

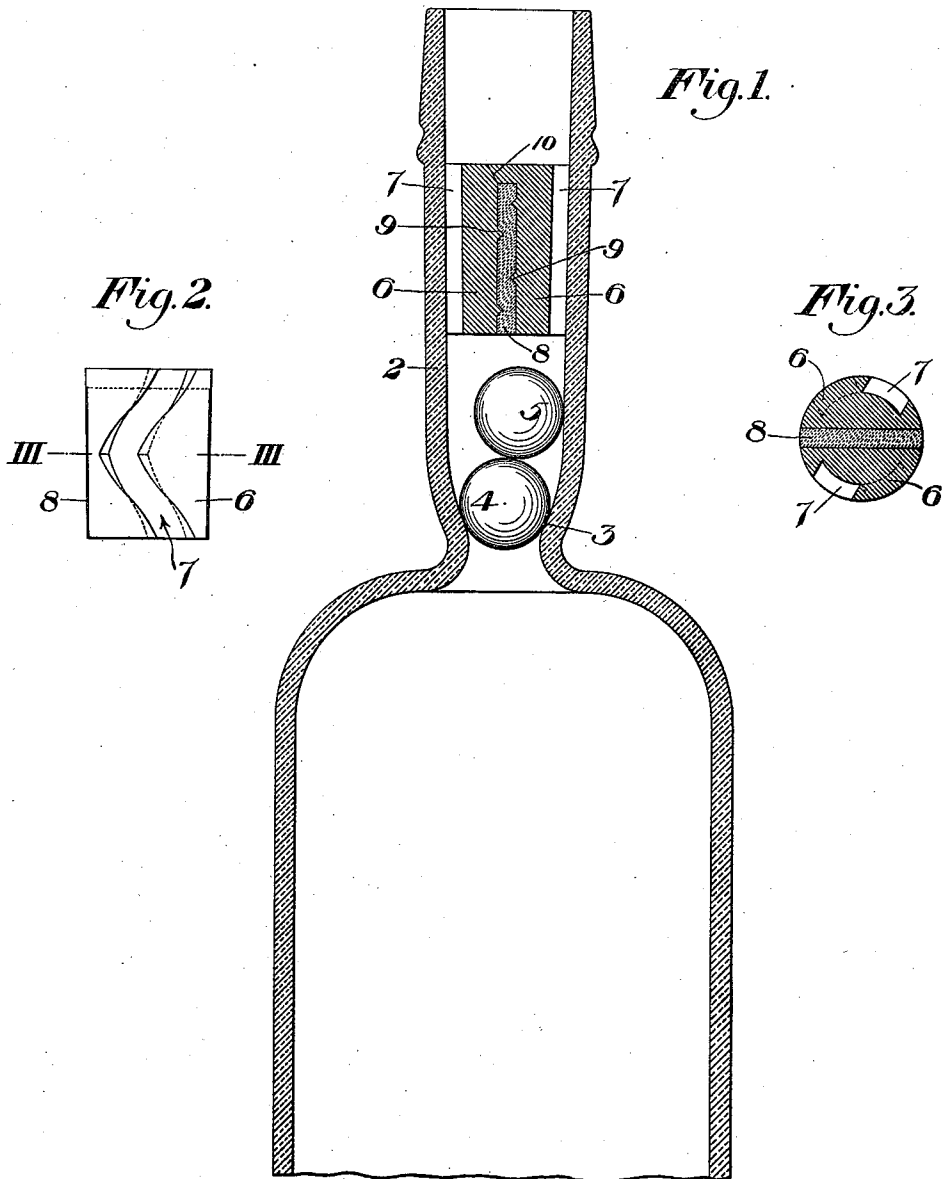
(No Model.)

A. P. FRANCIS.

DEVICE FOR PREVENTING REFILLING OF BOTTLES.

No. 546,590.

Patented Sept. 17, 1895.



WITNESSES

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UNITED STATES PATENT OFFICE.

ALFRED P. FRANCIS, OF WHEELING, WEST VIRGINIA, ASSIGNOR TO GEORGE W. BREMER, OF SAME PLACE.

DEVICE FOR PREVENTING REFILLING OF BOTTLES.

SPECIFICATION forming part of Letters Patent No. 546,590, dated September 17, 1895.

Application filed April 8, 1895. Serial No. 544,881. (No model.)

To all whom it may concern:

Be it known that I, ALFRED P. FRANCIS, of Wheeling, in the county of Ohio and State of West Virginia, have invented a new and useful Improvement in Devices for Preventing the Refilling of Bottles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical central sectional view of the neck portion of a bottle provided with my improvement, and Figs. 2 and 3 are respectively side and cross-sectional views of the stop and shield portion.

My invention relates to the class of stoppers for preventing the refilling of bottles, and is designed to afford an exceedingly cheap and simple device for this purpose.

In the drawings, 2 represents the neck of a bottle, which is narrowed at 3 to provide an inner seat for a spherical ball-valve 4. This seat may be made in many other ways—as, for instance, by forcing in a seat portion and securing it any desired way. To hold this ball-valve to its seat and to force it thereto as soon as the bottle is tipped beyond a horizontal position, I provide a ball-weight 5, which rests above and upon the ball-valve and drives it down upon the seat. These two balls may be made of glass or any other suitable material.

The loose spherical-shaped weight is a necessary part of the device and has been found in practice to effectually prevent any refilling of the bottle, whereas without it, when the ball-valve alone is used, the bottle may be tipped beyond a horizontal position and filled, as the weight of the valve alone will not seat it until the bottle is tipped to a considerable angle.

To form a stop and protector for the weight and valve, I provide above the same a stopper, which is composed of two or more parts 6, preferably of glass or queensware, having on their outer surface curved or zigzag-shaped grooves 7, through which the contained liquid flows out, while interference with the valves is pre-

vented. Between the parts of the stopper is placed a piece of cork 8 or similar material, which is preferably held in suitable position by sharp inner projections 9 upon the stopper halves, the parts being placed together and then forced firmly down into the neck of the bottle.

To prevent access to the cork, I provide one of the parts of the stopper with an upper offset or projection 10, having, preferably, a beveled edge, which when the stopper is driven into place contacts with a similarly-beveled face upon the other half, thus covering the cork and preventing its being extracted. The cork when wet expands and secures the stopper firmly in place, while yielding sufficiently to prevent injury to the stopper when it is being driven into place. Other similar materials may, however, be employed therefor without departing from my invention.

The advantages of the invention will be apparent to those skilled in the art, since the device is cheaply made and inserted and is not liable to get out of order, while its operation is sure and effective.

I claim—

1. A stopper composed of hard material which is divided longitudinally into two or more parts, each of which contacts with the neck of the bottle, and cork or similar material interposed between said parts, substantially as described.

2. A stopper composed of two or more longitudinally divided parts, having inner projections, and strips of cork interposed between said parts; substantially as described.

3. A stopper composed of two or more longitudinally divided parts, with cork or similar material between them, one of said parts having an upper offset arranged to cover and protect the cork; substantially as described.

In testimony whereof I have hereunto set my hand.

ALFRED P. FRANCIS.

Witnesses:

LUCIUS HOYE,
W. B. HICKS.