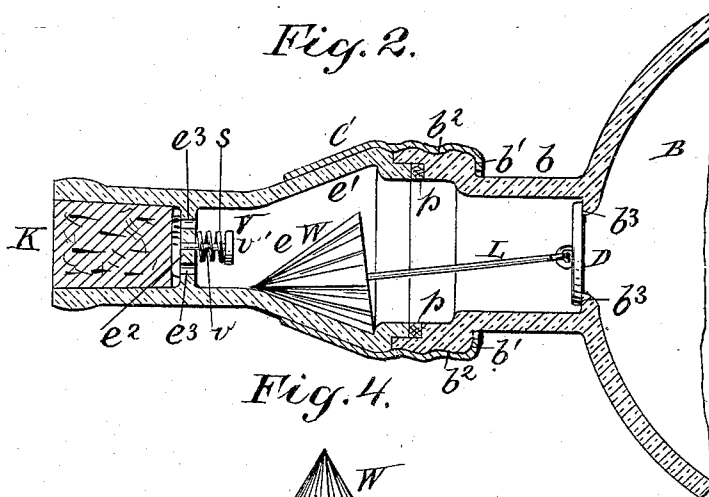
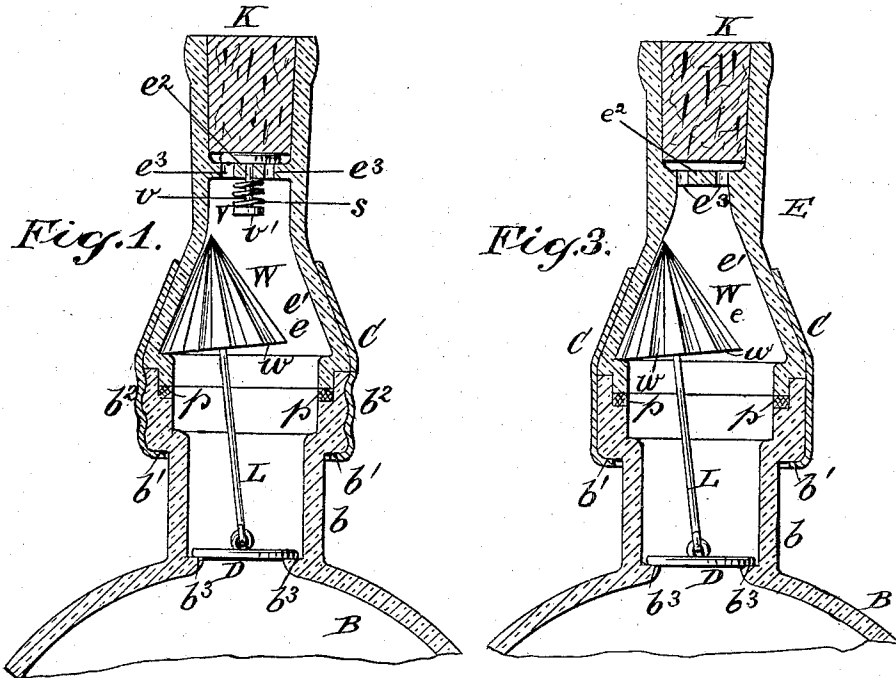


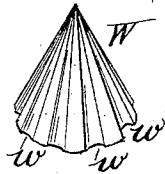
P. C. TRAVER
BOTTLE.

APPLICATION FILED FEB. 10, 1903.

NO MODEL.



Witnesses:
W. W. Gardner
Frank E. Roach



Inventor:
Philip C. Traver
By his Attorney
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UNITED STATES PATENT OFFICE.

PHILIP C. TRAVER, OF FAR ROCKAWAY, NEW YORK.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 726,594, dated April 28, 1903.

Application filed February 10, 1903. Serial No. 142,795. (No model.)

To all whom it may concern:

Be it known that I, PHILIP C. TRAVER, a citizen of the United States, residing at Far Rockaway, county of Queens, and State of New York, have invented certain new and useful Improvements in Bottles, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My improvements relate to means for closing bottles and other original packages and are designed to render the same practically non-refillable in a commercial sense.

The invention consists in the construction and arrangement of parts hereinafter described and claimed specifically, whereby provision is made for discharging the contents of the bottle or package through openings that are closed automatically by back flow or pressure.

In the accompanying drawings, Figures 1 and 2 represent sectional elevations illustrating the practical application of my invention to the neck of a bottle, respectively showing the latter in vertical and horizontal positions. Fig. 3 is a view similar to Fig. 1, showing a modification in which the auxiliary check-valve is omitted. Fig. 4 is a perspective view of the valve-weight.

The neck *b* of an ordinary bottle or package B is provided with an extension E, secured to the neck by any suitable means, as by a metallic coupling-sleeve C, the lower edge of which is bent over the shoulder *b'* of the bottle, as shown in Fig. 3, the neck *b* being formed either with or without the tightening screw-thread *b³*, (shown in Figs. 1 and 2,) as may be desired. It will be seen that the upper part of the coupling-sleeve C engages with and conforms to the externally-conical lower portion *e* of the extension E, thereby holding the extension in place upon the neck *b* of the bottle B. A packing *p* is preferably interposed between the abutting ends of the neck *b* of the bottle and its extension E to insure a liquid-tight joint. Within the neck *b* of the bottle B is formed an annular shoulder or valve-seat *b³*, upon which rests under normal conditions the disk valve D, pivotally connected by means of the link-rod L with the valve-weight W. This valve-weight W is preferably conical in form, so as to conform

approximately to the inclined inner side walls *e'* of the extension E, and its sides are preferably formed with grooves *w w*, which facilitate the flow of the liquid out of the bottle. It will be noted by reference to Fig. 3 that the incline of the interior side walls *e'* is such that even when the bottle is held horizontally they tend to throw the weight backward, so that it acts through its link L to keep the valve closed upon its seat *b³* until the bottle is inclined with its mouth downward at an angle of twenty degrees or more. Hence if its contents it is obvious that liquid cannot be made to flow into the bottle while the latter is in either a vertical or horizontal position, or in any intermediate position, and if immersed in a liquid at an angle below the horizontal surface thereof it is obvious that the contained air would prevent the entrance of the liquid.

It is true that the air might be removed by suction, and to provide against the latter contingency I provide the interior of the extension E with a delicate spring-valve V, which yields readily to admit of the exit of the contents of the bottle, but closes instantly upon the least back pressure. Thus even though the air should be exhausted from the bottle while, say, the latter is submerged the partial vacuum created thereby in the bottle would only tend to hold the valve V more firmly on its seat to the exclusion of any external fluid. The auxiliary spring-valve V is seated upon a partition or diaphragm *e²*, formed in the neck of the extension, said partition being formed with the holes or perforations *e³*. The stem *v* of the valve V passes through this partition *e²* and is formed with a shoulder *v'*, between which and the under side of the partition *e²* is interposed a delicate metallic spring *s*, which tends constantly to hold the valve V down upon the partition *e²*, thereby closing the openings *e³*. Above the diaphragm *e²* the neck of the extension E is fitted to receive the ordinary cork or stopper K.

In use the bottle is first filled, and then the extension E is applied and permanently secured to the neck *b* of the bottle by the metallic coupling-sleeve C or other mechanical expedient, after which the cork *k* may be removed and the contents withdrawn by tilt-

ing the bottle to the proper degree, leaving the bottle practically non-fillable in a commercial sense, as hereinbefore set forth.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A bottle having a neck formed with a valve-seat, and with an extension formed with converging side walls, a valve for engaging said seat, a conical weight connected with said valve and engaging with said converging side walls formed on the interior of the bottle whereby the conical weight tends constantly to thrust the valve against its seat until the bottle is inclined downward below the horizontal, substantially as set forth.

2. The combination of the bottle having a neck formed with an annular valve-seat an extension of the neck permanently secured thereto and formed with internally-converging side walls, a conical weight resting between said converging side walls, a valve engaging with the said annular valve-seat in the neck, and a rigid link pivotally attached to the said valve and connecting it with the said conical weight for the purpose described.

3. The combination of the bottle having a neck formed with an annular valve-seat, an extension of the neck formed with internally-converging side walls, an external metallic coupling-sleeve permanently securing the extension to the neck, a conical weight resting between said converging side walls, a valve engaging with the said annular valve-seat in the neck, and a rigid link pivotally attached to the said valve and connecting it with said conical weight for the purpose set forth.

4. The combination of a bottle having a neck formed with an annular valve-seat, an extension of the neck permanently secured

thereto and formed with internally-converging side walls, a conical weight resting between said converging side walls, said weight being formed with peripheral grooves for the purpose set forth, a valve engaging with the said annular valve-seat in the neck, and a rigid link pivotally attached to the said valve and connecting it with said conical weight, substantially as described.

5. The combination of the bottle having a neck formed with an annular valve-seat, an extension of the neck permanently secured thereto and formed with internally-converging side walls, a conical wedge resting between the said converging side walls, a valve engaging with the said annular valve-seat in the neck, a rigid link pivotally attached to the said valve and connecting it with said conical wedge, and an auxiliary spring-valve arranged in the said extension for the purpose and substantially in the manner set forth.

6. The combination of a bottle having a neck formed with an annular valve-seat, an extension of the neck permanently secured thereto and formed with internally-converging side walls and with a perforated partition above said converging side walls, a spring-valve engaging said perforated partition, a conical weight resting between said converging side walls, a valve engaging with the said annular valve-seat in the neck and a rigid link pivotally attached to the said valve and connecting it with the said conical weight, for the purpose described.

PHILIP C. TRAVER.

Witnesses:

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