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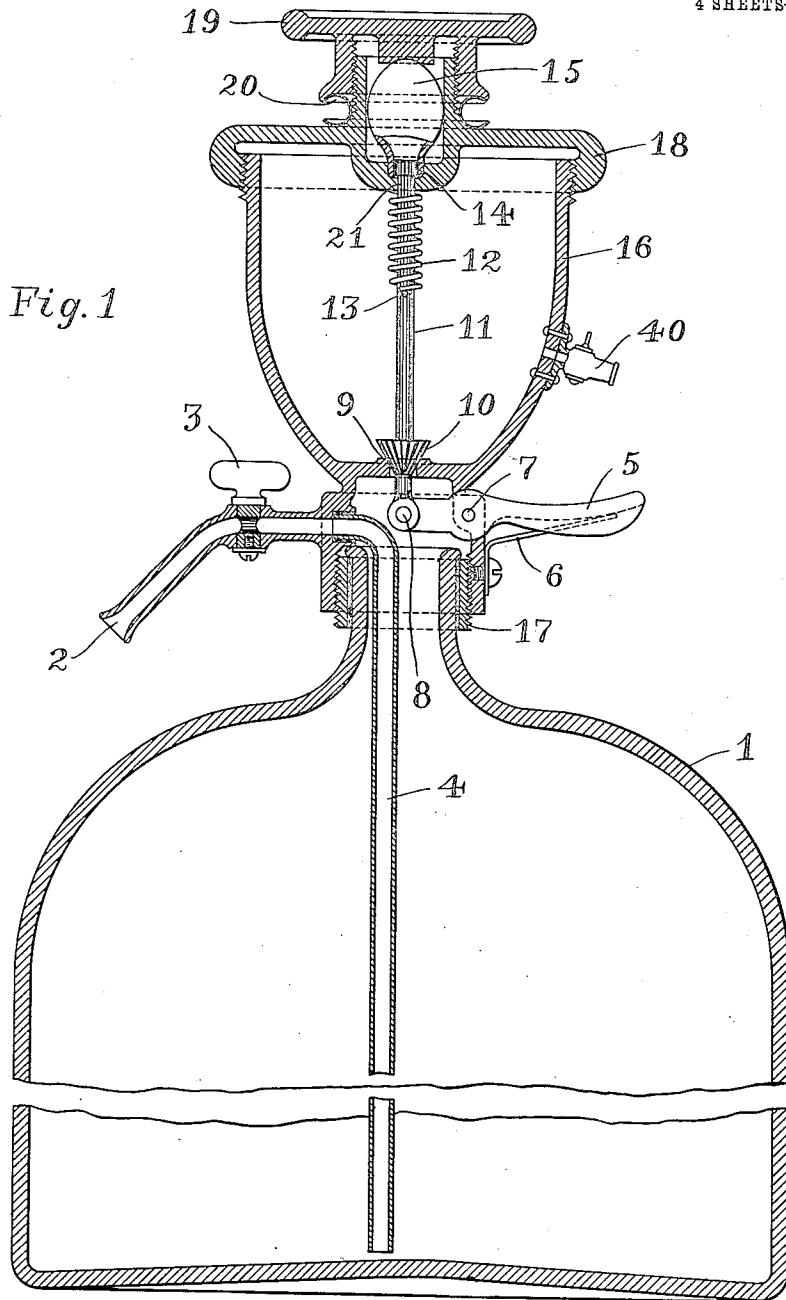
SIPHON FOR DISPENSING LIQUIDS.

APPLICATION FILED APR. 29, 1909. RENEWED JUNE 18, 1912.

1,054,037.

Patented Feb. 25, 1913.

4 SHEETS—SHEET 1.



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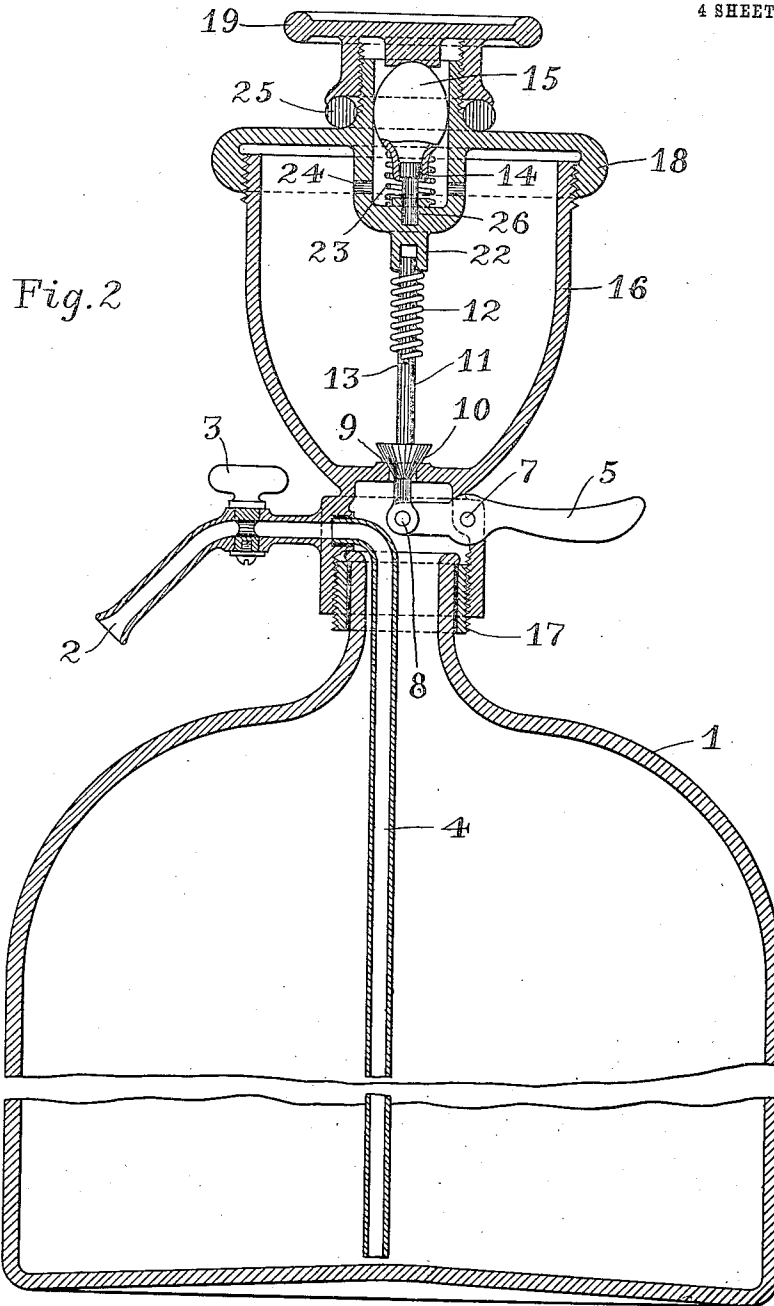
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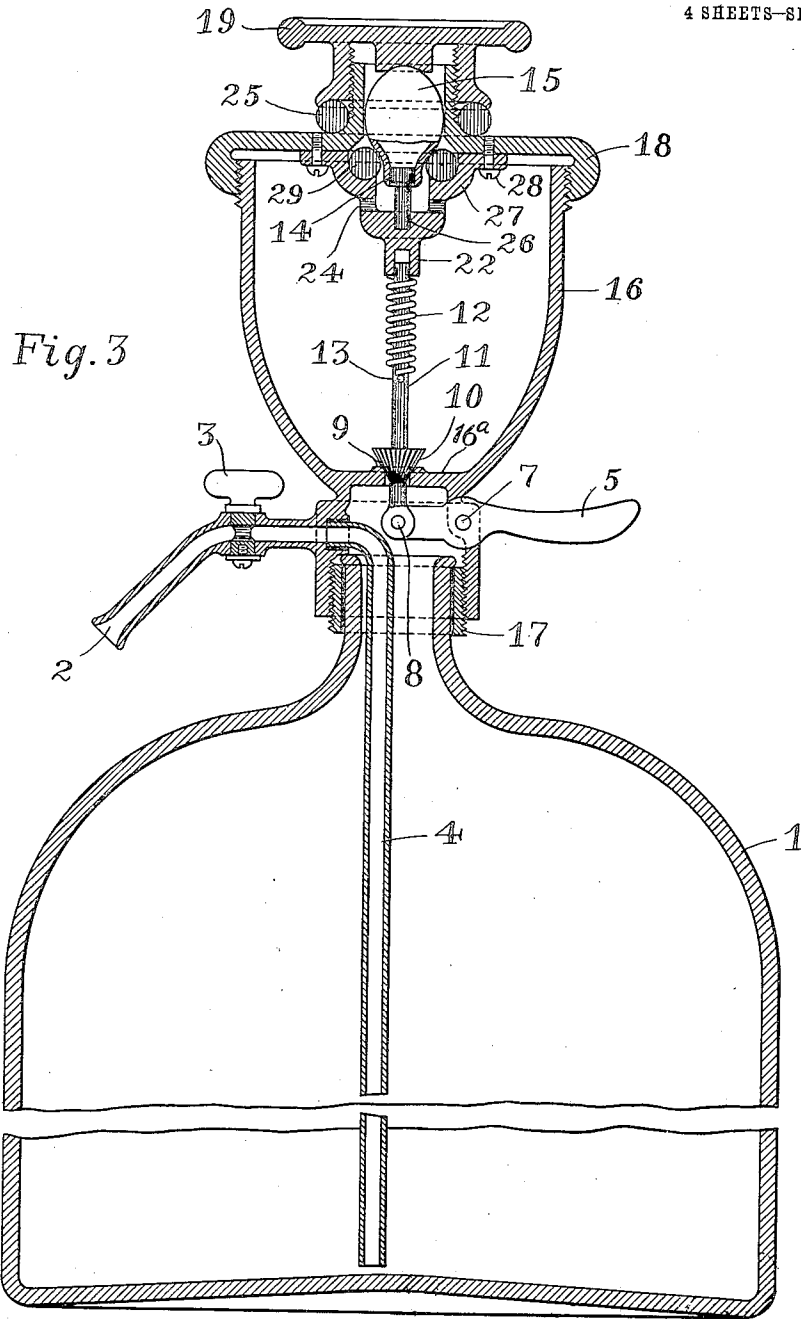
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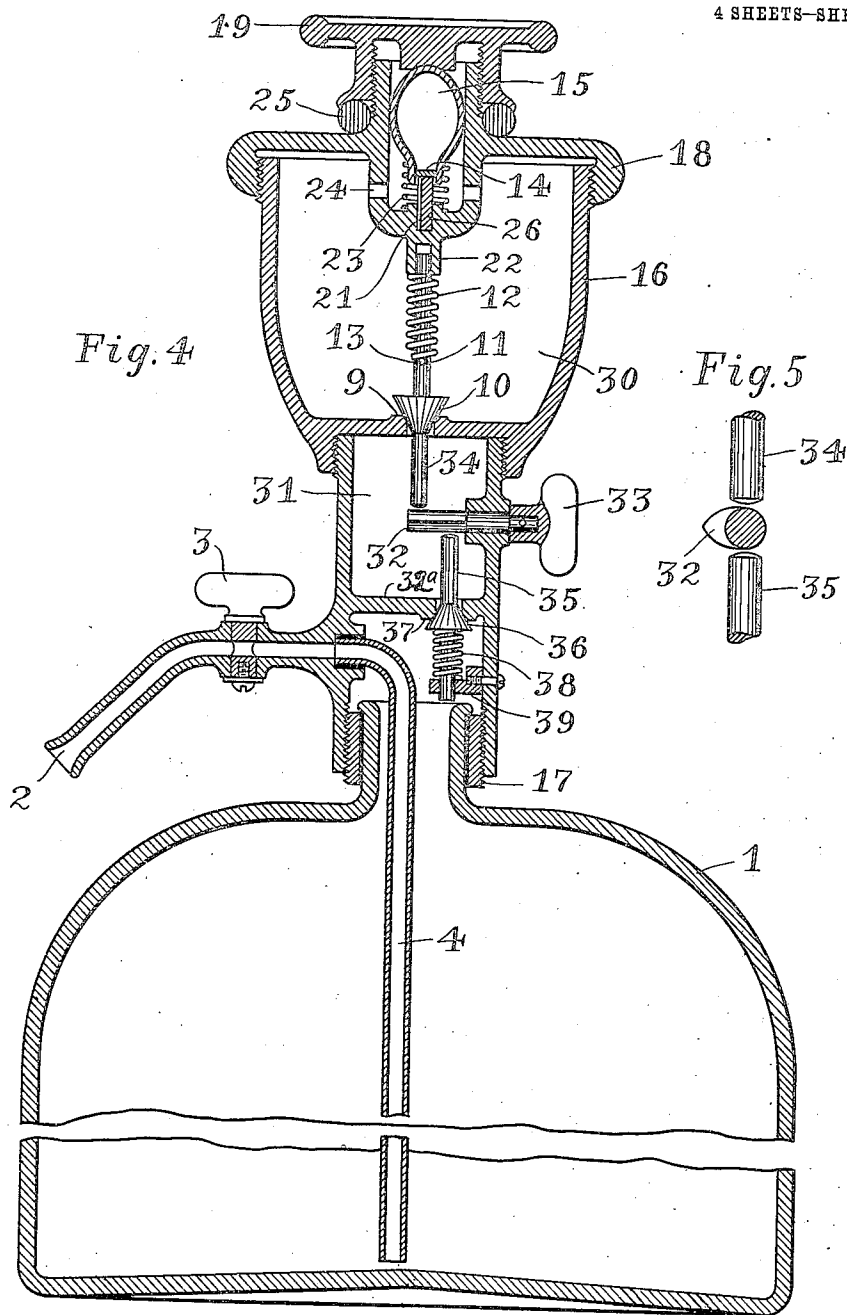


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UNITED STATES PATENT OFFICE.

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SIPHON FOR DISPENSING LIQUIDS.

1,054,037.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed April 29, 1909, Serial No. 493,055. Renewed June 18, 1912. Serial No. 704,467.

To all whom it may concern:

Be it known that I, ADAM EMIL SCHATZ, a citizen of the United States, and resident of Mount Vernon, in the county of Westchester and State of New York, have invented a certain new and useful Improved Siphon for Dispensing Liquids, of which the following is a specification.

My invention relates to improvements in portable apparatus for dispensing liquids under pressure, the latter being preferably provided by carbonic acid gas or by compressed air, and has particular relation to apparatus in which the gas container is mounted on and removably connected to the receptacle having the liquid to be dispensed.

The principal object of my invention is to provide an apparatus by means of which the gas container is charged through a port controlled by a valve of ordinary type or which may be charged by means of a capsule having carbonic acid gas, in which case the head or gas container may be re-charged without a special apparatus.

A further object is to provide an apparatus which is simple and efficient in operation, durable in construction, of sufficient strength to resist explosion, readily applied or removed, and which may be manufactured at a relatively low cost.

To these and other ends, my invention consists in the improved construction and combination of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the accompanying drawings in which similar reference characters indicate similar parts in each of the views, Figure 1 is a central vertical sectional view of one form of my apparatus applied to a liquid container. Figs. 2, 3 and 4 are similar views of modifications. Fig. 5 is a detail sectional view of the means for actuating the valves in Fig. 4.

The four views of the drawings illustrate various ways in which my apparatus may be employed, the general type being illustrated in Fig. 1 which I will now describe.

1 designates a liquid container of suitable form and having a neck on which is removably secured (or which may be permanently attached, if desired) a screw-threaded thimble 17. Removably secured to the

thimble 17, is the threaded lower end of the head or gas container, said lower end having a radial outlet to which the siphon tube 4 is connected on the inside and the spout 2 to the outside, preferably (in the case of the spout) formed integral with the container.

3 designates a cock to control the passage-way through the spout.

The container proper, indicated at 16, is preferably of the form shown in the drawings, having its upper end open and provided with peripheral screw-threads to receive a cap 18, thereby providing, with a diaphragm 16^a, a closed chamber, the diaphragm being formed with a valve-seat 9 normally closed by a valve 10 carried by a rod 11. The rod 11 is normally positioned to close the seat 9, by means of a spring 12 positioned on the rod 11 between a pin 13 and a shoulder on the cap 18, the valve 10 being opened by means of a lever 5 pivotally mounted on the container at 7 and pivotally connected to the rod 11 at the point indicated at 8, the lever being normally retained elevated by a spring 6.

The cap 18 is formed with an upwardly-extending annular flange within which is received the capsule, indicated at 15, the chamber for the capsule being completed by the screw-threaded closure 19 having an inwardly-projecting portion which may serve to manipulate the capsule to discharge its contents.

20 designates a gasket between the closure and cap to form a tight joint, the gasket in this case being formed of tubular metal split to permit the edges to be turned inward.

The upper end of the rod 11 is formed and positioned so as to cause the capsule closure to be forced into the capsule when the rod 11 is raised to open the valve 10, thereby permitting the gas to escape into the container 16 and, through the port controlled by the valve 10, into the receptacle 1.

If the container is to be charged from a special apparatus, a cock 40 is employed thereby permitting the charge to be introduced directly into the container.

As will be understood, the operation of the lever 5 opens communication between the container and receptacle, and at the same time provides for the escape of the gas from

the capsule, the valve immediately seating itself when the pressure on the lever is removed.

The construction of Fig. 2 differs from that just described, in that the rod 11 is not continued into the capsule chamber, terminating in a seat 22 formed on the cap 18. To provide for the opening of the capsule, a separate pin 26 is provided, extending vertically within the capsule chamber and having the head 14 adapted to open the capsule, the latter operation being provided by the screwing down of the closure 19, the gasket, in this instance, being in the form of a rubber ring 25. The capsule is supported by the spring 23. Communication between the capsule chamber and the container is provided by the ports 24.

In the form shown in Fig. 2, the walls of the capsule chamber, with the exception of that provided by the closure 19, are formed integral with the cap 18. In Fig. 3 I have shown these walls as formed in two parts or members, the cap 18 having simply the vertical flange extending upwardly, the lower portion of the chamber being formed by the member 27 removably connected to the cap 18 by screws 28, thereby making a less expensive construction. In this view the capsule is shown as supported by a rubber gasket 29.

In each of these forms the receptacle is separated from the container only by the diaphragm 16^a and the valve 10. While the particular construction shown is extremely strong against breakage or explosion and the valve 10 is of a form not liable to provide leakage, it is possible that accidents might happen to affect either the diaphragm or the valve with the result that leakage of gas into the receptacle might result and tend to explode the receptacle. To avoid this liability, I provide the construction shown in Fig. 4, in which the container is formed with two chambers preferably by forming the container in two parts 30 and 31 screw-threaded together, the upper chamber being similar to the chambers of the container 16 in the remaining constructions shown, the rod 11, however, having its lower end 34 extending into the lower chamber and positioned in the path of movement of a cam 32 carried by a rotatable key 33, the movement of said cam in one direction opening the valve 10 and permitting the gas to pass into the lower chamber. The lower chamber has a diaphragm 32^a provided with a valve seat 37, said seat being normally closed by a valve 36 positioned on the lower side of said seat and normally held seated by a spring 38 mounted on the valve stem between the valve and a projection 39 carried by the member 31. The valve stem is provided with an extension 35 within the lower

chamber and having its upper end within the path of movement of the cam 32, the extension 35 and end 34 being on opposite sides of the cam so that they may be operated successively but not simultaneously. By this latter construction communication between the receptacle and the main container (the upper chamber) can only be had through the lower chamber the ports to which cannot be opened simultaneously when the parts are in position. Should leakage occur between the chambers, the pressure will not be communicated to the receptacle; in addition, the pressures in the two chambers need not be equal that in the lower chamber being simply the pressure required to discharge the contents of the receptacle, the pressure in the lower chamber being increased by manipulating valve 10 when necessary. In this manner a heavier charge may be placed in the upper chamber.

In each of the forms shown, the structures are exceedingly simple, enabling the parts to be made of maximum strength and at greatly reduced cost.

Having thus described my invention, what I claim as new is:

1. In dispensing apparatus, a container adapted to be removably secured to a receptacle, said container having a controlled passageway for the material being dispensed, said container having a removable cap to complete the chamber for the pressure agent, a valved port leading from said chamber, said port being normally closed, said cap having a capsule chamber in communication with the pressure chamber, and means projecting into the capsule chamber from the plane of the bottom thereof for opening the capsule by a relative movement of capsule and said means, means being provided for manipulating the pressure chamber valve at will.

2. In dispensing apparatus, a container adapted to be removably secured to a receptacle, said container having a controlled passageway for the material being dispensed, a removable cap for said container, said cap completing the pressure chamber, a port leading from the pressure chamber, a normally-closed spring-supported valve for said port, means for opening said valve at will, a capsule chamber within said cap and in communication with the pressure chamber, a closure screw-threaded to the cap for completing the capsule chamber, said closure having a projection adapted to contact with the capsule, and means projecting into the capsule chamber from the plane of the bottom thereof for opening the capsule by a relative movement of the capsule and said latter means.

3. In a siphon bottle for dispensing liquids, the combination of a gas receiving

chamber provided with suitable inlets and an outlet valve, and having an auxiliary chamber provided with suitable valves by which the gas may be introduced into the bottle or vessel to lift the liquid, substantially as described.

4. A siphon bottle for dispensing liquids provided with a gas receiving chamber having suitable inlets and an outlet valve, and an auxiliary chamber provided with suitable valves, and means connected with said

auxiliary chamber for operating said valves to govern the discharge of the gas into the bottle.

Signed at Mount Vernon in the county 15
of Westchester and State of New York this
28 day of April A. D. 1909.

ADAM EMIL SCHATZ.

Witnesses:

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