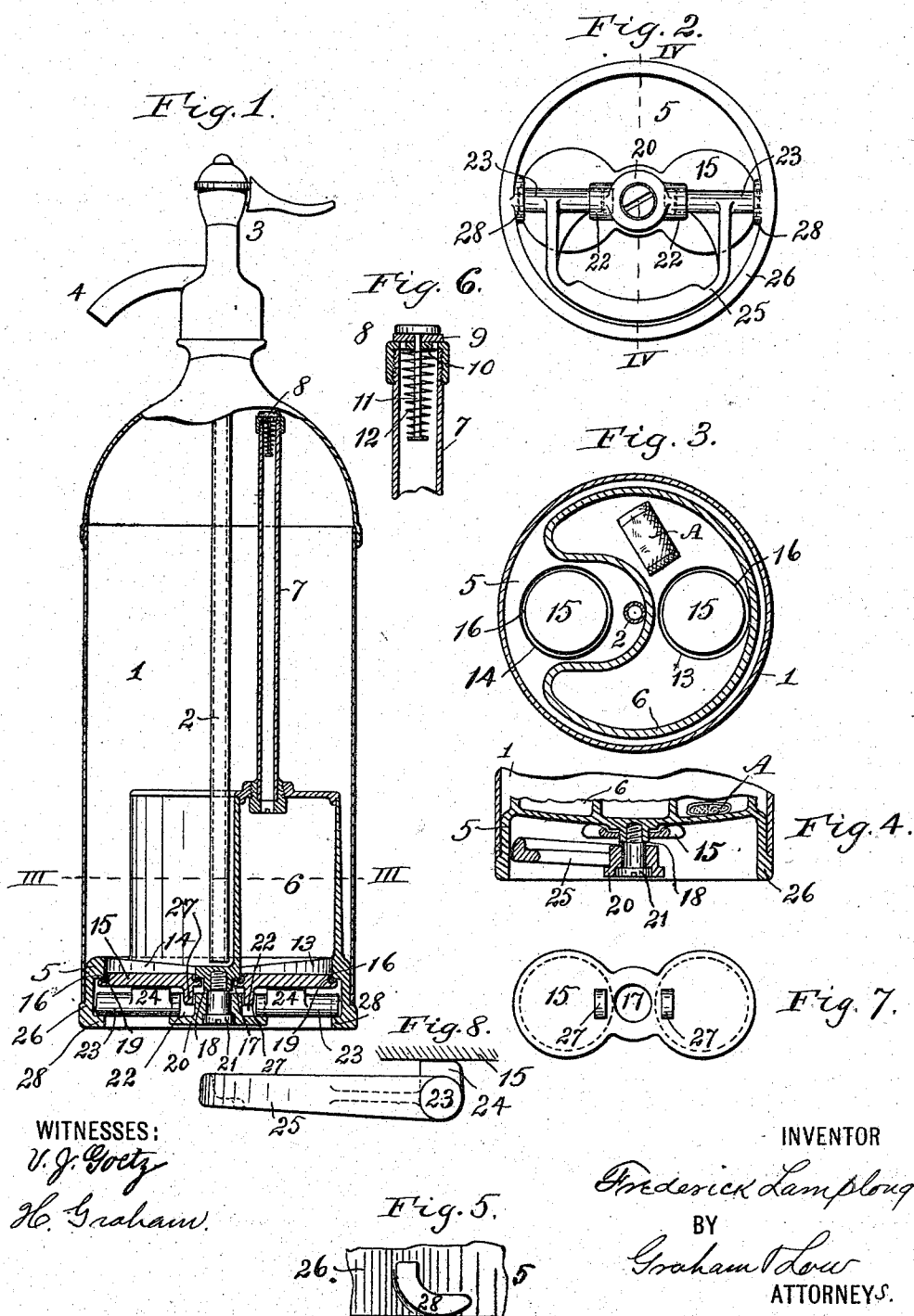


(No Model.)

F. LAMPLOUGH.
REGENERATIVE SIPHON, &c.

No. 530,536.

Patented Dec. 11, 1894.



UNITED STATES PATENT OFFICE.

FREDERICK LAMPLOUGH, OF NEW YORK, N. Y., ASSIGNOR TO JULIUS WIELAR,
OF SAME PLACE.

REGENERATIVE SIPHON, &c.

SPECIFICATION forming part of Letters Patent No. 530,536, dated December 11, 1894.

Application filed April 2, 1894. Serial No. 506,105. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK LAMPLOUGH, a subject of the Queen of Great Britain, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Regenerative Siphons or other Vessels, of which the following is a specification.

It is the object of my invention to provide a simple, convenient and effective means for impregnating wines, spirits, milk, water or other beverage or liquid with carbonic acid gas, for family or other use, which can be operated and used by any unskilled person with very little expense.

In carrying out my invention I place together a portion of liquid and one or more capsules containing suitable chemicals such as bicarbonate of soda and tartaric acid and having a soluble covering adapted to temporarily resist the action of the water or liquid in which such capsule is immersed and then place said associated portion of liquid and capsule in a condition of partial communication with, but separate from, the body of liquid which is to be impregnated and hermetically inclose and seal together both bodies of liquid, said partial communication being of such character that while the generated gas may freely pass into the body of liquid to be aerated no part of the liquid containing the capsule may so pass.

My invention comprises a bottle or other vessel, preferably what is ordinarily termed a siphon bottle, having within its body or reservoir a generating chamber so arranged as to supply to the said reservoir and to the liquid therein the carbonic acid gas without permitting the escape from the generating chamber of any of its solid or liquid contents, which latter would impair the character and taste of the beverage.

Such being the general nature of my invention, in order to make the same more clearly understood, I have shown in the accompanying drawings, means for carrying it into practical effect, without limiting my improvements in their useful applications to the particular construction which, for the sake of illustration, I have delineated.

In said drawings:—Figure 1 is a vertical sectional view of a siphon bottle embodying

my invention. Fig. 2 is a bottom plan view of the same. Fig. 3 is a sectional view on line III—III, Fig. 1. Fig. 4 is a vertical sectional view on line IV—IV, Fig. 2, of the lower part of the bottle. Fig. 5 is an elevation of a portion of the inner side of the base of the bottle. Fig. 6 is a sectional view showing on a larger scale the gas-generating chamber valve. Fig. 7 is a bottom plan view of the cover. Fig. 8 is a sectional view showing one of the clamping cams in contact with the cover.

Referring to the drawings, 1 indicates the body of a siphon bottle, of glass, metal, or other material, having a tube 2, valve 3, and delivery nozzle 4, all of any usual or preferred character.

5 is a base secured to the body 1, and having formed therewith or attached thereto a gas generating chamber 6. From the top of the latter extends to any desired part of the bottle a gas delivery tube 7 provided with a valve 8. The latter has a rubber or other washer, 9, adapted to seat upon the top of the tube 7 or upon a cap carried by the latter. Said cap has a bearing 10 which receives and guides the valve stem 11 and the valve is controlled by a spring 12 which keeps it normally seated and permits it to open only when a sufficient gas pressure has accumulated in the chamber 6.

13, 14, indicate openings through the base 5 into the chamber 6 and into the body of the bottle respectively, and 15 is a cover preferably made double and adapted to close simultaneously both of said openings, a tight closure being insured by gaskets 16 situated in grooves 19 in the cover and interposed between the cover and base 5. Said cover has a central bearing 17 fitting around a projection 18 on the base, on which projection the cover is adapted to rotate to open or close the apertures 13 and 14. 20 is a cap situated outside of the cover and held in place by a screw 21, having a round journal on which the cover may turn, and screwed into the projection 18. Said cap is formed with sockets 22 in which rest the inner ends of journals 23. Said journals carry cams 24 adapted to bear against the under side of the cover and clamp the latter against the base. For turning the journals a handle 25 is provided cast with or attached to them, and adapted, when the cover

is thus clamped to lie against the bottom of the base and within its flange 26, as seen in Figs. 2 and 4. In order to cause the cover and clamp to rotate together the former is furnished with projections 27 entering the sockets 22 or otherwise engaging the cap 20. In order to support the outer ends of the clamp journals I provide sockets 28 on the base 5 into which sockets the journal-ends enter when the cover is in place over the openings 13, 14.

In operating the invention, the bottle is inverted, the handle 25 swung upward and turned horizontally with the cover so as to open the apertures 13 and 14, the body of the bottle partly filled through the aperture 14 with the liquid or beverage to be aerated, to a height within, say, two inches of the aperture, the chamber 6 partly filled through the opening 13 with a liquid such as water, a capsule A having a soluble or gradually permeable exterior and containing the gas generating chemicals or materials such as bicarbonate of soda and tartaric acid also placed in the chamber 6, the cover 15 twisted back into place, to close the openings 13, 14, the handle 25 turned down flat upon the base so as to cause the cams 24 to force the cover and gaskets 16 hermetically against the base, and the bottle reverted to its normal position. While the bottle is inverted, or tipped at any time, the spring 12 will operate to keep the valve 8 closed and retain the liquid and gas generating substances within the chamber 6. The ends of the cams 24 are flat as seen in Fig. 8, and when in the closed position shown in said figure may be said to be past the point of greatest throw so that the resistance of the cover will tend to keep the cams in place. The soluble or permeable capsule, which will temporarily keep the water in the chamber 6 from contact with the gas generating substances so as to delay such generation until the cover 6 has been hermetically closed, will soon be dissolved or penetrated by such water and the generation of the carbonic acid gas will begin. As soon as it accumulates in sufficient amount in the chamber 6 its pressure will open the valve 8 and the gas will pass into the body of the bottle and mingle with the liquid to be aerated.

The case or covering of the capsule need be only substantial enough to resist the action of the water sufficiently long for the cover to be put in place and clamped. I have found a tissue paper wrapped or pasted around the gas generating substances to be sufficient for the purpose. By capsule I therefore intend any package of the gas-generating chemicals.

What I claim is—

1. A siphon for aerated liquids having

within it a gas generating chamber provided with a yielding valve to automatically permit the exit of the gas from said chamber into the receptacle, said chamber having an opening direct to the atmosphere and a cover for said opening substantially as set forth.

2. The combination with the body of the siphon or other vessel, of a base having a chamber and openings into the vessel and chamber respectively, a cover for closing said openings hermetically, and a check-valve within the siphon for regulating escape from said chamber into the receptacle, substantially as set forth.

3. A portable siphon for aerated liquids containing a separate chamber for gas generation, and having in its bottom contiguous apertures for charging said chamber and receptacle, a cover for closing said apertures hermetically, and a clamp for securing the cover, substantially as set forth.

4. A siphon for aerated liquids having a separate chamber for gas generation, and openings into the body of the vessel and into said chamber, a rotary cover adapted to close both of said openings, and a clamp for hermetically securing the cover, substantially as set forth.

5. The combination with the siphon having the base, the chamber, and the openings, the double cover, the journals having clamping cams and a handle, and the cap pivoted on the base, substantially as set forth.

6. The combination with the siphon, of the chamber 6, the tube 7 having an automatic valve within the siphon, and means for independently charging the siphon and said chamber, substantially as set forth.

7. A siphon having a base provided with a chamber and openings into said chamber and siphon respectively, a swinging cover adapted to close both of said openings, and a clamp for the cover, substantially as set forth.

8. The combination with the vessel having openings, of a swinging cover, a clamping bar or shaft connected and turning therewith, supports for the bar, and cams for causing the bar to clamp the cover by reaction against said supports, substantially as set forth.

9. The combination with the vessel having openings, of a swinging cover for the same, a rock shaft having cams, and a central rotary support for the shaft, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two witnesses.

FREDERICK LAMPLOUGH.

Witnesses:

H. N. Low,
SAMUEL DAVIS.