No. 720,230. PATENTED FEB. 10, 1903.

H. A. DANIELS.

NON-REFILLABLE BOTTLE.

APPLICATION FILED SEPT. 30, 1902.

NO MODEL.

Fig. 1.

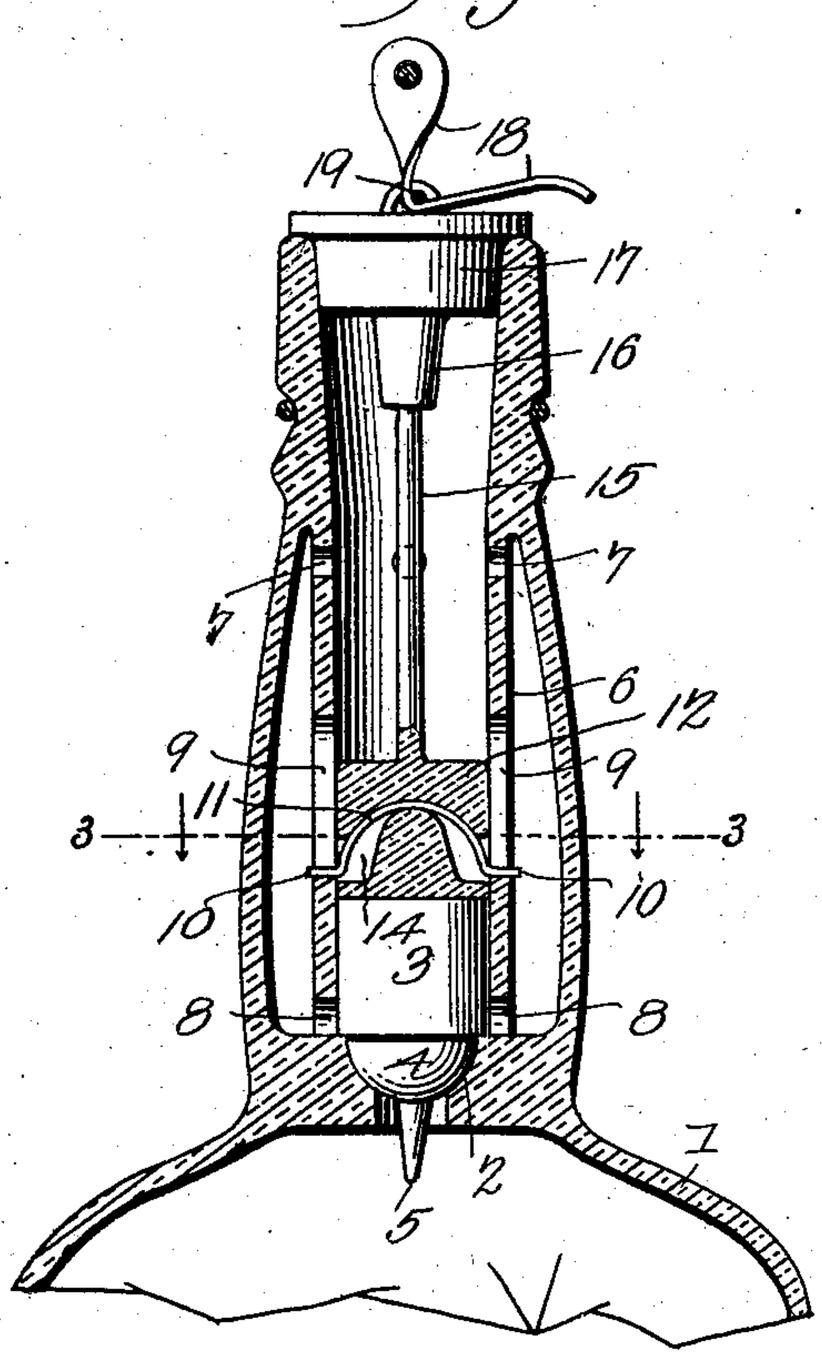


Fig. 2.

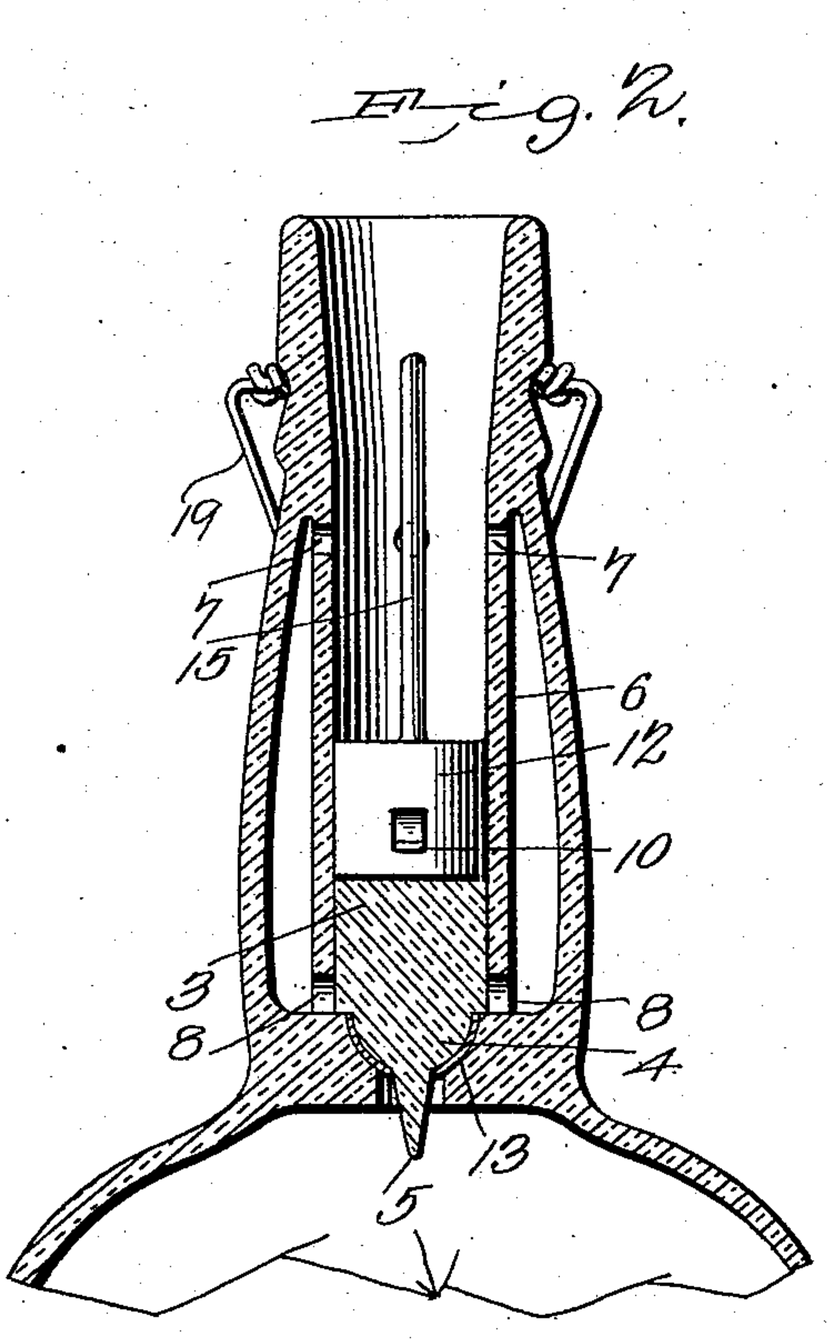
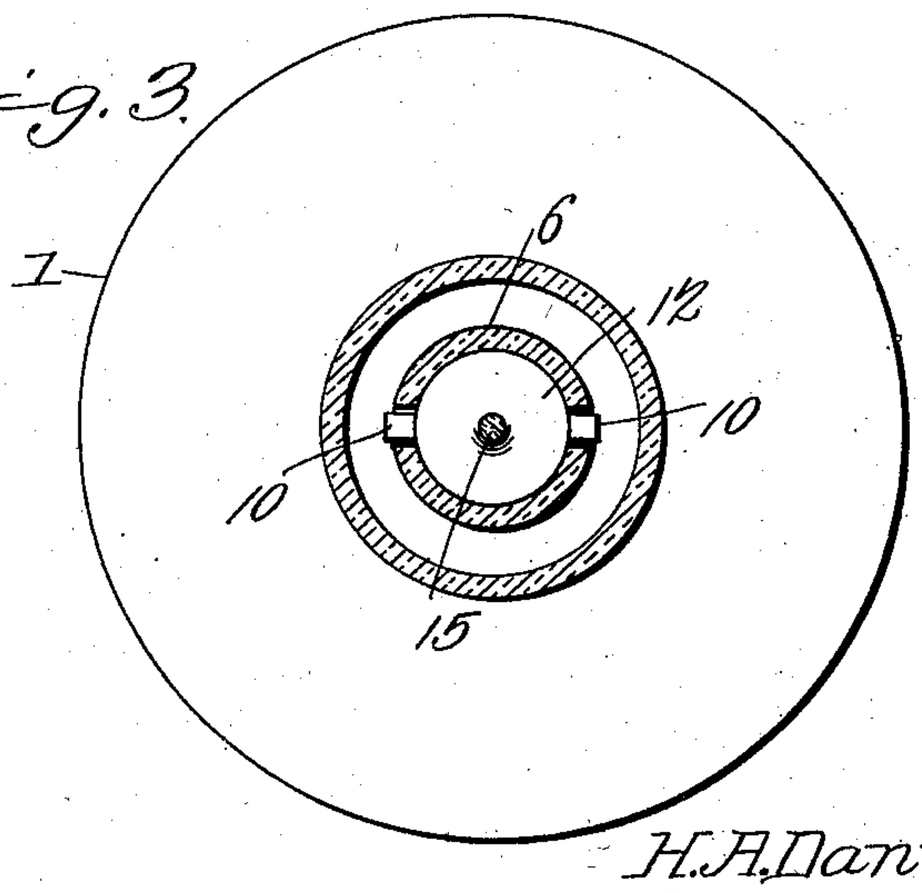


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY ALEXANDER DANIELS, OF NEWARK, NEW JERSEY.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 720,230, dated February 10, 1903.

Application filed September 30, 1902. Serial No. 125,438. (No model.)

To all whom it may concern:

Be it known that I, HENRY ALEXANDER DANIELS, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

The invention relates to improvements in non-refillable bottles.

The object of the present invention is to improve the construction of non-refillable bottles and to provide a simple and comparatively inexpensive one adapted, after a bottle has received its original contents, for effectually preventing a liquid from being introduced into the same, whereby adulterations and fraudulent refillings are prevented.

A further object of the invention is to provide a device of this character having a valve mechanism for permitting the contents of a bottle to be discharged and for preventing a liquid from being introduced into the same and provided with means, when the bottle is corked, for preventing the contents of the bottle from flowing past the valve into the outer portion of the neck of the receptacle.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a vertical sectional view of a portion of a bottle constructed in accordance with this invention. Fig. 2 is a similar view taken at right angles to Fig. 1. Fig. 3 is a horizontal sectional view on the line 3 3 of Fig. 1.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a bottle provided in the lower portion of its neck with a valve-seat 2, adapted to receive a valve 3, consisting of a cylindrical body provided with a semicircular or semispherical lower portion 4, having a depending projection 5. The valve-seat is curved to conform to the configuration of the approximately semispherical portion of the valve, and the depending projection 5 extends downward into the body portion of the bottle when the valve is closed, as in Fig. 1 of the drawings.

The neck of the bottle or other receptacle is provided above a valve-seat with an interior annular space 6, and it may be constructed in any desired manner to form the said space. This space is formed by inner and outer walls, and the inner wall is provided at the top and bottom with apertures 7 and 8, and it has intermediate longitudinal slots 9 for the reception of projecting arms or portions 10 of a resilient catch 11 of a guard 12, which is located above the valve and which assists in holding the latter firmly on its seat when the bottle is in an upright position. The valve is designed to be constructed of glass or any other suitable material, and its lower seat-engaging portion may be provided with a washer 13, of leather or any other suitable material, to conform to any inaccuracies or irregularities of the surface of the seat. The guard 12 is also constructed of glass or similar material, and the catch, which is approximately U-shaped, is mounted in a transverse slot or opening 14 thereof, and it extends outward therefrom for engaging the slots 9 of the inner wall of the neck of the bottle. The resilient catch is adapted to have its sides or engaging portions pressed inward to permit the shield or guard to be introduced into the neck of the bottle, and the said catch is adapted to spring outward and automatically engage the slot 9, whereby the shield is prevented from being drawn out of the bottle. When the bottle is inverted, the valve and the guard or shield move outward and open the bottle by uncovering the opening at the inner end of the neck and the lower apertures 8 of the inner wall. The contents of the bottle are then permitted to flow outward freely through the space between the inner and outer walls of the neck of the bottle.

The guard or shield is provided with an upwardly-extending integral stem 15, which is adapted to be engaged by a depending stem or shank 16 of a stopper 17; but any other suitable means may be employed for engaging the stem of the guard or shield to hold the valve firmly on its seat when the bottle is corked to prevent the contents of the bottle from flowing into the space surrounding the inner wall of the neck. The stem 15 is constructed of glass, and while it has sufficient strength to hold the valve firmly on its seat when the bottle is corked, it will break should an attempt be made to force the guard

or shield out of the neck by pulling outward upon the stem. The locking device engages the neck of the bottle with sufficient force to prevent the guard or shield from being drawn outward, and any attempt will result only in the breakage of the stem.

The stem of the stopper is provided at its lower end with a concavity or seat to receive the upper end of the stem of the guard or shield.

The stopper is connected with a lever 18, of approximately L shape, hinged at one of its ends to a frame 19, which is hinged to the neck of the bottle by a wire ring or band in the usual manner; but any other form of stopper and stopper-fastener may be employed, if desired.

It will be seen that the device is exceedingly simple and inexpensive in construction, that it is adapted to be readily applied to bottles and analogous receptacles, and that after the valve and the guard are introduced into position it will be impossible to introduce a liquid into such receptacle. It will also be seen that effective means are provided for holding the valve over the seat while the bottle is corked to prevent the liquid from flowing into the interior space within the walls of the neck.

What is claimed is—

1. A device of the class described comprising a neck, a valve arranged within the neck, a guard or shield movably secured within the neck and provided with a frangible stem, and a stopper having means for engaging the stem, substantially as described.

2. A device of the class described comprising a neck, a valve arranged within the neck, a guard or shield provided with a frangible stem and interlocked with the neck, and a stopper having a stem or shank for engaging the said stem, substantially as described.

3. A device of the class described comprising a neck having an interior chamber and provided with apertures communicating with the same, said neck being also provided with a valve-seat, a valve, a guard or shield having a locking device for engaging the neck and capable of a limited movement, and a stopper for engaging the shield, substantially as described.

4. A device of the class described comprising a neck having inner and outer walls forming an intermediate chamber or space, the inner wall being provided with upper and lower apertures, a valve arranged to close the lower apertures, and a guard or shield, substantially as described.

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

HENRY ALEXANDER DANIELS.

Witnesses:
WILLIAM J. KELLY,
HARRY C. SENIOR.