(No Model.)

J. S. WOOD, Sr.

NON-REFILLABLE BOTTLE.

No. 570,273. Patented Oct. 27, 1896.

Fig. 1.

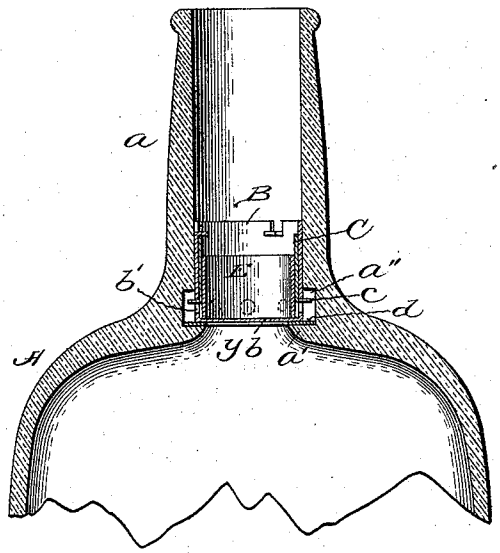


Fig. 5.

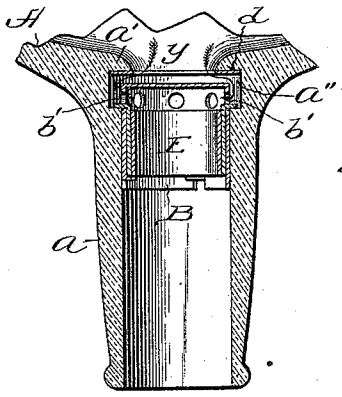


Fig. 3.

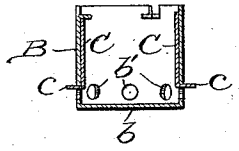


Fig. 2.

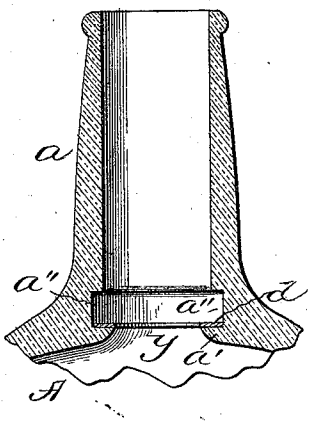
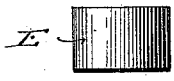


Fig. 4.



WITNESSES:

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NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 570,273, dated October 27, 1896.

Application filed February 11, 1896. Serial No. 578,960. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH S. WOOD, Sr., a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Non-Filling Bottle Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a non-filling device for bottles for preventing the fraudulent refilling of the same with a factitious liquid.

The object of my invention is to provide a simple and effective valved device which may be readily inserted into the neck of a bottle after it has been filled with liquid and will permit the ready outflow of the liquid, but will prevent the bottle from being refilled with liquid.

The details of construction of my improved device are illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical section of a portion of the bottle and the cup-valve, showing my improvements. Fig. 2 represents a vertical section of the neck of a bottle with the cup-valve removed. Fig. 3 represents a vertical section of the cup-valve detached. Fig. 4 represents an elevation of a short open-ended tube which may be used in the cup-valve.

The bottle A is constructed with the usual neck *a*, and at the base of said neck with an inwardly-projecting annular shoulder *a'*, forming a valve-seat. This annular shoulder may be formed in any suitable manner when the bottle is blown or molded and while the glass is still soft. Above the shoulder *a'* there is formed in the interior of the neck of the bottle an annular recess or channel *a''*, which may be termed the "liquid-channel," as it permits the liquid to flow from the interior of the bottle into the cup-valve when the latter is off from its seat.

The cup-valve B is made with a closed bottom *b* and open at the top, and the cylindrical shell is provided near the lower end with a circle of orifices *d*, arranged to form passages between the channel *a''* and the interior of the cup. To the wall of the cup, on the inside and near the upper edge thereof, are secured two or more retaining-springs C, having lower bent ends *c*, which project through the orifices *b'*. The springs C are preferably made of flat metal and are secured near their upper ends by brazing or rivets or in any other suitable manner to the shell of the cup. The springs C will normally lie flat against the interior surface of the cup with their outwardly-bent ends *c* projecting through the orifices *b'*, so that when the cup-valve is forced into position into the neck of the bottle said ends *c* will project into the channel *a''* and prevent the cup from being withdrawn. These bent ends of the springs, however, will permit the cup-valve to slide up and down or back and forth in the neck of the bottle a distance equal to the height of the channel *a''*, so that when the bottle is inverted the cup will slide off from its seat and permit the liquid contents of the bottle to flow out through channel *a''* and orifices *b'*. Though but two springs are shown in the drawings, three or four or any other desired number may be used, as found expedient.

The cup B is preferably made of white metal, but may be made of hard rubber or other suitable material.

For the purpose of closing the orifices *b'* in the cup-valve B, I may use a short open-ended tube E of suitable size to slide in the cup B. Since the orifices *b'* are slightly above the lower end of cup B, the tube E, when in position, will cover said orifices and prevent liquid passing through them. When the bottle is tilted or inverted for pouring out the liquid, the tube E will slide toward the mouth of the bottle and permit the liquid to flow out through the orifices *b'*, and thence out through the mouth of the bottle.

The tube E may be held in the cup B by turning over a tooth or other portion of the top edge of cup B. The tube E is sufficiently shorter than the cup B to clear the orifices *b'* when it is slid to the upper edge of said cup.

The bottle having been constructed as above described and as shown in Fig. 2, liquid may be readily poured into it through the mouth and the opening *y* in the valve-seat until it is filled to the desired height. The cup-valve may now be inserted by pushing inward the springs C, so that the bent ends *c*

shall pass along the interior surface of the neck until they reach the channel a'', when the springs will retract and force said ends into said channel. The springs now retain their normal position against the interior wall of the cup and their outwardly-projecting ends c will permit the cup to slide back and forth in the neck to the limits of the channel a''. The cup having been inserted will now rest at its lower end upon its annular valve-seat or directly upon the washer b on said seat. The tube E may now be inserted in the cup B, and a tooth (one or more) cut in the upper edge of the cup then turned inward to prevent said tube from sliding out. The cup-valve B, resting upon its annular seat, will prevent the liquid from flowing into the bottle, but the tube E may be used as an additional safeguard to close the orifices b'. The parts having been attached as above described, the bottle may be corked in the usual manner. Since the valve B will seat itself it will prevent access of air to the contents of the bottle if the cork or other stopper should be left out of the neck and also prevent evaporation of the liquid.

When it is desired to pour liquid from the bottle, it is tilted, mouth downward, in the usual manner, and the cup-valve B then slides outward toward the mouth, thus leaving a passage between its closed bottom and the seat and permitting the liquid to flow out, through the channel a'' and the orifices b', into and through the cup and thence through the mouth into the receptacle.

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

1. The combination with a bottle having an interior annular valve-seat and an annular channel above the same, of a cup-valve having a closed bottom and orifices in its cylindrical wall, and means extending through the orifices into said channel for retaining said valve in the neck of the bottle, but permitting it to slide outward and inward therein, substantially as described.

2. The combination with a bottle having an interior annular valve-seat and an annular channel above said seat, of a cup-valve having orifices in its cylindrical wall and springs projecting through said orifices into said channel for holding said cup in the neck and permitting it to move back and forth above its seat, substantially as described.

3. The combination with a bottle having an interior annular valve-seat and an annular channel above said seat, of a cup-valve having orifices in its cylindrical wall and springs secured to the wall of said cup, and having outwardly-bent ends projecting through said orifices into the channel, substantially as and for the purpose described.

4. In combination with a bottle having an interior annular valve-seat and an annular channel in the body of the bottle above said seat, of a cup-valve having orifices in its wall, means extending through the orifices into said channel for retaining the valve in the neck, but permitting it to slide outward or inward and an interior tube adapted to slide in said cup, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH S. WOOD, SR.

Witnesses:
J. STORY WOOD,
D. M. WEBSTER.