

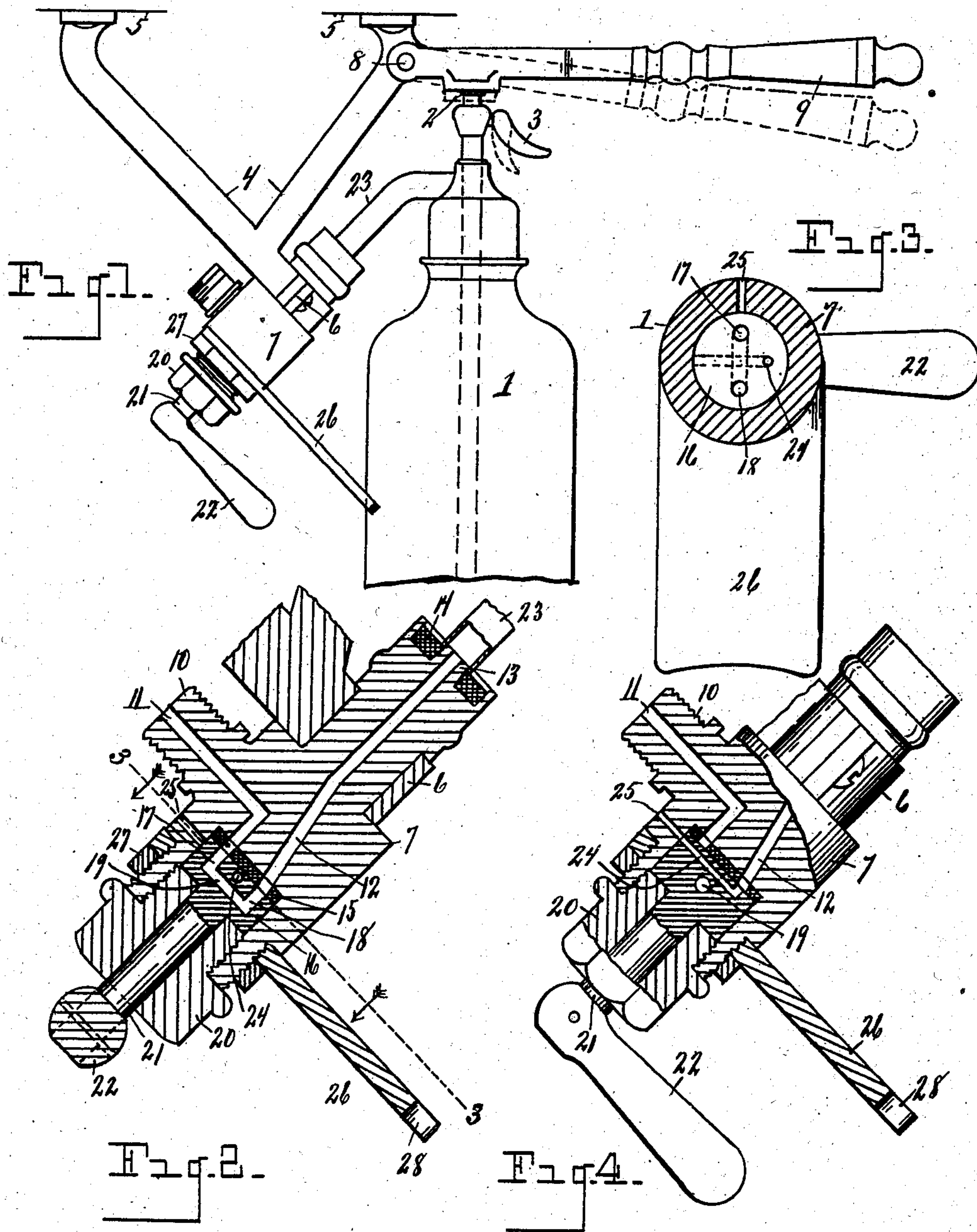
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C. M. EARL.
SIPHON FILLER.

APPLICATION FILED JAN. 10, 1902.

NO MODEL.



WITNESSES.

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SIPHON-FILLER.

SPECIFICATION forming part of Letters Patent No. 721,547, dated February 24, 1903.

Application filed January 10, 1902. Serial No. 89,106. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. EARL, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have
5 invented certain new and useful Improvements in Siphon-Fillers; and I do 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
10 make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to a device for filling
15 siphon-bottles and similar receptacles with carbonated water and other liquids under pressure; and it consists in the construction and arrangement of parts hereinafter fully set forth, and pointed out particularly in the
20 claims.

The object of the invention is to provide simple and efficient means for maintaining the siphon-bottle in position, so that the liquid under pressure may be directed into the
25 nozzle of the siphon and the valve of the siphon opened at the same time to allow the water to flow into the bottle. A further arrangement provides for a relief-opening which allows the liquid and gas occupying the channel between
30 the controlling-valve and the siphon-nozzle to escape when the controlling-valve is closed, thereby preventing the escape of gas and water at the nozzle of the siphon when the siphon is removed after the bottle has been filled.

35 The above object is attained by the structure illustrated in the accompanying drawings, in which—

Figure 1 is an elevation showing my improved apparatus and a siphon-bottle in position for filling. Fig. 2 is a longitudinal section through the coupling and controlling-valve, showing the position of parts when the fluid under pressure is being directed into the siphon-bottle. Fig. 3 is a transverse section as on line 3-3 of Fig. 2. Fig. 4 is a sectional
45 view similar to Fig. 2, but showing the controlling-valve in position to cut off the flow from the main reservoir and relieve the pressure in the channel leading from said valve
50 to the siphon-nozzle.

Referring to the characters of reference, 1

designates the siphon-bottle, having the usual spring-controlled valve provided with the projecting stem 2, adapted to be actuated through the lever 3 to open the valve. A bracket 4 is
55 attached to the under side of a bar or counter (indicated by line 5 in Fig. 1) and is provided with a clamp 6, which embraces a coupling 7 and supports said coupling in position. Pivoted at 8 to the bracket 4 is a lever 9,
60 adapted to bear upon the upper end of the valve-stem 2 when the siphon-bottle is in the position shown in Fig. 1. Projecting from the rear of the coupling 7 is a threaded boss 10, adapted for attachment to a pipe leading from
65 the pressure-reservoir (not shown) adapted to contain the carbonated water or other liquid under pressure. Opening through said threaded boss 10 is an intake-port 11, which passes inwardly and downwardly and opens
70 into a socket formed in the lower end of said coupling. Also communicating with the socket in the lower end of said coupling is a passage-way 12, which terminates in a nipple 13 at the coupling's upper end. Surround-
75 ing said nipple within an annular recess at the end of the coupling is a compressible washer 14.

Located within the socket at the lower end of the coupling is a compressible gasket 15, 80 having openings therethrough which register with the intake-port 11 and the passage-way 12, respectively. Seated in said socket is a rotary plug-valve 16, having in the face thereof the inwardly-extending openings 17 and 18, 85 connected at their inner ends by the transverse channel 19, whereby a continuous passage is formed through the valve by way of said openings and channel. Screwed into the outer threaded opening in the recess at
90 the bottom of the coupling is a plug 20, which surrounds the stem 21 of the valve 16 and bears against said valve to hold it forcibly against the gasket 15. Attached to the stem 20 of the valve is an operative handle 22, by
95 means of which the valve may be actuated. The openings 17 and 18 in the valve are such a distance apart as to register with the openings through the gasket 15, that communicate with the intake-port 11 and the passage-
100 way 12, so that when the valve is turned to bring said parts to register, as shown in Fig.

2, communication is established between the intake-port and the passage-way 12 by way of the valve 16.

When desiring to fill the siphon-bottle, the
5 nozzle 23 of the siphon is placed over the nipple 13 and against the compressible washer 14, surrounding said nipple, as shown in Figs. 1 and 2. By a downward pressure upon the lever 9 the valve-stem 2 is depressed to un-
10 seat the siphon-valve and at the same time force the siphon-nozzle onto the washer surrounding the nipple 13, thereby making a tight coupling between said nozzle and the discharge end of the passage-way 12. The
15 valve 16 is then opened or turned to the position shown in Fig. 2, when the fluid under pressure will flow through said valve and through the nozzle of the siphon in the bottle. When the bottle has been filled, the flow
20 of liquid is cut off by closing the valve or rotating it so as to carry the apertures 17 and 18 therein out of alinement with the intake-port 11 and the passage-way 12, which position is shown in Fig. 4. To provide for an
25 escape of the fluid contained in the passage-way 12 when the valve 16 is closed, said valve is provided with a discharge-opening 24, which extends inwardly from the face of the valve and thence diametrically thereof
30 between the openings 17 and 18, its discharge end passing through the side of the valve and communicating with the relief-port 25, passing through the wall of the coupling, whereby all gas and water under pressure con-
35 tained in the passage-way 12 finds immediate escape, enabling the siphon-bottle to be removed from the coupling without spurting or sniffing as the nozzle is withdrawn from the nipple 13. It will be observed that the
40 arrangement is such as to cause the discharge-opening in the valve to register with the passage-way 12 only when the valve is closed to cut off the flow of liquid through the port 11 and that when the valve is open
45 to allow the liquid to flow into the siphon-bottle the discharge-port in said valve is out of alinement with said passage-way 12, as shown in Fig. 3.

For the purpose of supporting the bottle
50 firmly in position when placed on the coupling for refilling an inclined plate 26 is screwed onto the lower end of the coupling and secured by a jam-nut 27, the downwardly-extending end of said plate being con-
55 cave, as at 28, to receive the round of the bottle and maintain it in position while being filled.

It will be observed that in this apparatus the controlling-valve does not depend upon
60 the action of a spring to close it, therefore obviating the failure of the valve to close

through a weakening of the spring or the accumulation of some substance upon the valve-seat. It will also be observed that simulta-
neously with the closing of the controlling- 65 valve a relief is provided for the fluid under pressure remaining in the passage-way 12, so that an escape of fluid at the nozzle of the siphon is obviated as the bottle is removed from the coupling. 70

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

1. In a siphon-filler, the combination of a stationary coupling having an intake-port 75 adapted to be connected with a source of fluid under pressure and having a passage-way extending from end to end of said coupling, a member at the terminal of said passage-way adapted to receive a siphon-nozzle, a control- 80 ling-valve in said coupling adapted by its movement to connect the intake-port with the nozzle of the siphon through said passage-way, a relief-port through the wall of the coupling, and a discharge-opening in said 85 valve adapted to connect the passage-way leading to the nozzle of the siphon with said relief-port when the controlling-valve is closed.

2. In a siphon-filler, the combination of a 90 coupling, an intake-port in said coupling connected with a source of fluid under pressure, a passage-way through said coupling, a nipple at the terminal of said passage-way adapted to receive a siphon-nozzle, a valve in said 95 coupling provided with an opening adapted to connect said intake-port with said passage-way, a discharge-opening in said valve, a relief-port in the wall of the coupling, said discharge-opening being adapted to connect said 100 passage-way and nozzle with said relief-port in the wall of the coupling when the valve is closed.

3. In a siphon-filler, the combination of a coupling, an intake-port therein connected 105 with a source of fluid under pressure, a passage-way through said coupling, an external nipple at the discharge end of said passage-way adapted to receive a siphon-nozzle, a compressible washer around said nipple, a valve 110 adapted to establish communication between the intake-port and said passage-way, a relief-port through the wall of the coupling, and means operated upon the closing of the valve for connecting said passage-way with the at- 115 mosphere through said relief-port.

In testimony whereof I sign this specification in the presence of two witnesses.

CHARLES M. EARL.

Witnesses:

E. S. WHEELER,
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