

(No Model.)

W. J. GARDNER.
AUTOMATIC BOTTLE STOPPER.

No. 544,617.

Patented Aug. 13, 1895.

Fig. 1.

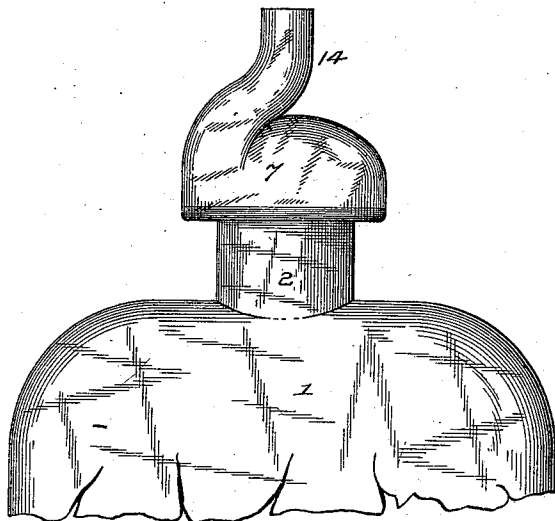


Fig. 2.

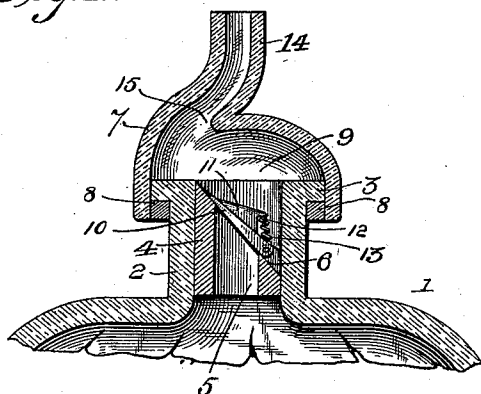


Fig. 3.

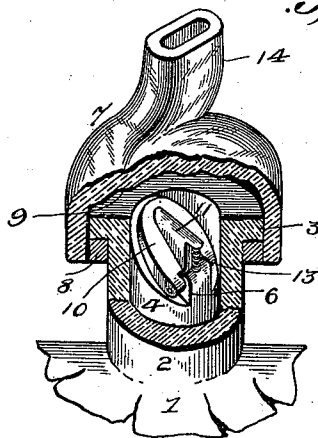
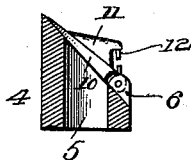


Fig. 4.



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Witnesses
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By his Attorneys,

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UNITED STATES PATENT OFFICE.

WILLIAM JAMES GARDNER, OF MONTGOMERY, ALABAMA.

AUTOMATIC BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 544,617, dated August 13, 1895.

Application filed April 17, 1895. Serial No. 546,069. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JAMES GARDNER, a citizen of the United States, residing at Montgomery, in the county of Montgomery and State of Alabama, have invented a new and useful Automatic Bottle-Stopper, of which the following is a specification.

This invention relates to an improvement in devices for preventing the refilling of a bottle after it has once been emptied.

The object of the present invention is to simplify and improve the construction of automatic bottle-stoppers and to provide a device which is adapted to be applied to a bottle of any size, form, or material and to be sealed thereon after the bottle has been filled, said device comprising a perforated stopper and a covering or protecting funnel or cap surrounding the neck of the bottle and providing a space in which a spring-actuated automatically-acting valve may operate, which valve will permit the bottle to be emptied, but which will effectually prevent the refilling of the bottle.

A further object of the invention is to provide the cap or funnel above the neck and valve with an orifice or mouth of peculiar configuration for effectually preventing any one from manipulating said valve while the funnel is attached to a bottle.

To this end and to accomplish the objects above mentioned the invention consists in certain novel features and details of construction and arrangement, as hereinafter fully described, illustrated in the drawings, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation of a bottle of any ordinary construction with one of my improved automatic bottle-stoppers shown applied. Fig. 2 is an enlarged vertical section through my improved device, showing also a portion of a bottle to better illustrate the application of my invention. Fig. 3 is a perspective view of the improved stopper with a portion of the hollow cap or funnel broken away to show the interior arrangement, automatic valve, &c. Fig. 4 is an enlarged detail view of the stopper and valve.

Similar numerals of reference indicate cor-

responding parts in the several figures of the drawings.

Referring to the drawings, 1 indicates a bottle, of glass or any ordinary material and of any size or shape, provided with the usual neck 2 and with or without the usual annular flange 3.

4 designates a stopper, of cork, rubber, or any preferred material, which fits snugly and tightly in the mouth of the bottle and is provided with a vertical perforation 5, communicating with the interior of the bottle and opening outwardly at the external surface of the cork. The stopper at its upper end is tapered off to form an inclined valve-seat 6, as shown.

Surrounding the stopper 4 and the valve-seat 6 is an annular cap or funnel 7, which extends downwardly below the valve-seat 6 a sufficient distance to partially surround the neck 2 of the bottle, to which it may be sealed by a filler 8, of any ordinary sealing agent, and said cap or funnel extends sufficiently above the valve-seat 6 to afford a space 9, in which the valve may operate.

The valve 10 may be of metal, glass, rubber, leather, or any preferred material, being pivoted to and held against the valve-seat immediately above the perforation 5. The valve 10 is held in place by means of an arm 11, riveted or otherwise secured thereto and extending laterally from the inclined back of the valve, said arm being provided with a downwardly-projecting pin or stud 12, which engages a short spiral spring 13, interposed beneath the outer end of the arm 11 and the upper end of the stopper adjacent to the valve-seat, a pin or spur projecting upwardly from the stopper being adapted to receive the lower end of said spring. The pins or studs prevent the escape or accidental displacement of the spring 13, and the spring by its tension serves to lift up on the outer end of the arm 11, thereby forcing the valve 10 down into close contact with the inclined valve-seat and closing the vertical perforation through the stopper.

The cap or funnel 7 is provided with a nozzle 14, having a sinuous passage therein out of line with the neck of the bottle and the

valved stopper, the nozzle being of substantially ogee shape and extending upwardly from the cap and offset or formed with a shoulder 15, which extends over the valved stopper in such manner as to prevent the insertion of a person's finger or the introduction of a piece of wire or other device for effecting the raising of the valve for the purpose of refilling the bottle.

10 The operation of the device will be readily understood. When the bottle is inverted the pressure of the liquid contained in the bottle operating against the inner face of the valve will open the latter sufficiently for the contents of the bottle to flow out through the cap or funnel. After the bottle is emptied the valve 10 is returned by the spring 13 to its normal position, rendering it impossible for the bottle to be refilled.

20 I do not claim herein broadly a perforated stopper or cork, a self-acting valve therefor, and a cap or funnel fitted over the mouth of the bottle and having a sinuous opening or passage out of line with the neck of the bottle
25 and the valved stopper thereof, as this forms

the subject-matter of another pending application filed by me April 9, 1895, Serial No. 545,058.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

A device for preventing the refilling of bottles, comprising a hollow cap or funnel having a sinuous passage or opening out of line with the neck of the bottle, a perforated cork or stopper arranged within the neck of the bottle, a valve also arranged within the neck of the bottle and adapted to close the vertical perforation in said cork or stopper, an arm for operating said valve, and a spring interposed between the said arm and the cork or stopper for holding said valve to its seat, substantially as and for the purpose specified.

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

WILLIAM JAMES GARDNER.

Witnesses:

ROARDIN DAVID,
JOHNNIE JOHNSON.