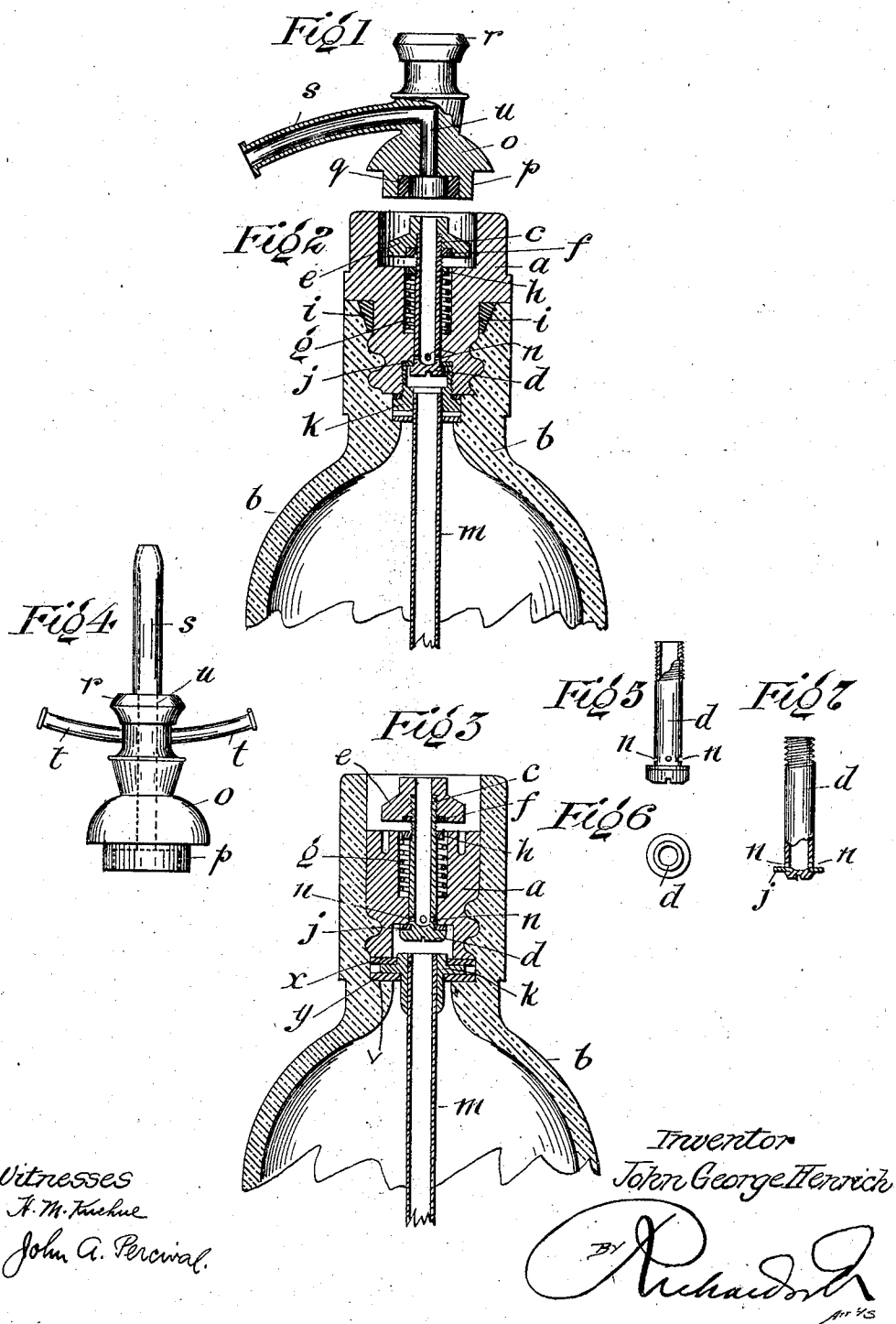


No. 816,091.

PATENTED MAR. 27, 1906.

J. G. HENRICH.
SIPHON BOTTLE.

APPLICATION FILED JAN. 24, 1905.



UNITED STATES PATENT OFFICE.

JOHN GEORGE HENRICH, OF LONDON, ENGLAND.

SIPHON-BOTTLE.

No. 816,091.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed January 24, 1905. Serial No. 242,557.

To all whom it may concern:

Be it known that I, JOHN GEORGE HENRICH, a subject of His Majesty the King of Great Britain, residing at Milton House, 5 Clifton road, Camden Square, London, England, have invented certain new and useful Improvements in Siphon-Bottles, (for which I have made application for patent in Great Britain, No. 2,147, dated January 28, 1904,) of which the following is a specification.

This invention relates to stoppers for siphon-bottles and to taps to be used with such stoppers; and it consists of improvements upon the invention forming the subject-matter of the prior United States Letters Patent granted to me, No. 741,965, dated October 20, 1903.

The invention has for its object to reduce considerably the initial cost of siphon-bottles, to admit of one tap being used for any number of bottles, and to allow the stopper to be readily removed, so that the siphon-bottle may be as easily washed as any ordinary bottle.

The improved stopper according to my invention is also constructed in such a way that it may be adapted for use with existing siphon-heads or taps.

In the accompanying drawings, Figure 1 illustrates, partly in section, a tap constructed according to my invention. Fig. 2 is a sectional elevation of my improved stopper as applied to a siphon-bottle, said stopper being here shown projecting above the neck of the bottle. Fig. 3 is a sectional elevation of a slightly-modified form of stopper adapted to be screwed entirely in the neck of the bottle, as shown. Fig. 4 illustrates a varied form of tap for use with a siphon vessel for fire-extinguishing purposes. Figs. 5 and 6 are respectively side and plan views, and Fig. 7 a side view of details to be hereinafter referred to.

The invention consists of a screw-stopper *a*, made of porcelain or the like and adapted to screw into the neck of the siphon-bottle *b*, as shown in Fig. 2 or Fig. 3. Centrally of the stopper *a* is situated the hollow stem *c* of a valve *d*, and at its upper portion said stem *c* is externally threaded and has screwed thereon a piece of porcelain *e*, having a central bore and provided at its base with a recess, into which is fitted a cork washer *f*.

Round the stem *c* in a hole in the stopper *a* is placed a spiral spring *g*, retained in position by a screw-nut *h*, while for insuring a tight

joint between stopper *a* and neck of siphon-bottle *b* a sealing-ring *i*, of rubber or other material, is inserted, as shown in Fig. 1.

A rubber washer *j* is placed on the seat of the valve *d* and is arranged to be retained tightly against such seating by a hollow externally-threaded piece of porcelain *k*, to which latter is suitably secured the siphon-tube *m*. The hollow stem *c* of the valve *d* is provided with a number of holes *n* for the outward passage of the liquid in the siphon-bottle.

For operating the valve *d* I provide, according to the best construction, a tap *o*, comprising a hollow plug portion *p*, having a cork liner *q*, a spout *s*, and a top piece *r*, said plug portion and spout *s* being connected by a passage *u*.

In the modification shown by Fig. 3 the neck of the bottle is extended in length and the stopper *a* is located entirely therein. In this construction the rubber washer *j* is recessed in the valve *d*, as shown by Fig. 7, and the piece *k* is placed between rings *x* and *y*, which rings *x y*, together with the piece *k*, are firmly secured between the stopper *a* and the shoulder *v* in the neck.

In both constructions the action is as follows: Upon placing the plug portion *p* of the tap *o* within the upper hollow part of the stopper *a* and imparting pressure onto the top piece *r* the tap *o* will press down the porcelain piece *e* and valve *d*, connected thereto, against the force of the spring *g*, and thus bring the holes *n* of *d* below the washer *j* in the example shown by Fig. 2 or below the valve-seating in the example shown by Fig. 3, whereby the liquid has free access to the hollow valve-stem *c*, and owing to the pressure of the gas contained in the liquid the latter will be forced up through the said hollow valve-stem *c*, passage *u* of the tap *o*, and out of the spout *s* of the latter.

As will be understood, the holes *n* in the valve-stem *c* are normally closed by the force of the spring *g*, keeping the valve *d* close up against the washer *j*, as in Fig. 2, or the valve *d*, with its inserted washer *j*, Fig. 3, close up against the valve-seating, thus making it impossible for any liquid to pass into the stem *c* until the valve is opened by the application of external force.

For fire-extinguishing purposes a tap as illustrated by Fig. 4 is employed, with the exception that a vertical spout *s* and finger-holds *t* are provided. This tap is similar in all respects to that shown in Fig. 1, and in

use with a vessel having like mechanism in the neck thereof as described the liquid will be forced out of the spout on the plug portion being pressed onto the porcelain piece *e*.

- 5 As hereinbefore stated, the siphon-stopper described may be used with an ordinary tap consisting of a metal head with lever and rod or similar device for operating the valve by screwing or otherwise connecting such an
10 ordinary tap-head to the stopper, as at Fig. 2, or to the neck of the bottle, as at Fig. 3.

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

- 15 1. A stopper for siphon-bottles comprising a screw-stopper made of porcelain, in one piece, and having a chamber provided at the top thereof and a tapped hole formed in the
20 bottom thereof, said chamber and tapped hole being in connection by a central passage in which and within the limits of said stopper and in combination therewith is located a valve having a hollow stem provided with a
25 at its upper end, a spring for closing said valve and a thimble-piece screwed in the hollow of said stopper and carrying the siphon-tube substantially as described.

- 30 2. A stopper for siphon-bottles comprising, in combination a screw-stopper made of

porcelain in one piece, said stopper having a chamber formed in the top thereof, and a tapped hole formed in the bottom thereof, a valve having a hollow stem provided with a number of holes at its lower end and a collar
35 at its upper end, and a spring for closing said valve, said valve, stem, spring and collar being located centrally of and within the limits of said stopper, a thimble-piece screwed in the
40 bottom of said stopper and carrying the siphon-tube, washers located between said thimble-piece and stopper, and stopper and bottle, substantially as described.

3. In combination with a siphon-bottle, an outlet-valve, a stopper having a chamber
45 at the top thereof, a tap having in combination a hollow plug adapted to fit into said chamber when opening the outlet-valve of the bottle, a discharge-spout and a top piece, said discharge-spout and plug being in com-
50 munication, and said plug having a resilient lining to fit around the top of the said outlet-valve when said plug is placed in said chamber, substantially as described.

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

JOHN GEORGE HENRICH.

Witnesses:

HENRY CONRAD HEIDE,
ALBERT GEORGE BARNES.