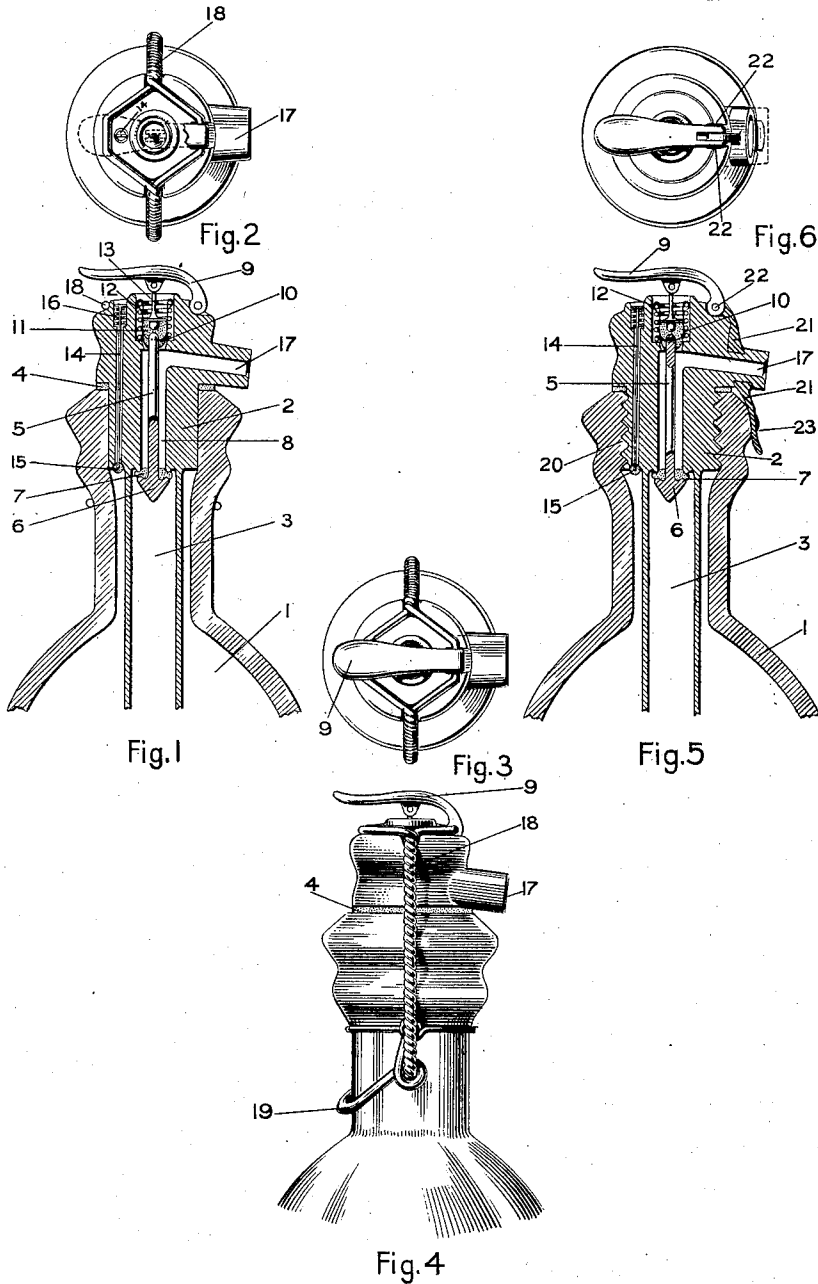


L. CHERRY.
BOTTLE SIPHON.
APPLICATION FILED NOV. 27, 1911.

1,057,118.

Patented Mar. 25, 1913.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

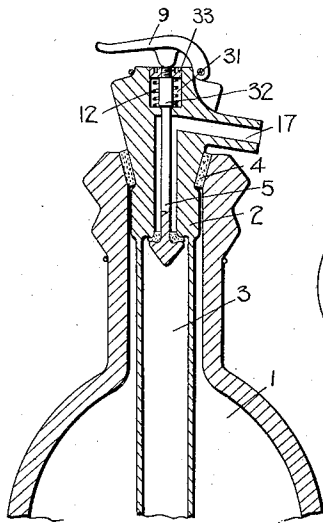


Fig. 7.

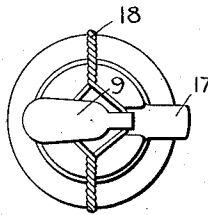


Fig. 8.

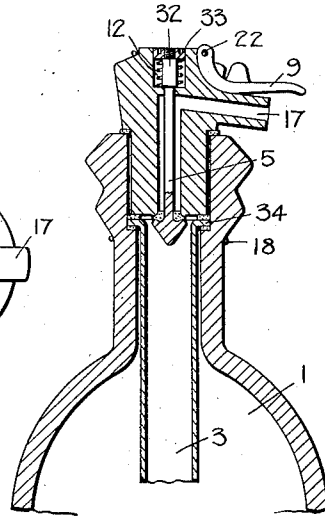


Fig. 10.

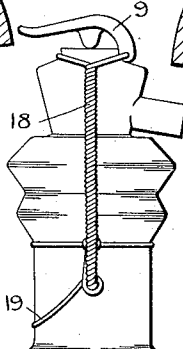


Fig. 9.

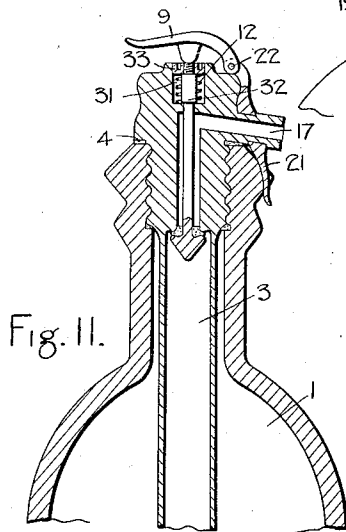


Fig. 11.

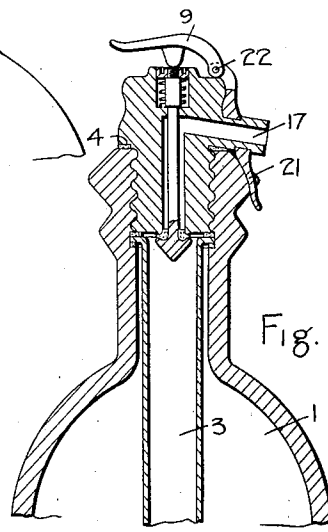


Fig. 12.

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BOTTLE-SIPHON.

1,057,118.

Specification of Letters Patent. Patented Mar. 25, 1913.

Application filed November 27, 1911. Serial No. 662,593.

To all whom it may concern:

Be it known that I, LOUIS CHERRY, a citizen of the United States, residing at Brooklyn, in the county of Queens and State of New York, have invented certain new and useful Improvements in Bottle-Siphons; 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 letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to siphons for aerated waters and the like and has for its object the production of a simple and efficient siphon of a sanitary nature and capable in one form of the invention of being filled from the top, and in a modified form from the side outlet opening of the bottle.

A further important object of the invention is to provide a siphon in which the liquid cannot contact with any contaminating parts of the discharging mechanism or clamp, and further in one form to provide the siphon stopper and the tube extending into the bottle in one piece so as to enable a brittle substance of a cheap character to be used such as glass, porcelain or the like.

A further object is to provide a siphon which can be readily removed for cleaning purposes without the use of special implements, while insuring a tight joint for the liquid under pressure contained in the bottle.

In the accompanying drawings:—Figure 1 is a side sectional elevation of a bottle neck embodying the invention, the bottle being filled from the top as hereinafter described. Fig. 2 is a plan view of the top of the bottle the operating lever being shown in dotted lines. Fig. 3 is a plan view of the top of the bottle with the operating lever in full lines. Fig. 4 is a side elevation of the top of the bottle with the retaining clamp in position. Fig. 5 is a sectional side elevation of a modified form of siphon in which the siphon is screwed into position in the bottle neck. Fig. 6 is a plan of the same. Fig. 7 is a side sectional elevation of the neck of a bottle siphon into which the liquid is introduced through the outlet mouth of the bottle, the siphon stopper and depending tube being made in one piece. Fig. 8 is a plan view of the same, and Fig. 9 is a side eleva-

tion showing the retaining clamp in position. Fig. 10 is a sectional elevation of a similar bottle showing the operating lever turned down into an inoperative position, but in which the stopper and tube are independent of each other. Fig. 11 is a sectional elevation of a bottle neck and siphon in which the stopper is screwed into the bottle neck, the tube and stopper being integral, while Fig. 12 is a similar view but in which the tube is independent of the siphon or stopper.

In the drawings 1 is the bottle which may be of any convenient form, and 2 the stopper which in this case is made of glass or other brittle material having the downwardly extending tube 3 formed integral therewith. The stopper in Fig. 1 is made to fit the bottle neck and is provided with a ring washer 4 resting on the top edge of the bottle neck and underneath a projecting shoulder of the stopper, thus insuring a tight joint and preventing the escape of the liquid and gas when the bottle is filled. The siphon mechanism consists of a valve stem 5 having a valve member 6 at the lower end of same, this valve member being provided with a rubber or similar washer 7 which normally makes close contact with the bottom of the stopper opening into the tube 3, but allows the liquid to escape up the passage 8 when the operating lever 9 is depressed. The valve stem 5 is retained in position by means of a wire 10 passed through a hole in the stem near the top thereof, this wire lying in a groove in the bottom of a rubber plug 11 which rests within the coils of a spiral spring 12 arranged in a cavity in the top of the stopper. A connecting stem 13 attached at its upper end to the lever 9 is embedded in the rubber of the plug 11. Passing through the stopper 2 is a second stem 14 provided with a small valve member 15 at the base of same and having a coil spring 16 at its upper end lying in a small cavity in the upper part of the stopper, this valve stem serving to allow the escape of air when the bottle is being filled as hereinafter described. The liquid escapes through the mouth 17 of the stopper when the operating lever 9 is depressed.

A clamping device 18 of usual construction is applied over the top of the stopper 2 and around the neck of the bottle 1 and when the lower member 19 of this clamping device is raised it allows the stopper to be

removed from the bottle for cleansing purposes.

In Figs. 5 and 6 is illustrated a modified form of stopper which in this case also has formed integral therewith the tube 3 but the stopper is screw threaded externally to engage with screw threads 20, arranged on the inside of the bottle neck. The operating lever 9 in this form is carried on an extension of a collar 21 passing over the mouth 17 of the bottle, such extension having projecting lugs 22 on which the operating lever 9 pivots. The collar lies in a groove formed in the outlet of the stopper. A lower extension of the collar 21 falls when the stopper is in its final position, into a groove 23 formed in a projecting part of the bottle neck under the mouth thereof. This lower extension 23 is formed of a springy metal so that it can be sprung into position in its retaining groove when the stopper is grooved home, thus preventing the further rotation or movement of the stopper.

In the siphon illustrated in Figs. 7 to 12 the bottle is filled through the side mouth, a tight joint being made in the stopper 2 by means of the rubber ring 4. The liquid is prevented from escaping into the cavity 31 and out of the top of the stopper by means of a rubber tube 32 placed inside the coils of the spiral spring 12 around the valve stem 5 as clearly illustrated in Fig. 10. The operating lever 9 is here shown turned down in a position where it would not be possible for it to open the valve should it be pressed accidentally or otherwise. The valve stem 5 is screwed into a small plate 33 closing the top of the cavity 31, said plate being forced down with its attached valve stem 5 by the operating lever 9 when it is desired to draw off the liquid. In Fig. 7 the stopper and tube are formed integrally but in Fig. 10 the tube which is of the same material as the stopper is separate and is bent over at 34 to seat between two rubber rings arranged on a small shoulder in the bottle neck. The clamping device 18 used in the modification shown in Figs. 7, 8, 9 and 10 is of the type illustrated in Figs. 1, 2, 3, 4.

In Figs. 11 and 12 similar forms of siphon are illustrated but the stoppers are here screwed into position in the bottle neck the stopper and tube being formed integrally in Fig. 11 and separately in Fig. 12. The collar with its extension for preventing rotation of the stopper and for carrying the lever operating device is of the same construction as that illustrated in Fig. 5. The bottles in Figs. 7 to 12 are filled through the side mouth of the stopper in the usual manner.

It will be seen that the invention provides for a tube and stopper being made in one piece, or separately as may be found desirable, but in either case they can be con-

structed of a cheap material which may be of a brittle nature such as glass, stoneware or porcelain; the stopper and siphon can be readily removed for cleaning purposes thus insuring a thoroughly sanitary device, no contact between the liquid and any contaminating parts being possible. Further by fitting inside of the bottle neck instead of outside as usual enables a stopper of smaller compass and of a cheaper material to be employed.

The stopper and siphon can also be removed for cleaning purposes without the use of special tools and other advantages will be apparent over the known forms of siphons at present in use.

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

1. A bottle siphon, comprising in combination, a bottle, a stopper secured thereto and having a discharge outlet, a siphon tube connected to said stopper, a valve in said stopper for controlling both the admission and discharge of liquid to and from said bottle, an upper passage in said stopper through which liquid is adapted to be introduced into the bottle past said valve, and a member adapted to be operated to engage and open said valve for discharging the liquid and also adapted to close said upper passage during said discharge.

2. A bottle siphon, comprising in combination, a bottle, a stopper secured thereto and having a discharge outlet, a siphon tube connected to said stopper, a passage in said stopper connecting said siphon tube with said discharge outlet, a valve in said stopper between said passage and siphon tube for controlling both the admission and discharge of liquid to and from said bottle, an upper passage in said stopper communicating with the first mentioned passage and through which liquid is adapted to be introduced into the bottle through said first passage and valve, and a member adapted to be operated to engage and open said valve for discharging the liquid and also adapted to close said upper passage during said discharge.

3. A bottle siphon, comprising in combination, a bottle, a stopper secured thereto and having a discharge outlet, a siphon tube connected to said stopper, a valve in said stopper for controlling both the admission and discharge of liquid to and from said bottle, an upper passage in said stopper through which liquid is adapted to be introduced into the bottle past said valve, a discharge lever, and a member connected thereto adapted when said lever is operated to engage and open said valve for discharging the liquid and also adapted to close said upper passage during said discharge, the lever being also adapted to be operated so

as to move said member clear of said upper passage during the filling of the bottle.

4. A bottle siphon, comprising in combination, a bottle, a stopper secured thereto and having a discharge outlet, a siphon tube connected to said stopper, a valve in said stopper for controlling both the admission and discharge of liquid to and from said bottle, an upper passage in said stopper through which liquid is adapted to be introduced into the bottle past said valve, a discharge lever, and a member pivotally secured thereto adapted when said lever is operated to engage and open said valve for discharging the liquid and also adapted to close said upper passage during said discharge, the lever being also adapted to be operated so as to move said pivotally mounted member clear of said upper passage during the filling of the bottle.

5. A bottle siphon, comprising in combination, a bottle, a stopper secured thereto, and liquid discharging means associated therewith, including a valve and valve stem, a discharge lever, a plug member connected to said discharge lever and engaging said valve stem, a seat in said stopper with which said plug engages when the discharge lever is operated, a spring arranged in said stopper, a groove formed in said plug, a hole formed in said valve stem, and a wire passing through said groove and hole and secured at its ends to said spring.

6. A bottle siphon, comprising in combination a bottle, a stopper screwed into said bottle and having a discharge outlet, a siphon tube connected to said stopper, a valve in said stopper for controlling both the admission and discharge of liquid to and from said bottle, an upper passage in said stopper through which liquid is adapted to be introduced into the bottle past said valve, a member adapted to be operated to engage and open said valve for discharging the liquid and also adapted to close said upper passage during said discharge, a discharge lever adapted to operate said member, a member secured to said stopper, upon one end of which said discharge lever is pivoted, the other end of said member being formed as a spring projection, and a groove in a portion of said bottle with which said spring projection engages to prevent further rotation of the stopper when it is screwed home.

7. A bottle siphon, comprising in combination, a bottle, a stopper secured thereto and having a discharge outlet, a siphon tube connected to said stopper, a valve in said stopper for controlling both the admission

and discharge of liquid to and from said bottle, an upper passage in said stopper through which liquid is adapted to be introduced into said bottle past said valve, a member adapted to be operated to engage and open said valve for discharging the liquid and also adapted to close said upper passage during said discharge, a longitudinal passage through said stopper, a valve controlling the said passage, means adapted to be operated to open said valve to release the inclosed air during filling, said means being arranged entirely within said stopper to prevent accidental operation or breakage thereof.

8. A bottle siphon, comprising in combination, a bottle, a stopper secured thereto and having a discharge outlet, a siphon tube connected to said stopper, a valve in said stopper for controlling both the admission and discharge of liquid to and from said bottle, an upper passage in said stopper through which liquid is adapted to be introduced into said bottle past said valve, a member adapted to be operated to engage and open said valve for discharging the liquid and also adapted to close said upper passage during said discharge, a longitudinal passage through said stopper, a valve controlling the inner end of said passage, a valve rod connected to said valve and extending through said passage, a cavity in said stopper, a head on the other end of said valve rod within said cavity adapted to be operated to open said valve, and a spring in said cavity engaging said head for closing said valve.

9. A bottle siphon, comprising in combination, a bottle, a stopper secured thereto and having a discharge outlet, a siphon tube connected to said stopper, a valve in said stopper for controlling both the admission and discharge of liquid to and from said bottle, a cavity in the upper part of said stopper, a passage in said stopper communicating with said cavity, means adapted to be operated to engage and open said valve for discharging the liquid, means for closing said upper passage during said discharge, and means for closing said valve, all of said means being arranged within said cavity.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS CHERRY.

Witnesses:

KATHLEEN I. NOONAN,
JOSEPH F. SULLIVAN.