P. DEVARCO.

SIPHON BOTTLE.

APPLICATION FILED NOV. 25, 1908.

938,746.

Patented Nov. 2, 1909.

Fig. 1

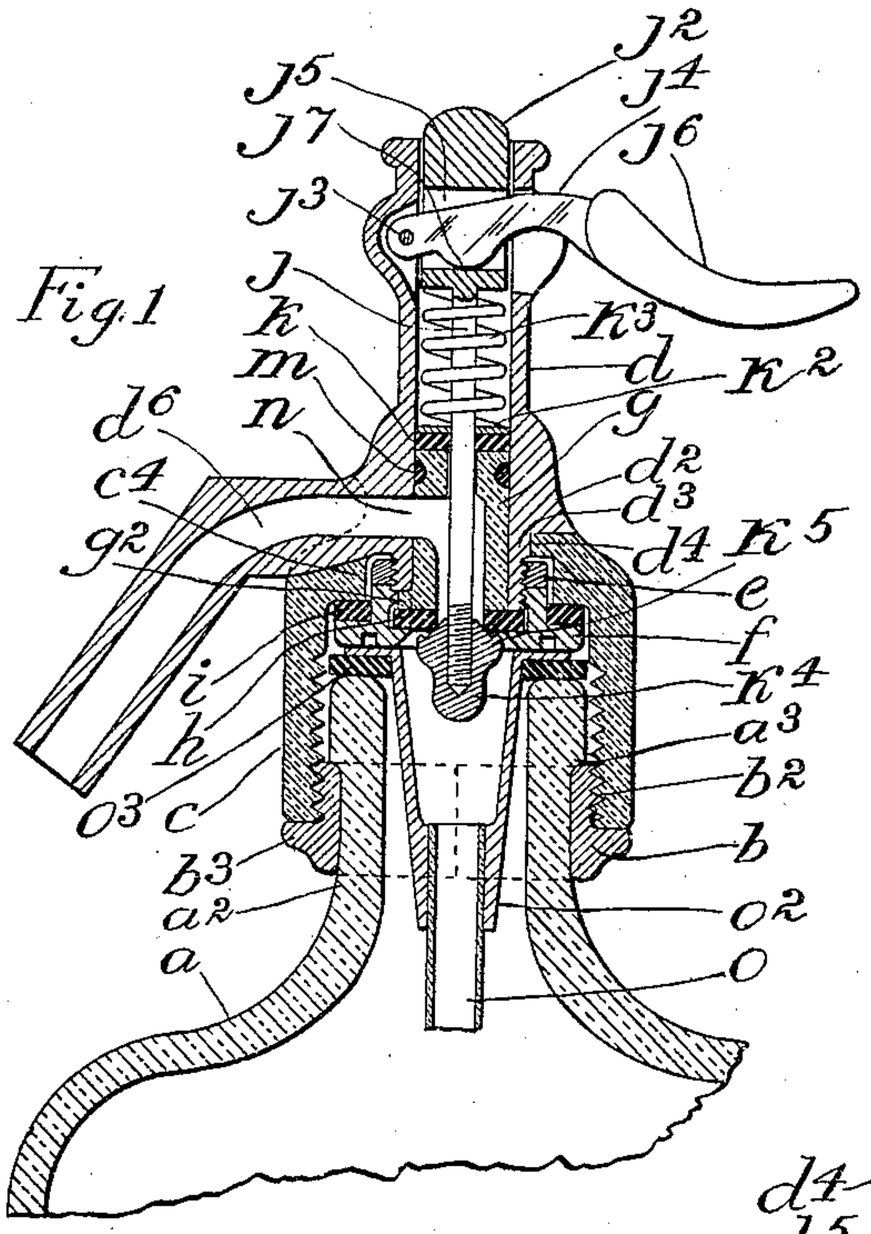


Fig. 4

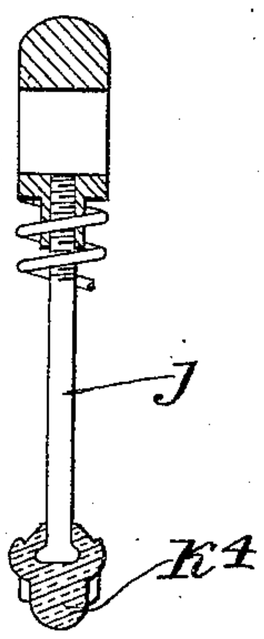


Fig. 2

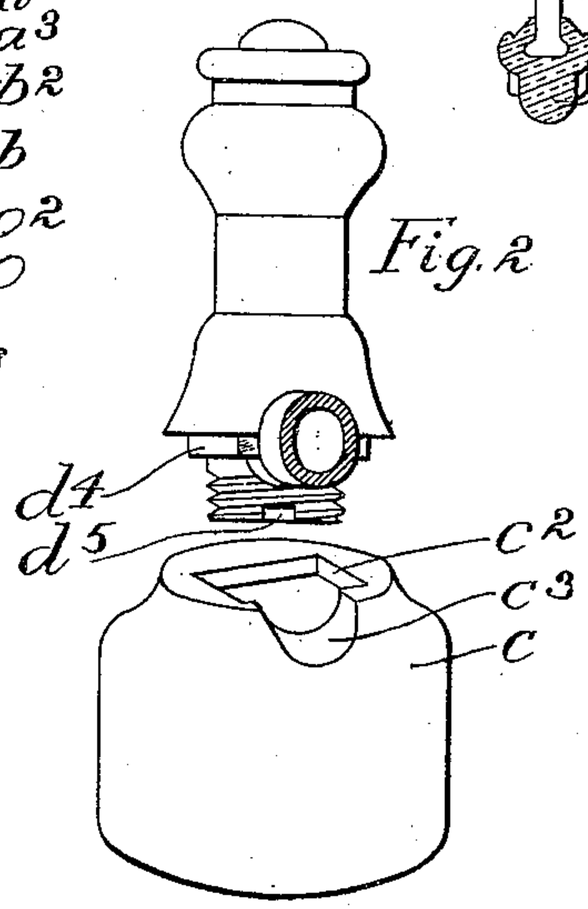


Fig. 3

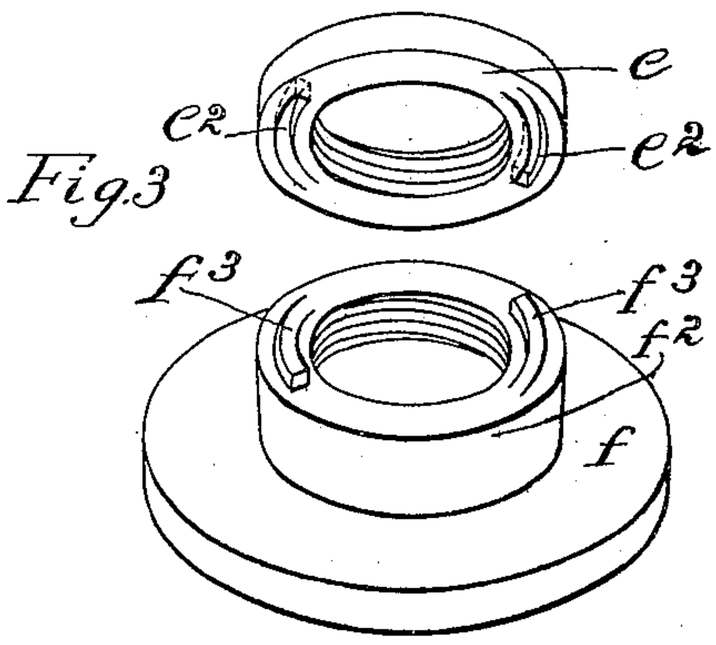
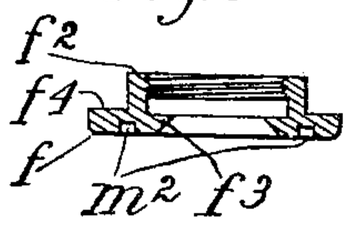


Fig. 5



WITNESSES

C. E. Mulreany

M. E. Doody.

INVENTOR

Paul Devarco.

BY Edgar Tate & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

PAUL DEVARCO, OF NEWARK, NEW JERSEY.

SIPHON-BOTTLE.

938,746. Specification of Letters Patent. Patented Nov. 2, 1909.

Application filed November 25, 1908. Serial No. 464,357.

To all whom it may concern:

Be it known that I, PAUL DEVARCO, a citizen of the United States, and residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Siphon-Bottles, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to siphon bottles or similar vessels designed for use as containers of seltzer water, vichy water, or other aerated waters or beverages under pressure; and the object thereof is to provide an improved bottle or vessel of this class the cap or closure device of which, together with the mechanical parts thereof, are sanitary in construction and will not corrode, or be destructively or otherwise injuriously affected by the liquids within the bottle or vessel and which will also be simple in construction and efficient in operation; and with this and other objects in view the invention consists in a device of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which;—

Figure 1 is a central vertical section of the top portion of a siphon bottle constructed according to my invention, Fig. 2 a view showing two of the parts disconnected and the manner of placing the same together, one of said parts being in perspective, Fig. 3 a perspective view showing two of the parts disconnected, Fig. 4 a sectional view of a modified form of valve construction, and;—Fig. 5 a view showing a section of one of the parts in Fig. 1 detached.

In the drawing forming part of this specification, I have shown at a a bottle provided with the usual neck a^2, the top portion of which is enlarged to form an annular shoulder at a^3 and, in practice, I place around the neck a^2 below the shoulder a^3 a metal band b the top portion of which is threaded exteriorly as shown at b^2, and the bottom portion of which is provided with an annular bead b^3 against which the cap member c abuts when screwed onto said band. The band b is composed of two parts as indicated in dotted lines in Fig. 1, but said band in itself forms no part of my improvement.

The cap c is of the usual form but is made of glass, porcelain or similar material, and said cap is screwed onto the band b in the usual manner and incloses the top part of the neck of the bottle, and said cap is also provided in the top thereof with an angular opening c^2 at one side of which is a radial recess c^3.

Above the cap c is the usual valve tube d provided at its lower end with a head d^2 having a central downwardly directed tubular neck d^3 screw threaded except at the top portion thereof where it is angular in form as shown at d^4 and clearly shown in Fig. 2. Screwed onto the threaded part of the neck d^3 just below the angular portion d^4 of said neck is a ring or band e, and below said ring or band is an annular plate f preferably composed of aluminum or an alloy thereof and provided with an interiorly threaded collar or flange f^2 which is screwed onto the neck d^3.

Within the head d^2 of the valve tube d and extending downwardly through the neck d^3 thereof is placed a tubular cylinder g of glass, porcelain or similar material, and the lower end of which is provided at one side with a lug g^2 adapted to fit in a recess d^5 in the lower end of the neck d^3.

The annular plate f is provided inwardly of the collar or flange f^2 with an inwardly directed flange f^3, and outwardly of said collar or flange f with an annular flange f^4, and between the flange f^3 and the lower end of the neck d^3 and the lower end of the cylinder g is placed a packing gasket h, and the cap c is provided at the top with an inwardly directed annular shoulder c^4 between which and the flange f^4 is placed another packing gasket i, and said gaskets h and i are preferably composed of rubber. The head d^2 of the valve tube d is provided at one side with the usual discharge spout d^6 which fits, when the parts are assembled, in the radial groove or recess c^3 in the cap c.

Mounted in and vertically movable in the valve tube d is a valve rod j preferably composed of aluminum or an alloy thereof and which passes downwardly through the cylinder g and the upper end of which is provided with a cylindrical head j^2, and pivoted in one side of the valve device d as shown at j^3 is a lever j^4 which passes transversely

through an opening j^5 in the head j^2 of the valve rod j and through the opposite side of the valve tube d and is provided with a handle j^6 by which it may be operated, and said lever is provided with a lug or projection j^7 adapted to bear on the bottom wall of the opening j^5.

Placed on the top of the cylinder g is a packing k above which is placed a washer k^2 between which and the head j^2 of the valve rod j is placed a spiral spring k^3, and secured to the lower end of the valve rod j is a valve k^4 the top portion of which is conical in form and preferably provided at a predetermined distance below the apex thereof with an annular bead k^5. The cylinder g is also preferably provided below the top thereof with an annular packing m, and the annular plate f is provided in the bottom thereof with spanner holes m^2, and in practice these parts are connected or assembled in the following manner.

In practice the packing k is first placed on the cylinder g, the washer k^2 is placed on said packing, the spring k^3 is then placed in position, and the valve rod j passed downwardly through said parts. The packing h is then placed in position and the valve k^4 is secured onto the rod j, and these parts assembled in this manner, are then passed upwardly through the cylinder g and valve tube d and this operation is so performed that the lug or projection g^2 will enter the notch or recess d^5.

The band or ring e is provided, in the bottom thereof with segmentally curved cam recesses e^2, and the collar or flange f^2 of the annular plate f is provided in the top face thereof with corresponding cams f^3, and in practice these parts are placed together so that the cams f^3 will fit in the cam recesses e^2 and the said parts are screwed onto the neck d^3, the packing gasket i being first placed in position on the flange f^4 of the plate f.

The parts e, e^2 and f^3 are so formed that when the ring or band e is placed on the collar or flange f^2 the plate f may be turned to the right so as to screw the ring or band e into position, and at the same time screw the collar or flange f^2 of the plate f onto the neck d^3, and the annular plate f may be detached at any time by a spanner, but the ring or band e cannot be detached or removed without breaking the cap c. The object of this construction is to prevent the parts from being disconnected and another form of cap substituted for the cap c, or a cap composed of different material. The lower end of the central bore or passage through the cylinder g is larger than the upper end portion of said bore or passage, and this facilitates a free flow of liquid through said bore or passage and through the spout d^6 when the valve k^4 is depressed in the usual manner by the lever j^4, and the object of locking the cylinder g to the neck d^3 by means of the recess d^5 and the lug or projection g^2 is to insure the proper placing of said cylinder so that the central bore thereof will communicate with the discharge spout d^6 by means of the by-pass n as clearly shown in the drawing.

In Fig. 4 I have shown a modification of the valve and valve rod in which the valve k^4 is rigidly connected with the valve rod j, and in both forms of construction the valve k^4 is preferably composed of glass, porcelain or similar material in order to add to the sanitary qualities of the device, but said valve together with the annular plate f may be composed of aluminum or an alloy thereof if desired. The bottle or vessel a is also provided with the usual central tube o, the top portion of which is connected with a suspending device o^2 secured between the top of the neck of the bottle and the plate f in the usual or any preferred manner, but in practice I prefer to provide the top portion of the suspending device o^2 with a flange, between which and the neck of the bottle is placed a packing gasket o^3 of rubber. In this way I provide a cap or closure device and siphon attachment for bottles or other vessels which is simple in construction and sanitary in use, and which may be applied to any kind or class of a bottle or vessel having a neck, and the separate parts of which cannot be substituted by other parts in a similar apparatus, and changes in and modifications of the construction herein described may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its advantages.

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

1. A device of the class described comprising a cap adapted to be secured to the neck of a bottle and provided at the top with a contracted portion forming an internal annular shoulder and in which is an angular opening at one side of which is a radial recess, a valve tube provided at its lower end with a head having a threaded neck adapted to enter the opening in said cap, and the top part of which is angular in form to fit said opening, the bottom end of the threaded neck being also provided with a radial recess, a tubular cylinder within said head and extending downwardly through said neck and provided at its lower end with a lug or projection which fits in said recess, an annular plate provided on the top surface thereof with an interiorly threaded collar or flange, a ring or band adapted to be placed on said collar or flange and to be turned thereby and interiorly threaded, said ring or band and said collar or flange being adapt-

ed to be screwed onto said neck, said plate being also provided inwardly of said collar or flange with an annular flange between which and said cylinder is placed a packing gasket and outwardly of said collar or flange with an annular flange between which and the shoulder and the top of the cap is placed a packing gasket, and a spring supported valve rod passed downwardly through said valve tube and said cylinder and provided at its lower end with a valve.

2. A device of the class described comprising a cap adapted to be secured on the neck of a bottle or similar vessel and the top part of which is contracted to form an internal annular shoulder and provided with an opening, a valve tube provided at its lower end with a head having a screw threaded neck adapted to be pased downwardly through said opening, a tubular cylinder having a three way or T-shaped bore placed in said head and extending downwardly through the neck thereof, means for locking said cylinder in said head against rotation, an annular plate provided on the top surface with an interiorly threaded collar adapted to be screwed onto said neck and inwardly and outwardly of said collar with annular flanges, a packing gasket placed on the upper side of said inner flange and between said inner flange and the lower end of said cylinder, and a packing gasket placed on the upper side of said outer flange and between said outer flange and said annular shoulder in the top of the cap.

3. A device of the class described comprising a cap adapted to be secured on the neck of the bottle or similar vessel and the top part of which is contracted to form an internal annular shoulder and provided with an opening, a valve tube provided at its lower end with a head having a screw threaded neck adapted to be passed downwardly through said opening, a tubular cylinder having a three way or T-shaped bore placed in said head and extending downwardly through the neck thereof, means for locking said cylinder in said head against rotation, an annular plate provided on the top surface with an interiorly threaded collar adapted to be screwed onto said neck and inwardly and outwardly of said collar with annular flanges, a packing gasket placed on the upper side of said inner flange and between said inner flange and the lower end of said cylinder, and a packing gasket placed on the upper side of said outer flange and between said outer flange and said annular shoulder in the top of the cap, and a spring supported valve rod passed downwardly through said cylinder and provided at its lower end with a valve, said cylinder, valve rod, valve and annular plate being composed of non-corrosible material.

4. A device of the class described comprising a cap adapted to be detachably secured on the neck of a bottle, and the top of which is contracted to form an internal annular shoulder and provided with an opening, a valve tube provided with a head having a threaded neck adapted to be passed downwardly through said opening, a tubular cylinder having a three way or T-shaped bore placed in said head and extending downwardly through said neck, an annular plate provided on the top surface thereof with an annular collar interiorly threaded and adapted to be screwed onto said neck, said plate being provided inwardly of said collar with a flange, a packing gasket placed on the upper side of said flange between said flange and said cylinder, and a spring supported valve rod passed downwardly through said cylinder and through said neck and packing and provided on its lower end with a valve.

5. A device of the class described comprising a cap adapted to be secured on the neck of a bottle or similar vessel and the top part of which is contracted to form an internal annular shoulder and provided with an opening, a valve tube provided at its lower end with a head having a screw threaded neck adapted to be passed downwardly through said opening, an annular screw ring and an annular screw plate adapted to be screwed onto said neck, said ring and said plate being provided with a means whereby said plate may act as a tool to screw said ring onto said neck, and whereby on the removing of said screw plate, said ring will remain in place upon said neck.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 24th day of November 1908.

PAUL DEVARCO.

Witnesses:

A. R. APPLEMAN,

C. E. MULREANY.