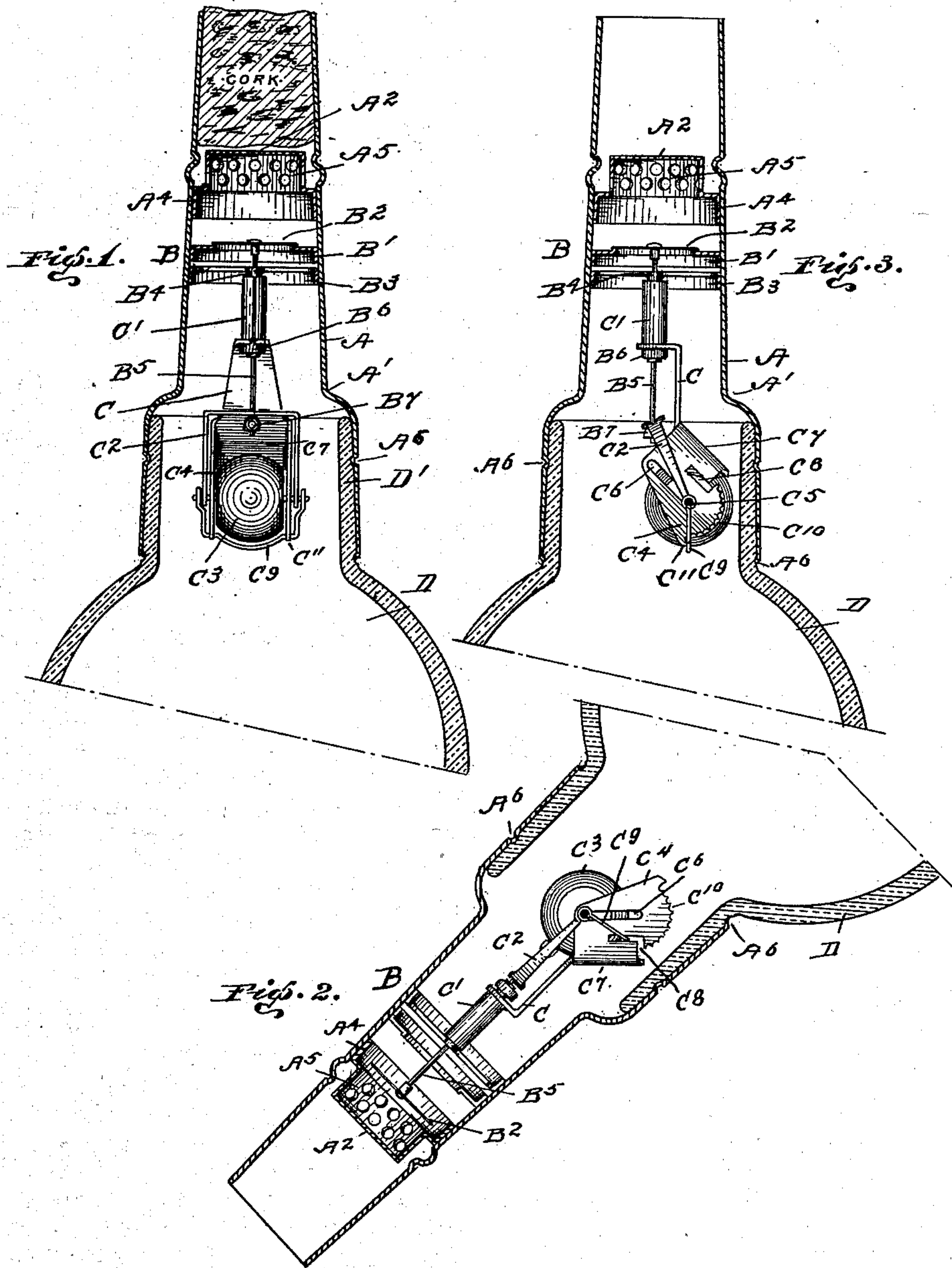


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PATENTED JAN. 12, 1904.

H. HAHN.  
NON-REFILLABLE BOTTLE.  
APPLICATION FILED AUG. 5, 1903.

NO MODEL.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HERMAN HAHN, OF SAN FRANCISCO, CALIFORNIA.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 749,288, dated January 12, 1904.

Application filed August 5, 1903. Serial No. 168,377. (No model.)

*To all whom it may concern:*

Be it known that I, HERMAN HAHN, a citizen of the United States, residing at 156 New Montgomery street, in the city of San Francisco, county of San Francisco, and State of California, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do hereby declare the following to be a full, clear, and exact description of the said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to improvements in bottles, and has for its object the prevention of refilling same after the original contents have been removed.

The invention consists of a hollow non-corrosive metallic neck adapted to be crimped or cemented upon the body of the bottle, a valve-seat and a guide fixed within said neck, a valve-stem extending through the guide and carrying a valve-gate coincident with said valve-seat, and a supporting-bracket swiveled upon said guide adapted to guide a gravitating weight into and out of contact with said valve-stem in such a manner that the valve is opened and closed with reference to the tilt of the bottle independent of the contents thereof.

In the drawings, Figure 1 is a vertical cross-section of a bottle-neck constructed in accordance with this invention, certain of the internal mechanisms being shown in full lines, the mechanisms being shown in normal or closed position. Fig. 2 is a similar view showing the mechanisms in open position. Fig. 3 is a view similar to Fig. 1, showing the gravitating-weight mechanism in side elevation.

In the description with reference to the drawings similar letters of reference refer to similar parts throughout the various views.

The shell of the neck will be designated by the letter A, the valve mechanism by the letter B, the gravitating-weight mechanism by the letter C, and the body of the bottle by the letter D. The secondary mechanisms of these

primary groups will be designated by the common letter strengthened by the addition of a numeral.

The neck A is spun or otherwise formed of pewter or some suitable non-corrosive material, with a slightly-diminishing taper from the shoulder A' toward the mouth. Below the shoulder the diameter of the neck is increased to inclose the neck D' of the bottle-body, a suitable cement being interposed before the crimps A<sup>6</sup> are formed, which effectually attaches the neck A to the bottle, preventing its removal without marring the neck sufficiently to cause detection. Before the neck is attached to the bottle the internal mechanisms are placed in position in the following order and manner: first, the perforated cap A<sup>2</sup> is forced into the neck from below until it jams tight in the taper of the neck; second, the valve-seat B', with valve-gate B<sup>2</sup> in place, is likewise forced into the neck until jammed; third, the guide B<sup>3</sup>, having the tubular extension B<sup>4</sup> thereon encircling the valve-stem B<sup>5</sup>, is jammed behind the valve-seat; fourth, the weight-supporting bracket C is loosely attached to the guide B<sup>3</sup>, the sleeve C', encircling the tubular extension B<sup>4</sup>, being held in place by the nut B<sup>6</sup>, screwed or forced on the end of B<sup>4</sup> behind the sleeve C'; fifth, the stirrup C<sup>2</sup> of the weight C<sup>3</sup> is slidably attached to the valve-stem between the end of B<sup>5</sup> and the nut B<sup>7</sup> forced upon the end of the valve-stem. The gravitating weight C<sup>3</sup> is slidably mounted between the cheek-pieces C<sup>4</sup>, the axle C<sup>5</sup> of the weight extending through the slots C<sup>6</sup> in the cheek-pieces, the stirrup C<sup>2</sup> being loosely connected to the axle C<sup>5</sup>.

The function of the cap A<sup>2</sup> is to prevent tampering with the valve mechanisms through the mouth of the bottle. It consists of the annular friction-surface A<sup>4</sup>, engaging the sides of the neck A, and the diametrically-reduced portion with a closed top and perforated sides A<sup>5</sup>.

The valve-gate B<sup>2</sup> consists of a thin disk of metal attached to the stem B<sup>5</sup>, which has sufficient play to permit the disk to adjust itself



to the valve-seat. The valve-stem is maintained central and in line with the valve-seat by passing through the extension B<sup>4</sup>.

The weight-supporting bracket C consists of the integral piece of sheet metal having formed thereon the sleeve C', encircling the extension B<sup>4</sup>, the inclined base portion C<sup>7</sup>, having the cheek-pieces C<sup>4</sup> bent at right angles to the inclined base and having the slots C<sup>6</sup> cut therein through which the axle of the weight C<sup>3</sup> extends. The inclined base C<sup>7</sup> and slots C<sup>6</sup> and C<sup>8</sup> run parallel, so that the base supports the weight C<sup>3</sup> as it rolls down same, the long circumference of the weight giving speed to the action.

It is obvious from the construction that immediately the bottle is tilted toward the horizontal from an angle approximately forty-five degrees the weight C<sup>3</sup> will roll down the incline, pulling the valve closed. This action throws all the weight below the center, causing the member C to swivel on B<sup>4</sup> when the bottle is revolved upon its axis, preventing the opening of the valves by the weight except when the bottle is tilted, as shown in Fig. 2. The weight then rolls down and butts against the valve-stem, opening the valve, in which position the air imprisoned in the bottle prevents the ingress of liquor. As the bottle assumes the vertical position the weight C<sup>3</sup> drops to the bottom of the slot C<sup>6</sup>, pushing the locking-loop C<sup>9</sup> out of the slot C<sup>8</sup>. The loop C<sup>9</sup>, loosely hung on the axle of the weight C<sup>3</sup>, drops out of the slot C<sup>8</sup> and swivels on its center around the notched radial segment C<sup>10</sup> on the cheek-pieces struck from the same center, the swing of the loop being arrested by the detent C<sup>11</sup>. In this manner the weight C<sup>3</sup> is locked against displacement by shaking up and down the loop C<sup>9</sup>, engaging the notched segment C<sup>10</sup>. If the loop fails to catch on the segment, it will swing against and rebound from the shoulder at the entrance of the slot C<sup>8</sup> without entering. The object of this loop is to prevent opening the valve and introducing liquor by shaking the bottle. It also relieves the parts from jarring, strains, &c., during shipment.

The various parts of the construction exposed to the corrosive action of the contents of the bottle may be agatized or coated with a suitable resistant.

In operation the bottle is filled before the neck is attached, the mouth being corked in the usual manner.

In general outlines and in the manner of handling the bottle resembles the ordinary type. Tilting the mouth of the bottle downward throws the bracket C below the axial center of the bottle, drops the weight C<sup>3</sup> onto the base C<sup>7</sup>, down which it rolls, trailing the locking-

loop C<sup>9</sup> after it and drawing the same into the slot C<sup>8</sup>, butting the valve-stem and opening the valve, permitting the liquor to flow freely from the bottle, the obstructions in the neck tending to prevent gurgling and gushing, due in the ordinary bottle to the neck choking with liquor and preventing a free air-vent. As the bottle resumes the vertical position the weight rolls back, causing the stirrup C<sup>2</sup> to pull the valve shut.

Having thus described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a bottle, a valve adapted to close the entrance thereof, consisting of a valve-seat, a rigid guide adjacent thereto, a valve-stem working in said guide and carrying a valve-gate coincident with said seat; a bracket having an axial travel around the said valve-stem, a gravitating weight carried by said bracket and adapted to roll into and out of contact with said valve-stem; and a perforated cap fixed over said valve; substantially as described.

2. In a bottle, a valve adapted to close the entrance thereof and provided with a stem; a slotted bracket having an axial travel around the stem of said valve; a gravitating weight having trunnions mounted in the slot of said bracket and adapted to roll into and out of contact with said valve-stem, and a stirrup attached to the axle of said gravitating weight, and also to the valve-stem; substantially as described.

3. In a bottle, a valve adapted to close the entrance thereof and provided with a stem; a bracket having an axial travel around the valve-stem, consisting of an integral piece of sheet metal having a base set at an angle to said valve-stem; cheek-pieces bent at right angles to said base; slots being formed in said cheek-pieces parallel with said base; a gravitating weight having its axle extended through the slots in said cheek-pieces; and a stirrup attached to said weight and also to the valve-stem; substantially as described.

4. In a bottle, a valve adapted to close the entrance thereof and provided with a stem; a bracket having an axial travel around the valve-stem, consisting of an integral piece of sheet metal having a base set at an angle to said valve-stem; cheek-pieces bent at right angles to said base and provided with notched segments, slots being formed in said cheek-pieces parallel with said base; a gravitating weight having its axle extended through the slots in said cheek-pieces; and a stirrup attached to said weight and also to said valve-stem; and a locking-loop swung on the axle of said gravitating weight, adapted to engage said notched segments; substantially as described.



5 5. In a bottle, a valve adapted to close the entrance thereof and provided with a stem, a bracket having an axial travel around said stem, a gravitating weight carried thereby and adapted to roll into and out of contact with said valve-stem, and means for locking said weight against surreptitious movement, substantially as described.

10 6. In a bottle, a neck adapted to be attached to the bottle-body, containing a valve adapted to close the entrance thereof and provided with

a stem, a bracket having an axial travel around said stem, a gravitating weight carried thereby and adapted to roll into and out of contact with said valve-stem, and means for locking said weight against surreptitious movement. 15

In testimony whereof I have hereunto set my hand this 1st day of June, 1903.

HERMAN HAHN.

Witnesses:

BALDWIN VALE,  
JAMES MCCARTNEY.