

(No Model.)

G. S. CHAMBERLIN.
BOTTLE STOPPER.

No. 498,003.

Patented May 23, 1893.

Fig. 1.

Fig. 2.

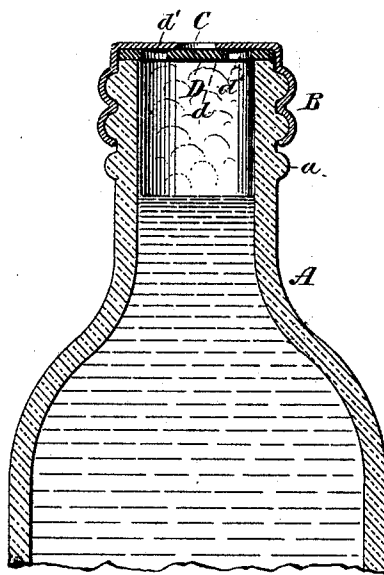
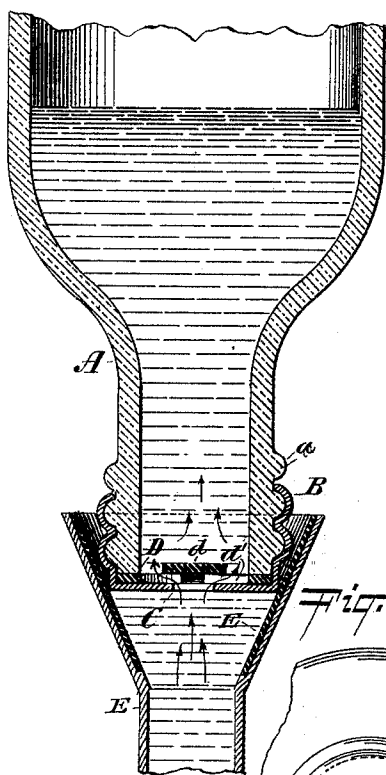


Fig. 3.

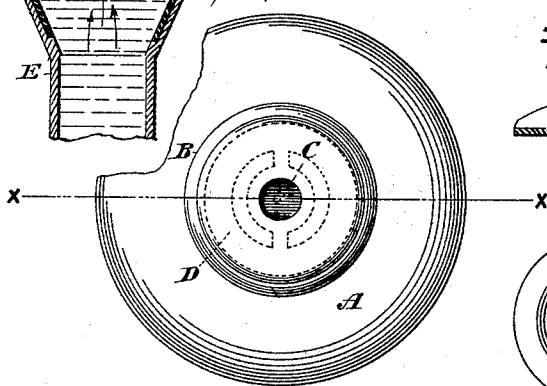


Fig. 5.

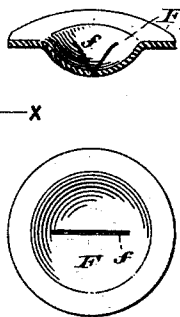
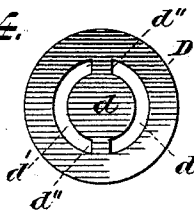


Fig. 4.



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UNITED STATES PATENT OFFICE.

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BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 498,003, dated May 23, 1893.

Application filed December 13, 1892. Serial No. 455,025. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. CHAMBERLIN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Bottle-Stoppers; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in bottle-stoppers and particularly to those used on bottles containing aerated beverages, but I do not limit the application of the stopper to any special kind of bottle or its contents.

I am aware that it is not broadly new to provide automatic devices for closing bottles containing effervescent liquors, but all of these, as far as I know, will permit the accumulation of dust and foreign matter around the mouth of the bottle and cork, which mingles with the liquor while the latter is being delivered; and these devices also permit more or less of the gas in the liquor to escape during the process of filling and afterward.

The object of my invention is to avoid these objectionable features and provide a simple device for protecting the mouth of the bottle from dust, &c., and which will also permit the bottle to be rapidly filled without removing the device and hermetically seal the bottle after being filled, at all times effectually preventing the escape of the gas and liquor.

With these and other ends in view the invention contemplates a cap adapted to be secured over the mouth of a bottle and having an opening in its top, a combined gasket and valve or disk arranged beneath the cap, the valve or disk being adapted to close the opening in the cap, and suitable passages between the gasket and valve or disk through which the liquor passes when the bottle is being filled, all as hereinafter more fully described and claimed.

To enable others to more readily understand my invention, I have illustrated the same in the accompanying drawings, in which—

Figure 1. is a sectional view illustrating my

invention and showing the position of the parts when the bottle is being filled. Fig. 2, is a sectional view taken on the line $x-x$ of Fig. 3 and showing the position of the stopper after the bottle has been filled with liquor. Fig. 3 is a top plan view of the bottle and stopper; and Figs. 4 and 5 are detail views of the combined gasket and valve or disk.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates a bottle of any preferred construction, and B the cap which is adapted to be tightly screwed on the threaded portion a of the bottle-neck. I have found that the screw-cap illustrated in the drawings forms a very tight joint on the threaded bottle-neck, but it is obvious that other means for securing the cap in place may be employed without departing from the spirit of my invention.

In the top of the cap B is an opening C, the diameter of which is preferably less than the diameter of the opening in the bottle-neck, the purpose of which opening will appear hereinafter.

The preferred form of my combined gasket and valve or disk is shown in detail in Fig. 4, and it comprises the outer ring or gasket D and the valve or disk d arranged within the gasket and connected thereto, preferably, by the integral strips d'' . The valve or disk d is larger than the opening C in the cap, so that it will effectually close the same when pressed against it by the liquor in the bottle, and the gasket D conforms in general outline, approximately, to the top of the bottle-neck, and it will be pressed tightly against the bottle by the cap and form an air and water tight joint. Between the gasket and valve or disk are passages d' through which the liquor passes into the bottle when the latter is being filled.

In practice, the cap is screwed tightly on the bottle, the gasket and valve having first been arranged in proper position either in the cap or over the mouth of the bottle. The gasket is thus clamped tightly between the cap and the bottle to form an air and water tight joint, and the valve or disk assumes its position under the opening C to close the same. The bottle is then ready to be filled which may be done by a variety of different

methods, one of which I have illustrated in Fig. 1. This figure shows the bottle inverted and the cap forced into a funnel E lined with some resilient material to prevent the escape of the liquor and gas as it is forced up into the bottle. By this method the liquor passes up through the opening C in the cap and against the valve or disk *d*, which in turn, is forced into the bottle to permit the liquor to enter through the passages *d'*. The strips *d''* hold the valve or disk in its proper position or otherwise the pressure of the liquor might force the valve or disk out of place so that it would not return to its normal position under the opening C and close the same. But the combined gasket and valve or disk are preferably made integral, of some elastic material, and the strips *d''* permit the disk to be forced away from the cap, as described and illustrated in Fig. 2, and at the same time prevent the same from being displaced. When the bottle has been filled and the filling apparatus removed, the inherent elasticity of the strips *d''* will return the valve or disk to its proper position against the cap, over the opening C, and the pressure of the water will hold the valve or disk firmly in place, thus effectually sealing the bottle.

By the use of my improved device it is obvious that the bottle will be hermetically sealed to prevent the escape of its contents, and the top of the bottle is fully protected by the cap against the accumulation of foreign matter, so that when the combined gasket and valve or disk and cap are removed the lips of the bottle are perfectly clean and free from dust, &c. The improved stopper also prevents the escape of the gas in the liquor as the combined gasket and valve or disk makes a perfectly tight joint between the cap and bottle.

In Fig. 5 I have shown a modification of my invention wherein the gasket and valve are

integral and the passages *d'* omitted, the valve being made in the shape of a cone F and having two or more slits *f* intersecting at the apex of the cone. The operation of this valve is substantially similar to that of the valve hereinbefore described, the slits *f* permitting the liquor to pass into the bottle.

I am aware that changes in the form and proportion of parts and details of construction of my invention may be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of the invention.

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

1. In a bottle stopper, a cap adapted to be secured on the bottle neck and having an opening in its top, a gasket clamped between the bottle and the cap, a valve arranged to close the opening in the cap by the upward pressure of the liquor in the bottle and connected with the gasket by elastic strips which hold said valve in its proper position across the opening in the cap, substantially as and for the purpose set forth.

2. The combination with a bottle, of a cap secured thereon and having an opening in its top, a combined gasket and valve arranged between the cap and bottle, the passages between said gasket and valve and the elastic strips connecting the gasket and the valve and adapted to hold the latter in its proper normal position over the opening in the cap, substantially as described.

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

GEORGE S. CHAMBERLIN.

Witnesses:

HERMAN GUSTOW,
WM. O. BELT.