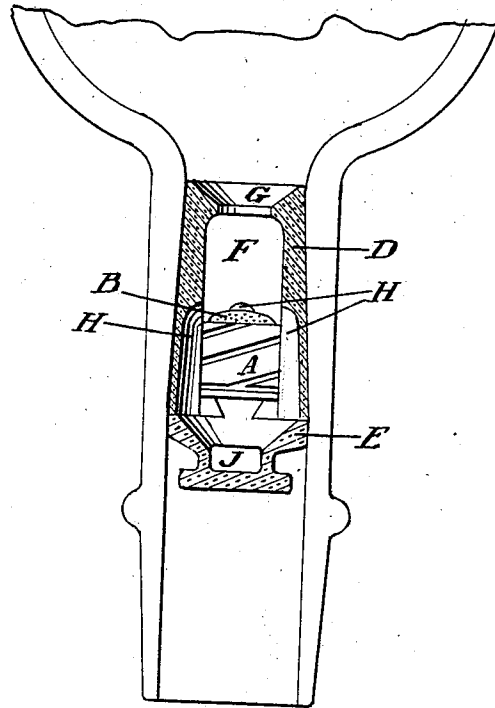


Fig. 2

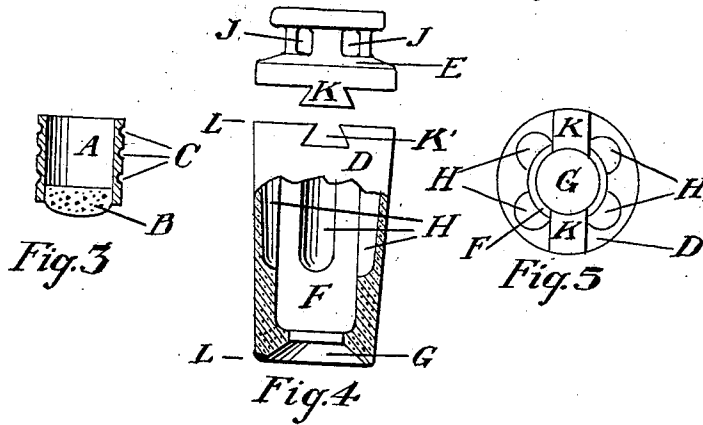


Fig. 3

Fig. 4

Fig. 5

Witnesses
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UNITED STATES PATENT OFFICE.

HARRY ROSS TURNER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD
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NON-REFILLABLE BOTTLE AND STOPPER.

1,033,639.

Specification of Letters Patent.

Patented July 23, 1912.

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To all whom it may concern:

Be it known that I, HARRY ROSS TURNER, a citizen of the United States, residing at 5440 Irving street, in the city of Philadelphia, State of Pennsylvania, have invented a new and useful Non-Refillable Bottle and Stopper, of which the following is a specification.

My invention relates to improvements in non-refillable bottles and has particular reference to that type of non-refillable bottle in which a plug or stopper is used to slide along a passage to open and close the port or outlet of the bottle.

The leading object of my invention is the provision of a non-refillable bottle of this character which will be of extremely simple and inexpensive construction, and which will be efficient and practical in its operation.

My invention broadly stated resides in the provision of a non-refillable bottle having a hollow grooved valve or stopper adapted to slide or move in a cylindrical sleeve or casing having outlet ports or passages therein, said plug or stopper acting as a valve for the exclusion of a filling liquid.

My invention further resides in the provision of a device of the character described comprising novel features of construction and combination of parts for service substantially as disclosed herein, and in the accompanying drawings I have illustrated a practical embodiment of my invention.

Figure 1 represents a vertical sectional view of the neck and portion of a bottle equipped with my improvements. Fig. 2 represents a similar view with the bottle reversed and showing the position the valve or plug assumes when the liquid is being poured therefrom. Fig. 3 represents a detail view of the valve. Fig. 4 represents a sectional detail view of the stopper and cylindrical sleeve or casing, showing the detachable top thereabove, and Fig. 5 represents a top plan view of the stopper and cylindrical casing and top attached.

In the drawings in which similar characters of reference denote corresponding parts in the several views, the letter A designates a hollow aluminum valve, having a bottom B of cork or other material and spiral grooves or channels C passing around its outer periphery to permit the escape of air when the bottle is in a vertical position.

The letter D designates a stopper or plug, made of glass or porcelain, of gradually tapering shape L—L, and adapted to fit snugly in the neck of the bottle, and is provided with a detachable top E, a vertical passage F, and a flaring opening or inlet port G.

The stopper D is provided with the four channels or ducts H through which the contents of the bottle pass when inverted, and the valve A, owing to its buoyancy, is adapted to be moved by the weight of the contents of the bottle when inverted and slide in said passage F, as shown in Fig. 2.

The detachable top E is provided with the outlet port J and the depending key or lug K, slidable in the key-way K'.

The operation of my invention is as follows: The bottle is first filled with the desired fluid, the tapering stopper inserted in the neck thereof, and the top E placed thereon. Upon the inversion of the bottle the valve A is actuated by the weight of the filling liquid and slides along the vertical passage F until it abuts against the lug K. The liquid enters through opening G, passes along the cylinder or passage F, thence through passages H on either side thereof, and finally through the outlet opening J.

It will be noted that when an attempt is made to introduce a liquid of an inferior grade into the bottle the valve A will effectually close the port G at the bottom of the stopper, and that the channels C therein will tend to permit the escape of air when the bottle is in an upright position and prevent the entrance of a filling liquid.

It will be seen that I have provided a device of this character which will resist all efforts to introduce filling liquids, and yet will permit the ready removal of the contents of the bottle; which will be durable and simple in construction, inexpensive of production and efficient and practical in its operation.

One of the most important features of my invention resides in the fact that my improvement is capable of employment in connection with bottles for spirituous liquors of the ordinary construction in general use, as the device fits the neck of the ordinary bottle and forms a perfect non-filling means and requires no change in the construction of the bottle. In devices patented, of the general character of my invention, it has

been found necessary to use only a bottle with a spiral form of neck, which makes it necessary to provide a new and special construction of bottle, entailing a great expense and destroying the usefulness and desirability of the improvement. With my device, no special form of bottle is required and no change in construction of the bottle is necessary, as the device fits the ordinary form of bottle in general use and thus insures a commercial article which is at once useful, desirable and practical.

I claim:

1. In a non-refillable bottle, the combination with a stopper provided with a key-way, a plurality of channels and a vertical central passage arranged parallel with said channels, of a detachable top mounted upon said stopper, a depending key formed upon

the top, adapted to normally seat in said key way in the stopper, and a hollow valve having a buoyant closure at its lower end and a series of spiral grooves arranged around its outer periphery and slidable in the vertical central passage of the stopper when the bottle is inverted.

2. In a non-refillable bottle, the combination with a stopper having a vertical passage, of a hollow valve adapted to move in said vertical passage, said valve having a buoyant closure at its lower end and a series of spiral grooves arranged around its outer periphery.

H. ROSS TURNER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."