

No. 618,616.

Patented Jan. 31, 1899.

C. DE QUILLFELDT.

SIPHON HEAD.

(Application filed Apr. 15, 1898.)

(No Model.)

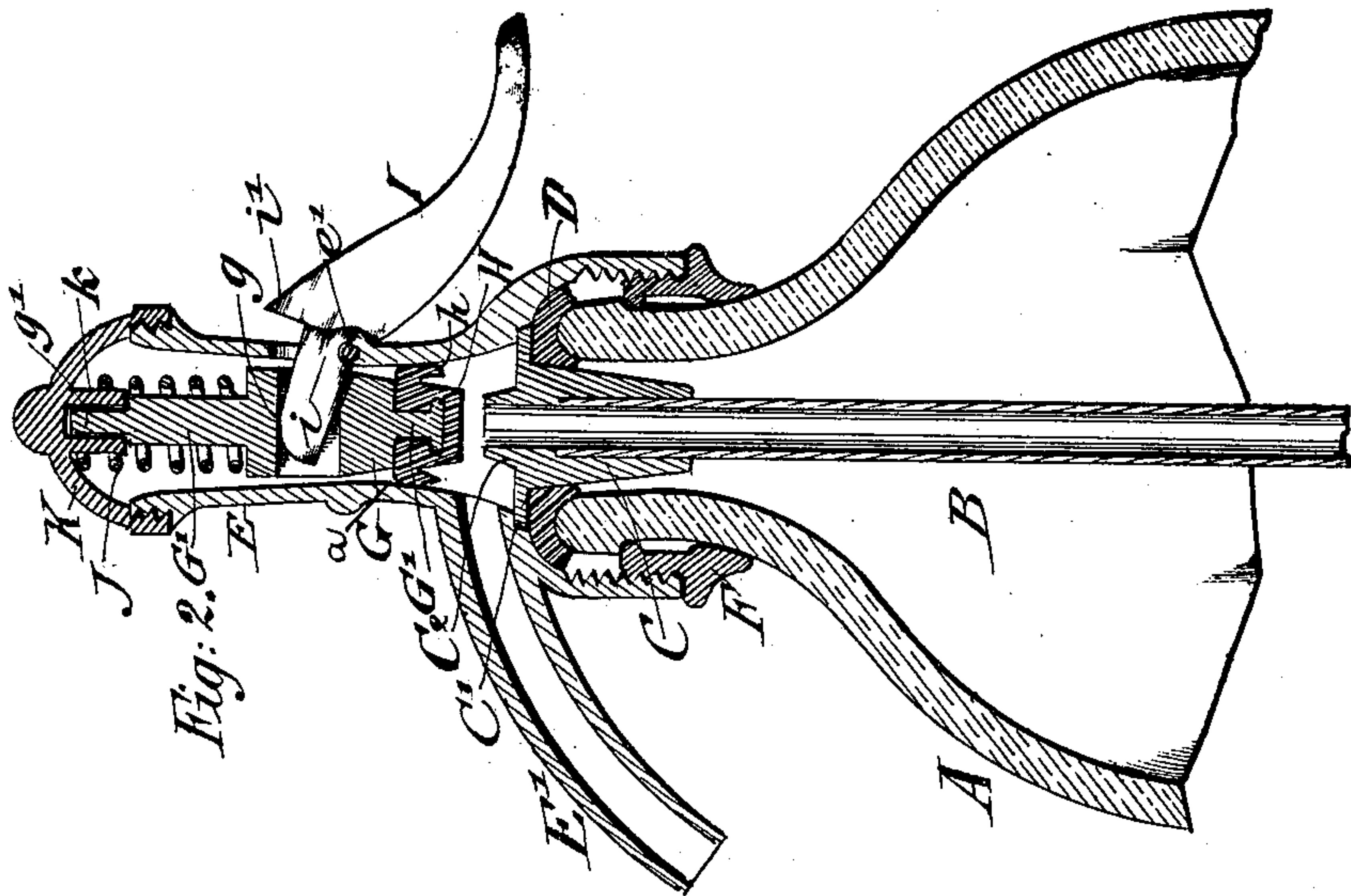


Fig. 2.

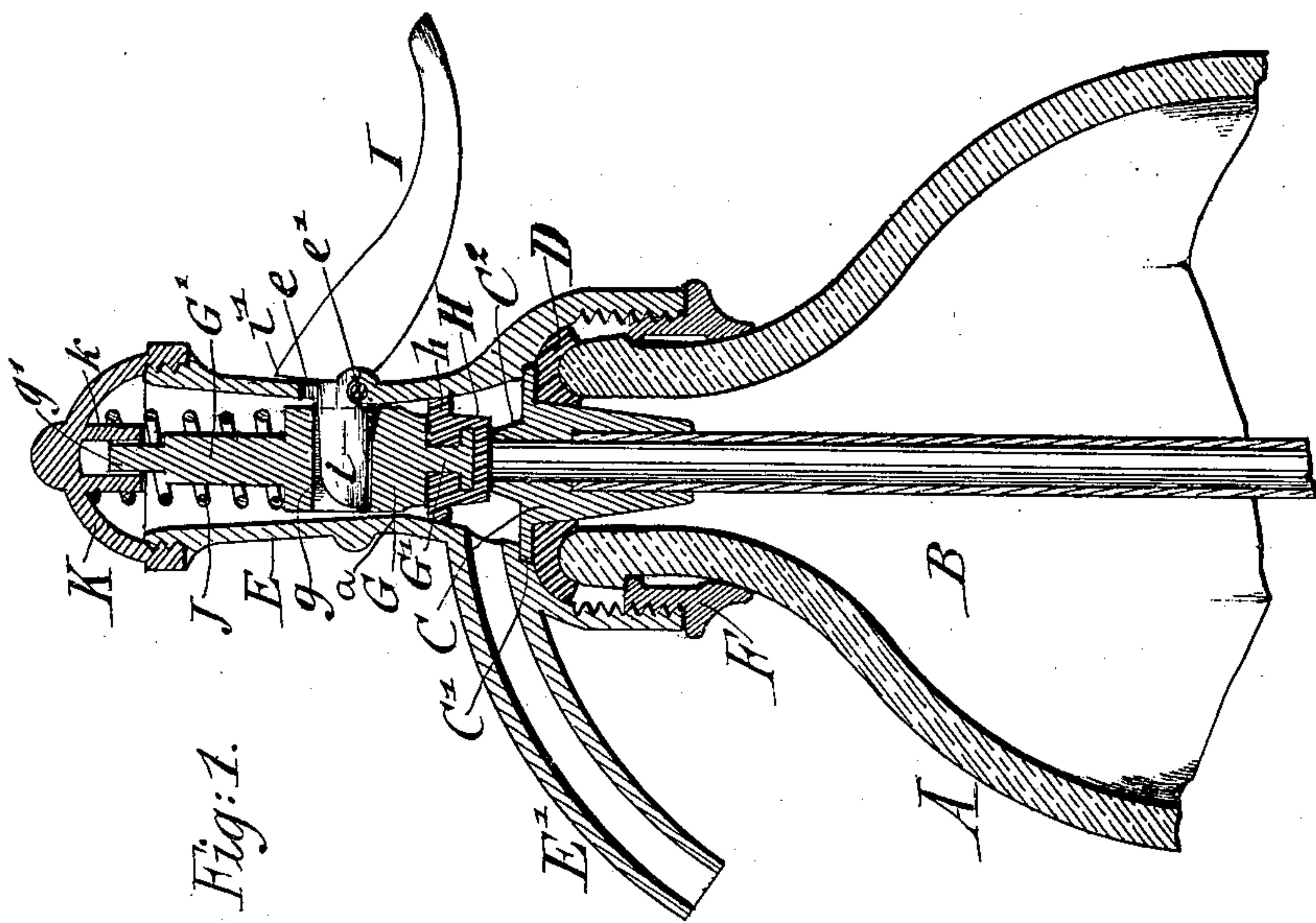


Fig. 1.

Witnesses
Geo. H. Jaeger
C. E. Gast

Inventor
Charles de Quillfeldt
By his Attorneys *Wm. H. Raegner*

UNITED STATES PATENT OFFICE.

CHARLES DE QUILLFELDT, OF AMITYVILLE, NEW YORK.

SIPHON-HEAD.

SPECIFICATION forming part of Letters Patent No. 618,616, dated January 31, 1899.

Application filed April 15, 1898. Serial No. 677,702. (No model.)

To all whom it may concern:

Be it known that I, CHARLES DE QUILLFELDT, a citizen of the United States, residing at Amityville, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Siphon-Heads, of which the following is a specification.

This invention relates to improvements in siphon-heads which are applied to that class of siphons charged with mineral waters and in which the valve is actuated in downward direction by a suitable spring against the valve-seat at the upper end of the siphon-tube with sufficient force to prevent the undue discharge of water or gas, but not so forcible as to prevent the water or gas escaping should the siphon be overcharged; and the invention relates more specifically to certain improvements on the siphon-head for which Letters Patent were granted on June 22, 1897, to Emil Stahl, No. 585,165, said improvement being designed with a view to so constructing the siphon-head that it can be taken apart at the top for the purpose of repair and be put together again without removing the head from the bottle, which operation often causes breakage of the bottle-neck, and that it produces the better and more reliable closing of the siphon-head and prevents the escape of gas and water from the same.

In the accompanying drawings, Figure 1 is a longitudinal vertical section through my improved siphon-head and the bottle to which it is applied, the valve being shown in closed position; and Fig. 2 is a similar section, the valve being shown in open position.

Similar letters of reference indicate corresponding parts.

A indicates the bottle, B the tube extending down into the bottle, the same being applied at its upper end into a socket C, that is provided with an annular flange C' and with a valve-seat C² at its upper part, and D indicates a rubber gasket, which is applied to the mouth of the bottle A and fits under the flange C'.

E indicates the tubular casing of the siphon-head, which is provided with a spout or nozzle E' and is internally screw-threaded in its enlarged base portion, into which is screwed a screw-nut F, whereby the siphon-head is connected to the bottle A, so that the rubber

gasket D is compressed between the said casing E, the socket C and its flange, and the mouth of the bottle, whereby a hermetic closure is provided, which prevents the escape of gas or water, excepting through the proper channel—that is to say, through the spout.

The construction so far as described is usual and well known and no claim is made thereto.

The novel features of the invention lie in that portion of the siphon-head which is arranged above the valve-seat C².

G indicates the valve, which is guided in the casing E and is of suitable construction, said valve being provided at its lower end with a headed neck G', upon which is applied a rubber or other elastic cup or thimble H, which at its upper part is provided with an annular flange h. The lower closed part of the elastic or yielding cup H is a packing to the valve when it is closed against the valve-seat C², while the annular flange or lip h also acts as a packing or gas-check. The opening through the tubular casing E of the siphon-head is wider at the top and tapers downwardly to an intermediate point a, where the said casing is contracted, as it were, while below the point a and around the valve-seat C² the said casing flares or gradually enlarges. By reason of the gradual contraction down to the point a the valve-head G can be readily pushed down to the proper position, while the enlargement below the point a permits the operative portion of the valve—that is to say, that portion provided with the yielding cup—to have free play down to the valve-seat. The cushioned or padded surface of the valve G, which can be of any desired shape, hermetically seals the siphon-head against inward or outward pressure until this pressure is released by the operation of the lever I, which works through a side opening e in the casing E and projects at its inner end into a transverse opening g in the valve G. If the siphon is overcharged, however, the valve will be raised automatically. The valve is pressed normally down against the valve-seat by means of a helical spring J, which is coiled around the upwardly-projecting valve-spindle G', said spring being seated at its lower end upon the valve G and at its upper end against the top of the screw-cap K, which is screwed onto the externally-screw-threaded

upper end of the casing E. The cap K is provided with a downwardly-projecting guide-socket *k*, into which when the cap is screwed down tight the upper end *g'* of the valve-spindle is guided and whereby the valve is centered within the siphon-head.

When the siphon is to be charged with water and gas, the valve is raised from the valve-seat of the siphon-tube by pressing upon the operating-lever I, whereupon the annular flange or lip H of the yielding cup or thimble becomes compressed and is deflected by contact below the point *a* with the flaring wall of the casing, so that the said flange curls or curves to form a concavity, which provides a gas-check and a perfect packing against the escape of gas or water, excepting through the discharge-spout E'. The aforesaid guide-socket on the under side of the cap K for the upper end of the valve-spindle performs two functions. First, it forms a bearing for the upper end of the valve-spindle, which would otherwise be turned out of the line of its proper axial movement and cause leakage, and, second, the valve can only be raised sufficiently high to allow the free passage of water when the siphon is charged or discharged; but said socket does not allow the gas-check to be forced upward higher than to the narrow or contracted part of the casing at *a*, thereby preventing leakage through the side opening *e* in the casing. In other words, by the abutment of the valve-spindle against the cap K or a portion thereof the upward movement of the valve is limited.

The operating-lever I of the valve mechanism is fulcrumed on the casing E at *e'* at the lower portion of the opening *e*, said opening being large enough to admit the lever through the same and into the opening *g* in the valve when said opening is level or in register with the opening *e*. The fulcrum *e'* is formed by a pin, while the lever is correspondingly re-

cessed to receive the pin. The lever is locked and held firmly by the pressure of the valve-controlling spring J upon the spindle, which in turn bears upon the head *i* of the lever and presses the lever downwardly until the lever becomes firmly seated. When the valve is seated, a shoulder *i'*, formed on the upper part of the handle of the valve, will engage at the side of and above the side opening *e* in the casing, so that the said lever is, as it were, locked between the three points *i*, *e'*, and *i'*, thereby preventing the lever from moving loosely up or down; as in other siphon-heads of this class. The lever cannot be removed without first unscrewing the cap on the siphon-head, so as to release the spring-pressure.

Having thus described my invention, what I claim is—

1. In a siphon-head, the combination of a casing, a detachable screw-cap for said casing having an interior guide-socket, a spring-controlled valve guided in the casing, a spindle on said valve, said socket when the cap is screwed down tight serving as a guide for the upper end of said spindle, and means for actuating the valve, substantially as set forth.

2. In the siphon-head, the combination of the casing contracted at an intermediate point and flaring below said point, and a valve in said casing having a packing with a circumferential lip or flange thereon, located within said flaring part of the casing and adapted to be deflected or bent by contact with the wall of said flaring part when the valve is raised, so as to form a gas and water check, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CHARLES DE QUILLFELDT.

Witnesses:

PAUL GOEPEL,
GEO. W. JAEKEL.