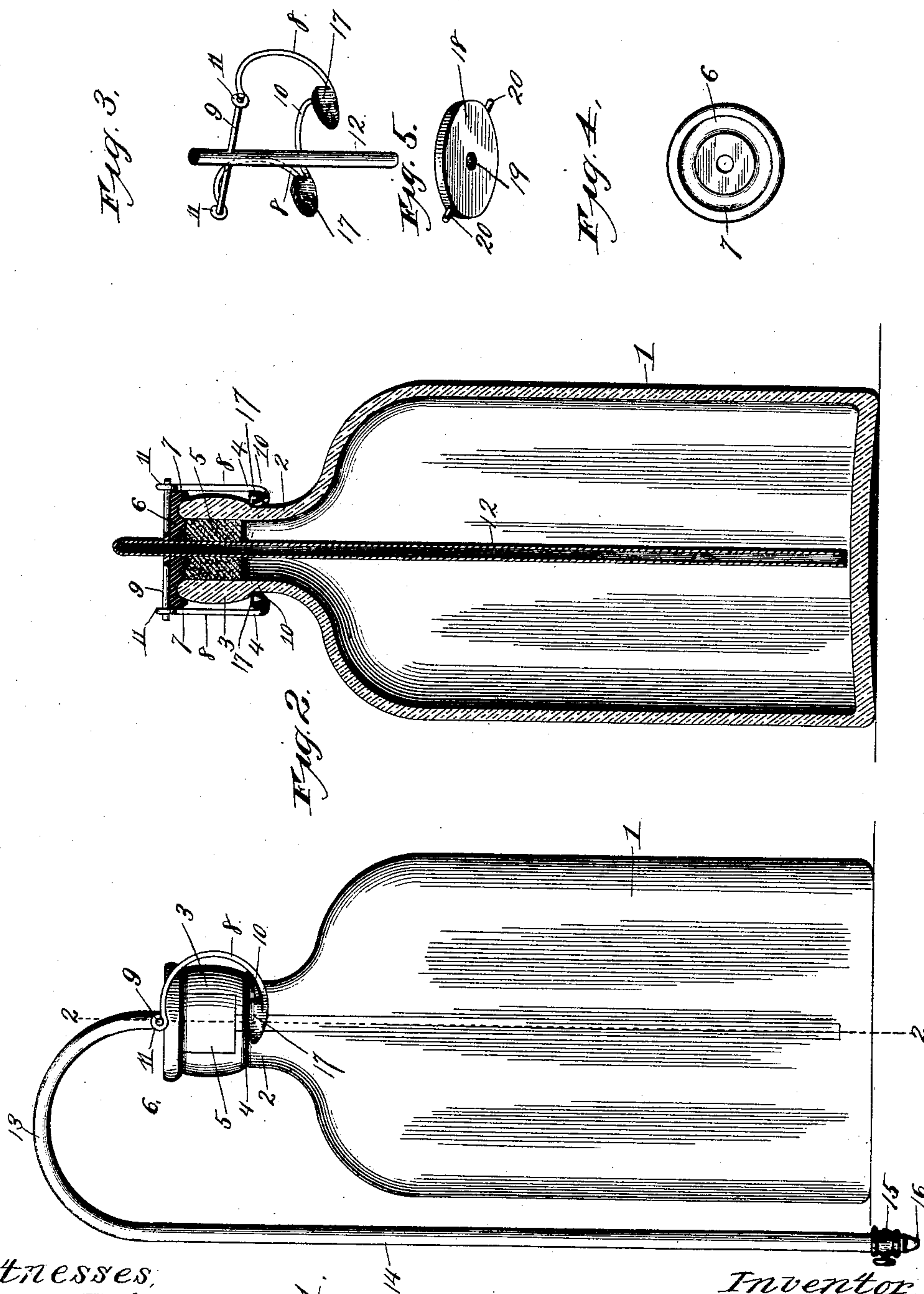


(No Model.)

P. M. CLARK.
SIPHON BOTTLE.

No. 480,763.

Patented Aug. 16, 1892.



Witnesses,
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UNITED STATES PATENT OFFICE.

PHILO M. CLARK, OF BONNER SPRINGS, KANSAS.

SIPHON-BOTTLE.

SPECIFICATION forming part of Letters Patent No. 480,763, dated August 16, 1892.

Application filed April 30, 1892. Serial No. 431,313. (No model.)

To all whom it may concern:

Be it known that I, PHILO M. CLARK, of Bonner Springs, Wyandotte county, Kansas, have invented certain new and useful Improvements in Siphon-Bottles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to bottles and similar receptacles for aerated and other liquids, such as soda-water, mineral waters, beer, and other liquids which are charged with gas under pressure.

The objects of my invention are to provide a siphon-bottle or siphon attachment to bottles and similar receptacles, which shall be strong, durable, and inexpensive in construction and entirely automatic in operation and also capable of application to a great variety of receptacles, and which, furthermore, shall cause a true siphon action upon the liquid in addition to the action of the gas-pressure, thus rendering the high gas-pressure heretofore required unnecessary and aiding the diminished gas-pressure, so as to cause the liquids to be completely removed from the receptacles.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a siphon-bottle embodying my invention. Fig. 2 is a transverse vertical section of the same on the line 2 2 of Fig. 1. Fig. 3 is a detached perspective view of the upper part of the siphon-tube and the stopper-fastener. Fig. 4 is an inverted plan view of the elastic cap for the stopper. Fig. 5 is a detached perspective view of a modified form of attachment for connecting the clamping-arms to the stopper.

In the said drawings, 1 designates a bottle, which is presumably of glass, but which may be of any other suitable or preferred material and which may be also either of the precise form shown or of any other suitable or preferred form for containing aerated liquids. It is to be understood, moreover, that the re-

ceptacle 1 may, if preferred, be in the form of a jug, a demijohn, or any other receptacle suitable for the purpose explained, and that said receptacle may be constructed of stone, earthenware, or any other suitable or preferred material, as desired. In any event the receptacle is provided with a suitable neck 2, at the upper or outer end of which is formed an enlarged head 3, which forms a shoulder 4 at its point of juncture with the neck 2.

Within the mouth of the receptacle is placed a stopper 5, which may be of rubber, wood, cork, or any other suitable or preferred material, adapted to tightly close the mouth of the receptacle and to resist the tendency of the internal pressure from the gas with which the liquid in the bottle is charged from forcing the stopper out of the mouth of the receptacle. A cap 6 is shown as placed upon the upper end of the head of the receptacle and as formed on its under side or surface with an annular groove 7, which is located near the outer margin of the cap, the said cap being preferably of rubber or other elastic material, as preferred. This stopper 5 and its cap 6 are retained removably in position by a bail which is preferably formed of suitably-stout wire and which is composed of two segmental arms 8, which are located at opposite sides of the head of the bottle and the lower ends of which are connected by an integral segmental cross-bar 10, which when the bail is in operative position embraces one side of the neck of the bottle and engages immediately beneath the shoulder 4 of the same. The upper ends of the arms 8 are connected by a pair of cross-bars 9, which extend oppositely from each other and directly over the upper side or surface of the cap 6 and which are rigidly connected at their inner ends to the siphon, as hereinafter explained. The outer ends of these cross-bars 9 are embraced loosely by eyes 11, which are formed at the upper ends of the arms 8, so that the bail is free to be raised or lowered pivotally upon the bars 9, as desired.

Through the middle of the cap 6, and similarly through the stopper 5, extends the under part of the inner leg or arm 12 of the siphon-tube, the said cap and stopper being cemented or otherwise rigidly secured to the upper part of said leg or arm 12, so as to be carried

thereby. This leg or arm 12 of the siphon-tube is of glass or other rigid material and is also of such length as to extend downward near to the bottom of the receptacle 1 and upward through and above the cap 6, the lower end of the siphon leg or arm 12 being left open. At its upper end this siphon leg or arm is formed with an integral rigid bend 13, which is of inverted-U shape and which is continued integrally in the form of the outer leg or arm 14 of the siphon-tube. This outer leg or arm 14 is also of rigid material and is preferably somewhat longer than the inner leg or arm 12, so that the lower end 16 of the outer leg reaches below the level of the lower end of the inner leg 12, the outer leg of the siphon thus utilizing the weight of a quantity of liquid within it to completely empty the receptacle, as hereinafter explained. The outer leg or arm 14 preferably extends vertically downward, and near its lower end said leg 14 is formed with a suitable valve 15, as shown. It is to be understood that the entire siphon-tube is constructed either of glass, metal, hard rubber, or any other suitably-rigid material, as preferred. Now when the receptacle is filled with aerated or gas-charged liquid and the parts are in proper position, if the valve 15 be opened the pressure of gas within the receptacle will force the liquid upward through the lower end of the leg 12 of the siphon-tube, thence upward through said leg, and outward through the bend 13, and downward through the outer leg 14, a portion of the liquid remaining in and filling the siphon-tube after the valve 15 is closed. As the liquid is repeatedly drawn from the receptacle the gaseous pressure within the receptacle, becomes less and less, owing to the removal of liquid and the expansion of the gas and consequent diminution of its pressure upon the liquid. At this stage of use the siphon-tube begins to act as a true siphon and aids the weakened pressure of the gas in the receptacle each time that the valve 15 is opened. Thus every particle of liquid is drawn from the receptacle, and none is left therein and wasted, as heretofore, and this is due to the greater length of the outer leg 14 as compared with the length of the inner leg 12.

In order to retain the stopper 5 and its cap 6 in position, a triangular or wedge-shaped enlargement 17 is formed at the lower part of each arm 8 of the bail near its juncture with

the segmental portion 10 of said bail, there being thus two of these triangular enlargements, and such enlargements serving to engage the shoulder 4, and thus avoid the necessity of resilience in the bail. In Fig. 5 I have shown a metal disk 18, having a central opening 19 and formed with oppositely-extending lugs 20 to receive the eyes 11 of the bail, the siphon-arm 12 being designed to extend through the opening 19 and the lugs 20 serving in lieu of the arms 9.

From the above description it will be seen that I have produced a siphon attachment for bottles and other receptacles containing aerated liquids, which is simple, strong, durable, and inexpensive in construction, entirely automatic in its operation, and which lessens the amount of gas-pressure required to discharge liquid from the receptacle, and at the same time aids the said pressure when the latter is weakened by withdrawal of the liquid. It is to be further understood that the siphon operates with much advantage with liquids which are not aerated or charged with gas, the siphon serving in this instance, also, to discharge every particle of liquid from the receptacle.

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

A siphoned receptacle for aerated liquids, &c., comprising a suitable body portion having a neck, head, and mouth, the head forming a shoulder at its point of juncture with the neck, a stopper inserted into the neck of the receptacle, an elastic cap located above the stopper, a siphon-tube composed of a shorter inner leg extending through the cap and stopper and rigidly secured thereto, a longer outer leg united at its upper part by a bend to the upper part of the inner leg, a valve located near the lower end of the outer leg, a pair of oppositely-disposed cross-bars extending from the siphon-tube and lying immediately upon the cap, and a bail pivoted upon the outer ends of the cross-bars and engaging the shoulder of the receptacle, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

PHILO M. CLARK.

Witnesses:

JNO. L. CONDRON,
H. E. PRICE.