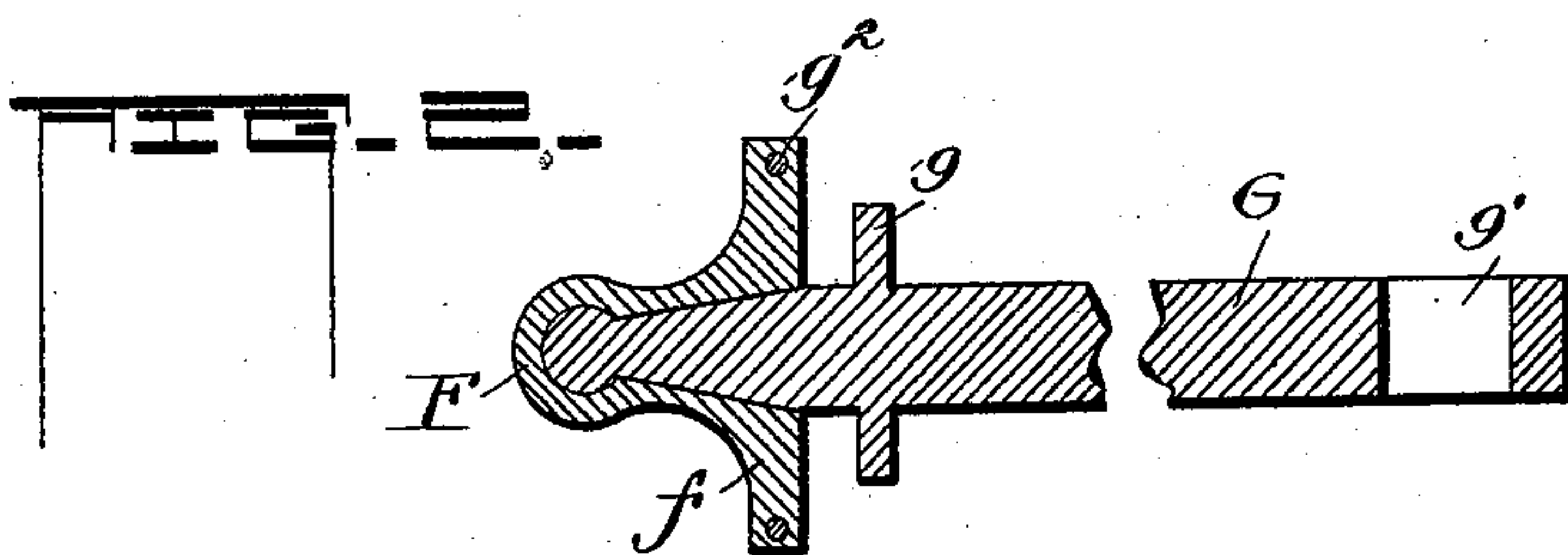
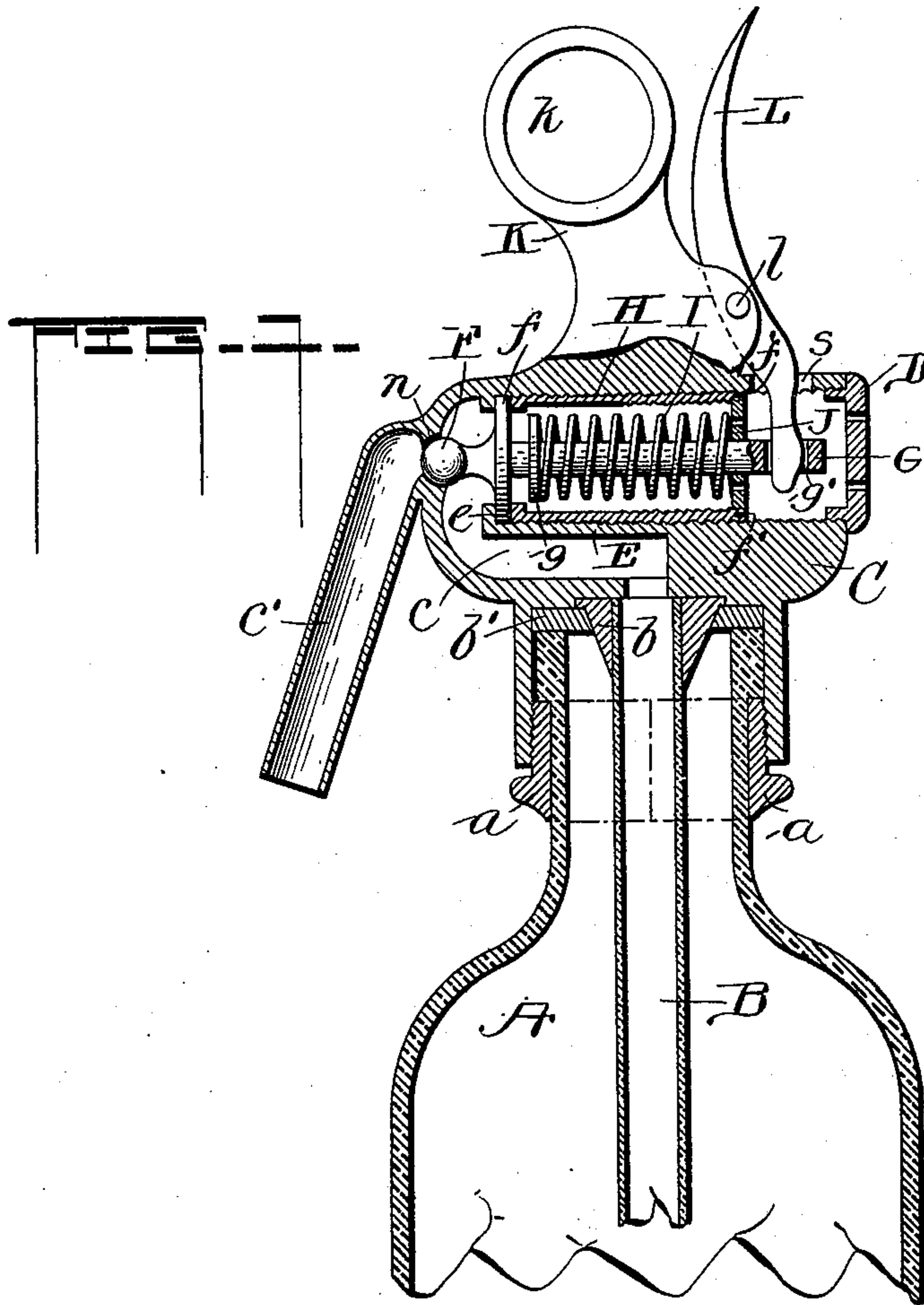


(No Model.)

E. SINGER.
SIPHON HEAD.

No. 602,200.

Patented Apr. 12, 1898.



Witnesses:-
Chas. H. LaPorte,
A. E. Francis

Inventor,
Emile Singer
by J. V. Jeffx.
att'y.

UNITED STATES PATENT OFFICE.

EMIL SINGER, OF PEORIA, ILLINOIS.

SIPHON-HEAD.

SPECIFICATION forming part of Letters Patent No. 602,200, dated April 12, 1898.

Application filed June 11, 1897. Serial No. 640,321. (No model.)

To all whom it may concern:

Be it known that I, EMIL SINGER, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have
5 invented certain new and useful Improvements in Siphon-Heads; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it ap-
10 pertains to make and use the same.

My invention relates to the top or valve mechanism of so-called "siphon-bottles" or such as are used for carbonated mineral waters in which the pressure of the carbonic-
15 acid gas with which the beverage is charged is the means by which the liquid is expelled through the spout when the valve is open, and has for its object to enable the valve of the head to be removed without disturbing the
20 connection between the head and the bottle.

More particularly my invention relates to the construction and combination of parts, whereby when the valve is open direct communication is formed with the spout through
25 a cavity or channel arranged longitudinally within the top piece.

My invention consists, essentially, of an inwardly-extending tube open at both ends and threaded on its inner surface, a cap for closing
30 its outer end and the inner end of the tube provided with an open flange through which a valve is purposed to protrude, having a circular flange abutting with the inner surface of the open flange on the tube, and a
35 supplemental tube having an open flange on one end and provided with slots in the periphery of the outer end for the insertion of a tool for screwing it into the inwardly-extending tube, the flange on the supplemental
40 tube pressing tightly against the flange of the valve which bears against the open flange on the tube, stopping all leakage through the tube in which the valve-stem fits, a washer formed on the valve-stem and a spiral spring surrounding the stem and bearing against
45 the washer, and a cap for closing the end of the supplemental tube purposed to bear up against the spring for tightening the pressure of the valve in the opening to the spout; also,
50 the construction of the valve-lever, pivoted to an arm extending up from the outer surface of the top piece, the lever extending down

through an opening in the top piece and inserted in the slot in the valve-stem, and of other details of construction hereinafter more
55 particularly pointed out in the drawings.

That my invention may be more fully understood reference is had to the accompanying drawings, in which—

Figure 1 is a vertical section of the top and 60 part of the glass of a siphon-bottle constructed according to my improvements. Fig. 2 is a detail of the valve and stem.

In the drawings, A is the bottle, and B the ordinary glass tube, reaching down nearly to
65 the bottom of the bottle and through which the liquid is pressed up to the spout by the pressure of the gas within the bottle. The tube B is provided at its upper end with the usual flanged top or fitting *b* of soft metal, the
70 upper end of which fits in a corresponding recess in the lower end of the top piece C, which latter is united to the bottle by being threaded and screwed down upon the threaded ring *a*, made of two semicircular pieces,
75 which embrace the bottle-neck and are retained by the shoulder on the bottle-head, as usual. A packing-ring *b'* makes a tight joint between the top piece C, the flanged piece *b*,
80 and the upper end of the bottle simultaneously.

In line with the glass tube I have provided, in the lower surface of the top piece C, an opening that opens into a cavity *c*, arranged
85 longitudinally within the top piece, and in one end of the said cavity is formed the inner end of the opening *n* of the spout *c'*. The top C is made tubular in form and is open at one end. D is a cap fitting over the open end. Extending from the open end to a point near
90 the opening to the spout I have shown an inwardly-extending tube E, threaded on its inner surface and provided with an open circular flange, as at *e*.

F is the valve, preferably made of rubber, 95 but may be made of any elastic material that will serve the purpose, having the shape of a ball for fitting in the inner end of opening *n* of the spout and having the extended circular flange *f*, which is purposed to be carried in
100 the tube E and to bear up against the flange *e*. I have provided a bearing-surface for the flange of the valve to insure the pressure being uniform when the valve is opened.

g^2 is a wire cast in the valve surrounding the inside of the flange and near its outer circumference, by which means I am able to keep the valve-head in place between the flanges of the tubes.

G is the valve rod or stem, to which the rubber valve is secured in the manner shown in Fig. 2, and g is a washer integral with the stem G, the stem being also provided with the slot g' .

H is a supplemental tube screwed into tube E and brought to bear against the flange f' of the valve F, this tube being provided with slots f' in its peripheral face at the rear for the purpose of inserting a tool for screwing it into or out of the tube. Carried in the supplemental tube and surrounding the spindle I have shown an ordinary spiral spring I, bearing against the washer g on the stem, purposed to press or tighten the valve F against its seat directly upon the spout-opening n . This is accomplished through and by means of the cap J, which is threaded around its circumference, purposed to be screwed into the rear end of the tube H and abutting with the spring. By providing a head of the character shown in the tube H, I am able to take up any slack in the spring and insure a complete closing of the valve.

I have shown extending up from part C the arm K, having the loop k .

L is a lever to open the valve for drawing liquid from the bottle and is pivoted at l to the arm K, as shown in Fig. 1, and is inserted through the slot s in the upper face of top part C, then through the slot g' in the spindle G.

In putting the parts together the valve F is first inserted in the inwardly-extending tube E of the top piece C and brought to bear in the opening n of the spout. The supplemental tube H is then screwed into the tube E, the flange of the tube H contacting with the flange on the valve which abuts with the flange on the tube E. The spiral spring I is then put into place around the stem of the valve. The cap J is screwed into the supplemental tube, forcing the valve into contact with the opening n in the spout. The lever L is dropped into the slot in the spindle through the opening in the casing and pivoted to arm K. The cap D is then placed in position, closing the opening through which the parts have been inserted. By this means I am enabled to remove the valve-head and its auxiliary parts without in any way inter-

fering with the connection between the top piece and the bottle and also prevent any leakage into the tube in which the valve-stem fits, at the same time reducing the friction to a minimum, making expansion uniform and insuring a close contact between the valve and the valve-seat in the spout.

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

1. In a siphon-bottle consisting of the top C, provided with an inwardly-extending integrally-formed tube E, having an open flange at its inner end, a cavity or channel surrounding the tube, of a yielding valve secured in the end of the tube E, provided with a ball or head fitting into a valve-opening in the cavity leading to the spout, and having an extended circular flange and means for tightening the pressure of the valve in the opening consisting of the cap J, suitably carried in connection with tube E, as to be adjustable within said tube providing a positive means for holding the valve in position.

2. In combination with a siphon-bottle, the head or top C, having an inwardly-projecting integrally-formed tube E, having an open flange at its inner end, a cavity or channel surrounding the tube, and a valve of the character described, consisting of the ball or head fitting into a valve-opening leading to the spout and having an extended circular flange carried within the tube E, and bearing against the flange on the tube, of the supplemental tube H, carried within the tube E, and having a flange abutting with the flange of the valve holding the same in position between the flanges of the tubes E and H, preventing any leakage into the tubes, a cap fitting into the tube H, at the rear purposed for adjusting the pressure of the spring upon a washer on the valve-stem, making a positive pressure upon the valve and insuring its close contact with the valve-spring in the spout, and a lever L, pivoted to an arm extension from the top piece and carried through an opening in the casing and inserted in the slot in the valve-stem for drawing liquid from the bottle, all substantially as described and shown.

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

EMIL SINGER.

Witnesses:

CHAS. W. LA PORTE,
W. V. TEFFT.