

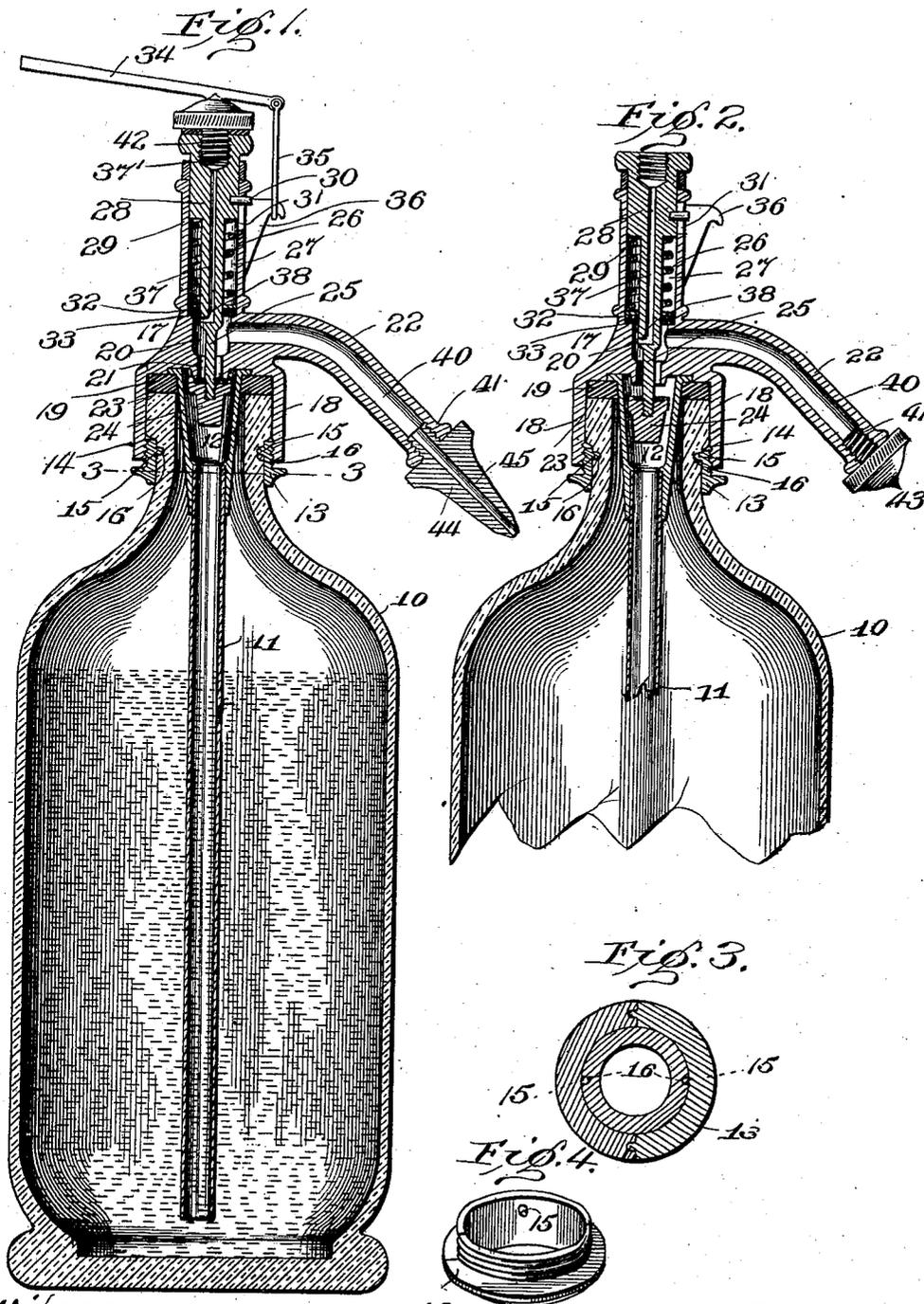
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C. L. BASTIAN.
SIPHON BOTTLE.

(Application filed July 24, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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SIPHON-BOTTLE.

SPECIFICATION forming part of Letters Patent No. 711,458, dated October 21, 1902.

Application filed July 24, 1901. Serial No. 69,510. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. BASTIAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Siphon-Bottles, of which the following is a specification.

This invention relates to new and useful improvements in siphon-bottles, and has reference more particularly to a novel construction of the head therefor, whereby the siphon-bottle can be used as a mixer in carbonating liquids for domestic use.

Heretofore it has been customary to fill siphon-bottles with liquid already carbonated by introducing the liquid through the discharge-spout of the siphon, and this has become an important part of a general bottling business. The siphons are regularly supplied by the bottler to customers, and when emptied they are collected and refilled.

It is the primary object of my invention to provide a siphon-bottle which can be used in the ordinary way for serving carbonated liquids and also as a mixer for carbonating liquid in the bottle; and a further object of the invention is to provide a siphon-head with a gas-inlet, so that it can be connected with a gas-supply tank and gas admitted to the bottle for saturating the liquid therein.

The invention has other objects in view, which will appear hereinafter in the detailed description of the construction and operation.

In the accompanying drawings, Figure 1 is a sectional view showing my improved siphon-bottle arranged for use in the ordinary way. Fig. 2 is a similar view showing the parts arranged in position for admitting gas to the bottle. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is a perspective view of the collar on the bottle-neck.

Referring to the drawings, in which like numerals of reference denote corresponding parts in the several figures, 10 designates the bottle, which may be of the ordinary construction and provided with a siphon-tube 11, supported in an upright position in the bottle in the usual manner by a sleeve 12. A threaded collar 13, Fig. 4, is secured on the neck of the bottle below the shoulder 14. This collar is preferably made in two sections, Fig. 3, each of which is provided with a projection

15 to enter a recess 16 in the neck of the bottle for the purpose of holding the collar rigidly in place on the bottle-neck.

The siphon-head 17 is provided with a cap 18 to fit over the top of the bottle, and it is threaded to engage the threaded collar 13, so that it can be tightly secured to the bottle to prevent the escape of the gas, and for this purpose a washer 19 is also provided. The siphon-head is provided with a chamber 20, communicating with the siphon-tube through a passage 21 and opening directly into the discharge-spout 22. The cap is provided with an annular valve-seat at the lower end of the passage 21, and a valve 24 is carried by a stem 25 and normally held in closed position against its seat by a spring 26, arranged on the valve-stem in a chamber 27 in the siphon-head. The upper end of the spring bears against the enlarged upper end 28 of the stem, which is arranged to operate in the hollow neck 29 of the siphon-head, being guided and held against rotation by means of a pin 30, which projects through a slot 31 in the neck of the siphon-head. The lower end of the spring bears against a bushing 32, which rests on a shoulder 33 at the top of the chamber 20.

I provide a detachable lever 34, which carries a yoke 35 to engage a hook 36 on the siphon-head and is operated to bear upon the valve-stem and unseat the valve, so that the carbonated liquid in the bottle may be served in the ordinary manner. The spring exerts considerable pressure on the valve-stem, and the valve cannot be conveniently operated without some device such as the lever 34, and as this lever is made detachable the valve is practically locked when the lever is not in use.

A siphon-bottle constructed as described up to this point is adapted for use in the ordinary manner; but my invention further contemplates providing a fluid-passage 37 in the valve-stem, the lower end of this passage extending laterally through the stem at 38 and discharging into the chamber 20.

The upper end of the fluid-passage 37 is enlarged to correspond in diameter with the passage 40 at the end 41 of the discharge-spout and both are screw-threaded interiorly to receive the screw-threaded plug 42. When the bottle contains carbonated liquid, the plug 42 will be used to close the passage 37,

as shown in Fig. 1; but when the liquid in the bottle is to be charged with gas the plug will be removed from the passage 37 and arranged to close the discharge-passage in the spout, as shown in Fig. 2, so that the gas and liquid cannot escape during the charging operation.

In practice the siphon-head is removed from the bottle by unscrewing it from the collar 13 and the bottle filled with the liquid to be carbonated. The siphon-head is then replaced on the bottle and screwed down tightly against the washer 19 to prevent the escape of the gas after the liquid has been charged. The plug 42 is then removed from the gas-passage and screwed in the end of the discharge-spout, as shown in Fig. 2, and the valve is opened and gas admitted through the gas-passage. In my application filed August 13, 1901, Serial No. 70,769, I have described and claimed a machine for introducing the gas into the bottle through the siphon-head and agitating the liquid to promote the carbonation; but it will be understood that this invention is not limited to use in connection with that particular machine and may be used in any other suitable manner.

The gas-pressure is preferably regulated to admit a certain quantity of gas to the bottle, and when this has been accomplished the gas is turned off and pressure removed from the valve-stem, so that the spring may reseal the valve and prevent the escape of the contents of the bottle. The screw-plug is then removed from the discharge-spout and replaced in the top of the valve-stem to close the gas-passage, as shown in Fig. 1. The head 43 of the plug is preferably pointed to form a fulcrum for the lever 34 and also prevent the valve from being operated by pressure of the hand without the lever.

The bottle can be prepared for the carbonating process in a very short time by simply changing the plug from its position in the gas-passage to its position closing the discharge-spout, and when the carbonation is complete the bottle can be made ready for use as a siphon by simply returning the screw-plug to its position closing the gas-passage.

Carbonated mineral waters of different kinds can be made by introducing the proper salts when the bottle is being filled with liquid, and if it is desired to flavor the carbonated water with syrup when served a nozzle, such as 44, having a small passage 45, may be screwed in the end of the discharge-spout, so that the carbonated liquid will be discharged in a fine stream into the glass to cut the syrup previously placed therein in the manner usual with soda-fountains.

My improved siphon-bottle can be used in the ordinary manner, and it may be filled by bottlers or others with carbonated water through the discharge-spout, as has been customary heretofore, or through the fluid-passage 37, and it will be found that the filling operation can be very conveniently accom-

plished through said passage 37 and without employing complicated machines for that purpose.

The improved siphon-head is especially designed, however, to enable any one to carbonate liquid for his own use, and this is accomplished without the exercise of any particular skill by simply filling the bottle with liquid and then connecting a drum of carbonic-acid gas with the fluid-passage 37 of the siphon-head and agitating the bottle. In this way a bottle of freshly-carbonated liquid can be produced in a very few minutes for family use or to be served in restaurants, saloons, and other places where carbonated drinks are served.

The construction of the siphon-head is very simple, and for the different operations it is only necessary to transfer the plug from the fluid-passage to the discharge-spout and back again to the fluid-passage. It is apparent, therefore, that a siphon-bottle provided with a head constructed in accordance with my invention can be used by anybody to carbonate liquid, or it can be used in the ordinary manner by bottlers and served to customers, the fluid-passage 37 providing for the admission of carbonated liquid at a bottling establishment in a simpler and better manner than it is now accomplished through the discharge-spout.

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

1. A siphon-head provided with an inlet-passage and a discharge-passage, a single valve for closing communication with said passages at their inner ends, and a removable plug for closing the outer end of one passage while the outer end of the other passage is open.

2. A siphon-head provided with an inlet-passage and a discharge-passage, and comprising a removable plug for closing the outer end of one passage while the corresponding end of the other passage is left open, and a valve at the inner end of said passages.

3. A siphon-head provided with a discharge-passage, a valve, a stem for said valve provided with a fluid-inlet passage, and a removable plug for closing the outer end of one passage while the outer end of the other passage is open.

4. A siphon-head provided with an inlet-passage and a discharge-passage and having a chamber with which said passages communicate, said chamber forming a continuation of whichever passage is open for use, and a valve at the bottom of said chamber.

5. The combination with a bottle, of a siphon-head having a lateral discharge-passage on one side communicating with the bottle, a valve-stem provided with an independent inlet-passage also communicating with the bottle, and a valve carried by said stem in the communication between the discharge and inlet passages and the bottle.

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6. The combination with a bottle, of a siphon-head having a lateral discharge-passage on one side communicating with the bottle, a vertically-arranged valve-stem operating in the head and provided with an inlet-passage opening at the top thereof and communicating with the bottle, a valve carried by the stem in the communication between the discharge and inlet passages and the bottle, and a plug for closing the inlet-passage in the stem and extending above the head.

7. The combination with a bottle, of a siphon-head removably secured thereon and comprising a discharge-spout, a valve, a valve-stem provided with a fluid-passage, and a plug normally closing said passage and adapted to close the discharge-spout when the liquid in the bottle is being charged with gas through the passage.

8. The combination with a bottle, of a siphon-head removably secured thereon and comprising a discharge-spout, a valve, a valve-stem provided with a fluid-passage extending through the top thereof and opening through the side of the stem above the valve, and a plug for closing the upper end of the passage.

9. The combination with a bottle, of a siphon-head removably secured thereon and comprising a discharge-spout having an interiorly-threaded outer end, a valve, a valve-

stem provided with a fluid-passage having its upper end enlarged and screw-threaded to correspond with the passage at the end of the discharge-spout, and a plug normally screwed into the enlarged end of the passage to close the same and adapted to be removed therefrom and screwed into the end of the discharge-nozzle to close the discharge when the liquid in the bottle is being charged with gas through said passage.

10. The combination with a bottle, of a siphon-head removably secured thereon and comprising a chamber 20, a discharge-spout leading from said chamber, a passage communicating with the bottle and said chamber, a valve normally closing said passage, a valve-stem provided with a fluid-passage opening into said chamber and a screw-plug normally closing the upper end of said fluid-passage.

11. A siphon-head for siphon-bottles comprising a spout having a discharge-passage, a valve, a valve-stem, a fluid-passage extending through the top of said stem, and a plug for closing the outer end of the fluid-passage or the discharge-passage.

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