No. 730,267. PATENTED JUNE 9, 1903.

J. E. KELLER, JR.

COMBINED SIPHON AND BOTTLE STOPPER.

APPLICATION FILED FEB. 27, 1903.

NO MODEL.

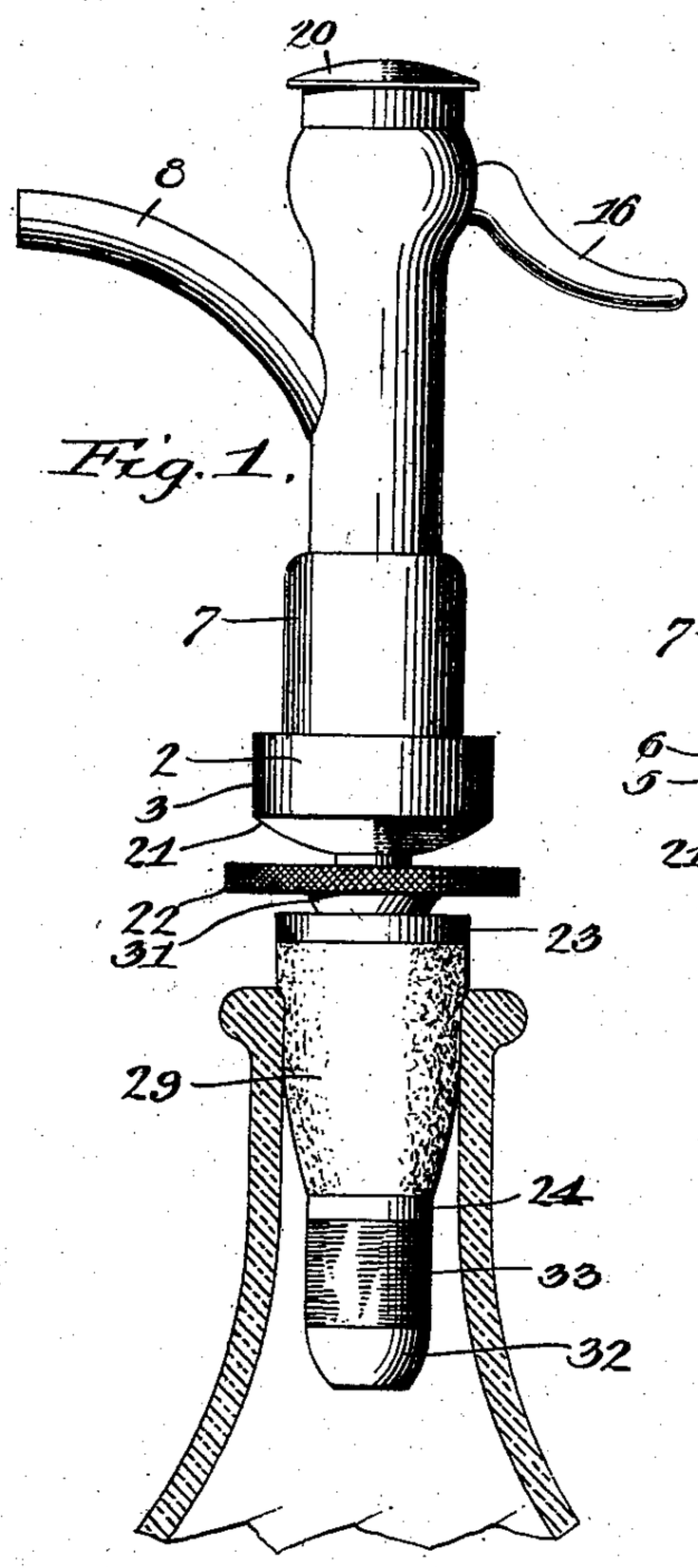

Fig. 1.

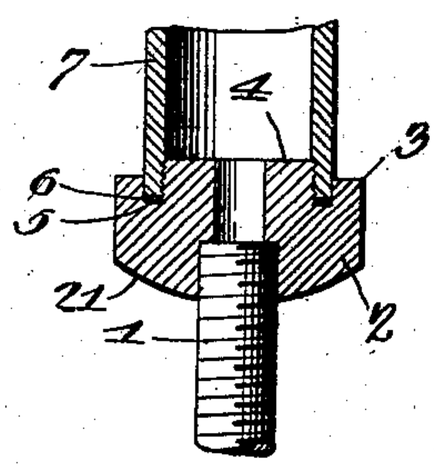

Fig. 3.

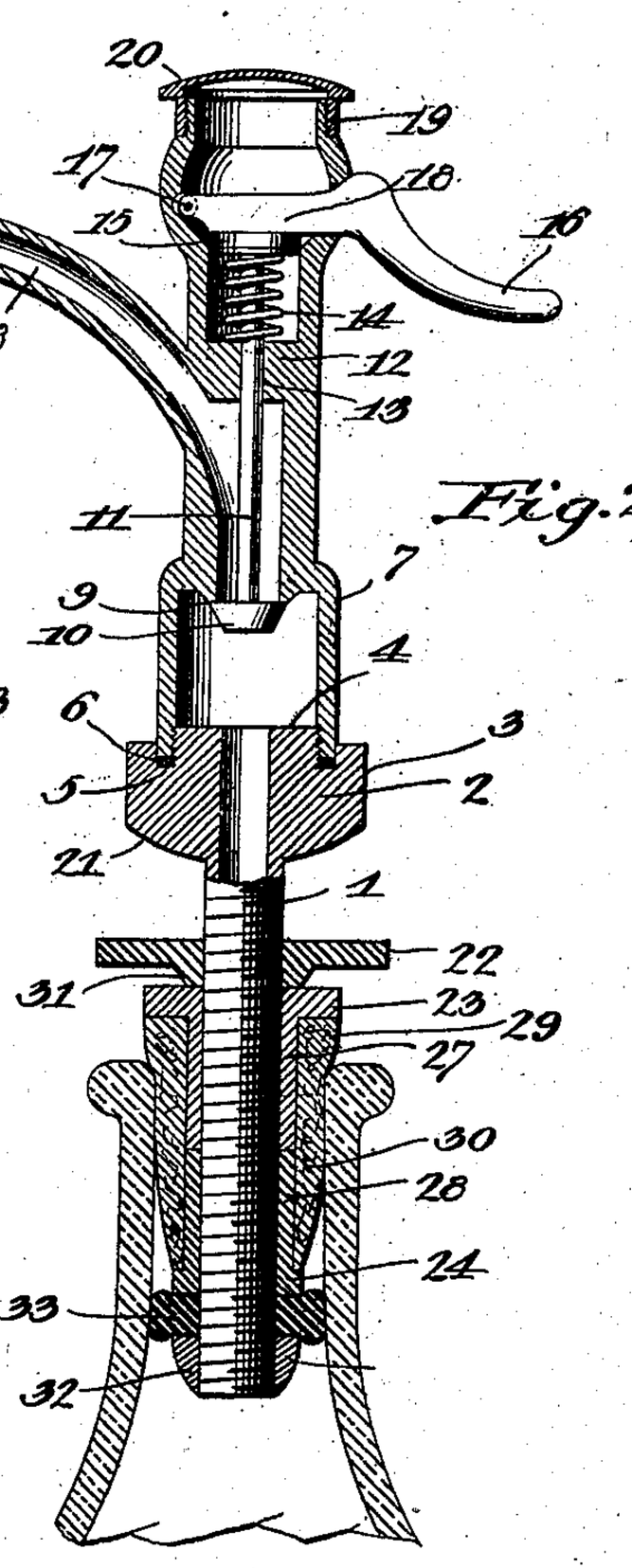

Fig. 2.

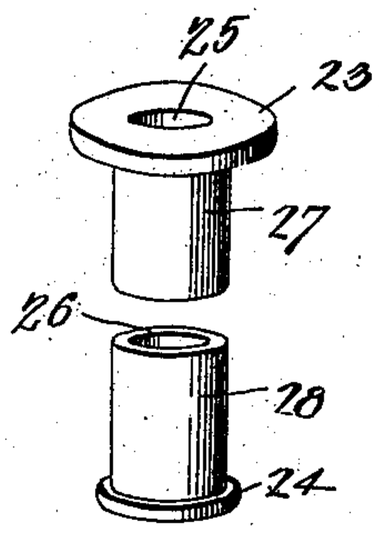

Fig. 4.

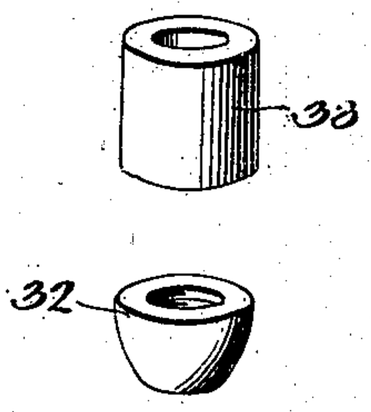

Fig. 5.

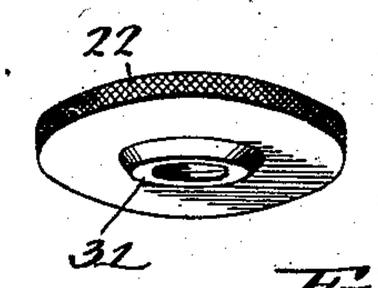

Fig. 7.

Fig. 6.

Witnesses
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No. 730,267. Patented June 9, 1903.

UNITED STATES PATENT OFFICE.

JOHN ESTEN KELLER, JR., OF LITCHFIELD, CONNECTICUT.

COMBINED SIPHON AND BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 730,267, dated June 9, 1903.

Application filed February 27, 1903. Serial No. 145,382. (No model.)

To all whom it may concern:

Be it known that I, JOHN ESTEN KELLER, Jr., a citizen of the United States, residing at Litchfield, in the county of Litchfield and State of Connecticut, have invented a new and useful Combined Siphon and Bottle-Stopper, of which the following is a specification.

My invention relates to bottle-stoppers, and more particularly to that class used in bottles containing carbonated liquids for the purpose of serving such liquid from the bottle.

The object of my invention is to produce a bottle-stopper which can be very quickly and securely placed in a bottle after removing the ordinary stopper and which when so placed will serve to discharge any desired amount from the bottle, retaining the remainder of the liquid and prevent the escape of gas.

A further object is to produce a device of this character in which the cork portion may be protected and prevented from being crushed while securing the stopper in position and one in which the cork portion can be easily removed and a new one inserted when the same becomes worn.

To these ends my invention consists in the novel construction and arrangement of the several parts, as hereinafter more fully described and claimed and as illustrated in the accompanying drawings, in which similar numerals designate like parts throughout the several views.

Figure 1 is a perspective view of the stopper in a normal position; Fig. 2, a vertical section showing the position of the several parts when secured in a bottle; Fig. 3, a vertical detail section of a modification; Fig. 4, a perspective view of the protection plates and collars. Fig. 5 is the expansible member; Fig. 6, the nut carried by the end of the tube, and Fig. 7 a perspective of the compression-nut.

Referring more particularly to the drawings, the numeral 1 designates a tube of metal or any other suitable material externally screw-threaded throughout its entire length and provided at its upper end with an enlarged portion or head 2. If desired, this enlarged portion or head may be made separate from the tube 1 and provided with internal screw-threads to receive the end of the tube, as shown in Fig. 3; but I have preferably illustrated the same as being integral therewith. The head or enlarged portion 2 is provided around its outer edge with a peripheral flange 3 and a raised central portion 4 to form a recess or groove 5 for the reception of a washer 6. The raised central portion 4 is provided around its outer face with a screw-thread, preferably a left-handed thread, and is adapted to enter the lower end of a siphon-handle 7, so that the lower end thereof rests tightly against the washer 6 to prevent the escape of any liquid or gas. This siphon-handle may be of any desired construction; but I have preferably illustrated the same as being provided with a discharge nozzle or tube 8, valve-seat 9, valve 10, and valve-rod 11.

A partition or plate 12 is secured within the siphon above the discharge nozzle or tube 8 and is provided with an aperture or opening 13, through which the valve-rod 11 passes.

14 is a coiled spring surrounding the upper end of the valve-rod 11, resting upon the partition or plate 12, and 15 designates a head or disk secured to the upper end of the valve-rod 11, against the lower face of which the free end of the spring 14 rests.

16 is an operating-lever, pivoted at its forward end by means of the pin or bolt 17 within the siphon-head, and said lever is provided with a shoulder or squared portion 18, which rests upon and is supported by the head or disk 15 on the top of the valve-rod, and said disk is normally held up by means of the spring 14.

The upper end of the siphon 7 is provided with threads 19, and 20 is an enlarged convexed cap or cover made to conform to the palm of the hand and screwed onto the threads at the top of the siphon 1. The lower face of the head or enlarged portion 2 is inclined or beveled, as at 21, so as to permit of an easy access to the compression nut or disk 22.

23 and 24 designate washers or protecting-plates, which may be of metal or any other desirable material, and said washers or plates are provided with central apertures 25 and 26, and surrounding said apertures are projecting collars or flanges 27 and 28. A stopper 29, of cork or other suitable material, is provided with a central opening 30, and said cork is preferably tapering in form.

The washers or plates 23 and 24 are placed against the upper and lower faces of the cork or stopper 29 in such a manner as to cause the projecting collars or flanges 27 and 28 to extend into the opening 30 to protect said opening, as well as the upper and lower faces thereof, the collars or flanges 27 and 28 being of sufficient length so that their ends contact with each other within the opening 30 of the cork or stopper 29. It will be seen that with this construction the cork is protected from all lateral strain which would tend to crush or break the same.

The lower face of the compression nut or disk 22 is provided at its central portion with an enlargement 31, which surrounds the screw-threaded tube 1 and rests upon the upper washer or plate 23. The periphery of said compression-nut 22 may be milled or corrugated, if desired, in order to insure a better grip upon the same.

Screwed to the lower end of the tube 1 and surrounding the same is a nut 32, and 33 designates an expansible member or washer (preferably of rubber) surrounding the lower end of the tube 1 between the nut 32 and the lower washer or protector-plate 24 of the cork.

Having thus fully described the construction of my invention, I do not desire to be limited to the exact details of construction or arrangement of parts, as considerable change may be made without departing from the spirit of my invention.

The operation of the invention is as follows: The ordinary cork of the bottle containing the carbonated liquid is first partially removed and is held against further displacement in any manner; but I have found that the thumb of the hand which grasps the neck of the bottle can be used. The lower end of my improved siphon and stopper is then brought up close to the mouth of the bottle and the cork released. If the gas of the liquid does not force the same out, it may be removed and my stopper quickly inserted and pushed down into the neck of the bottle until the cork portion 29 is securely seated. This is accomplished by grasping the nozzle and operating-lever of the siphon in one hand with the palm thereof resting against the convex cover or cap 20, and by a twisting movement the cork is seated. The neck of the bottle is then released and the compression nut or disk 22 is turned, which causes said nut to work its way down the threaded tube or pipe 1 onto the protecting washer or plate 23 of the cork member 29. A continued movement of said screw will either force the entire cork down against the rubber member 33 or draw the tube 1 upward, causing the nut 32 to forcibly engage the washer, and in either instance compresses this washer, causing the same to forcibly engage the neck of the bottle, which not only locks or securely holds the siphon and stopper in position, but also prevents the escape of any gas around the sides of the stopper. The lever 16 may then be depressed, which unseats the valve 10 and allows the liquid to pass out of the nozzle or spout 8.

It is to be noted that no matter how hard or tight the compression-nut 22 may be forced down against the cork 29 the latter cannot become crushed, as all strain and pressure are against the contacting flange or collars 27 and 28 of the plates or washers 23 and 24, yet when said cork becomes worn out by constant use a new one may be readily and easily inserted.

What I claim as new, and desire to secure by Letters Patent, is—

1. A device of the class described, comprising a tube, having an outlet, an expansible member carried by said tube below the outlet and means for holding the member in position, a cork surrounding the tube, above the expansible member, a compression-nut, and means carried by the cork, to prevent compression of the cork by said nut.

2. A device of the class described comprising a tube, having an outlet, an expansible member carried by said tube below the outlet and means for preventing displacement of said member, a cork surrounding said tube above the expansible member, a compression-nut carried by the tube, and protection-plates carried by the cork to prevent longitudinal compression of the same and permit said expansible member to be forced against one of the plates, by the nut for expanding the same.

3. A device of the class described comprising a tube, an expansible member carried by said tube, a cork carried by the tube, and provided with a central aperture, protection-plates for said cork, collars mounted on said plates, surrounding the tube and extending into the aperture in said cork, and means carried by the tube for exerting a pressure on the protection-plates to expand the expansible member.

4. A device of the class described comprising a tube, an expansible member carried thereby, a cork provided with an aperture, protection-plates for said cork, collars on said plates, surrounding the tube and extending into the aperture, the end of said collars abutting against each other within the aperture, and means for pressing the expansible member against one of the protection-plates for expanding said member.

5. A device of the class described comprising an exteriorly-screw-threaded tube, a nut carried by one end thereof, an expansible member surrounding said tube and resting on the nut, a cork loosely surrounding the tube, means carried by said cork for preventing compression of the same, and means engaging the threads and contacting with the cork-protector for expanding the expansible member.

6. A device of the class described comprising a tube, a cork, an expansible member and means for expanding the latter, said tube be-

ing provided at its free end with an enlarged central portion, said portion being provided with exterior screw-threads, a recess surrounding said portion, a washer carried by said recess, and a siphon having a tubular base and provided with internal screw-threads adapted to engage the threads of the enlarged portion for holding the end of the siphon within the recess and against the washer.

7. A combined siphon and bottle-stopper comprising a cork, an expansible member and means for expanding the same, a spring-pressed valve and means for operating said valve, said siphon being provided with an enlarged convexed upper end.

8. A combined siphon and bottle-stopper comprising a cork, an expansible member and means for expanding the same, a spring-pressed valve and means for operating the same, the upper end of said siphon being provided with screw-threads, and an enlarged convexed cap adapted to engage said threads.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN ESTEN KELLER, JR.

Witnesses:
JOHN L. BUEL,
JOHN L. MOWER.