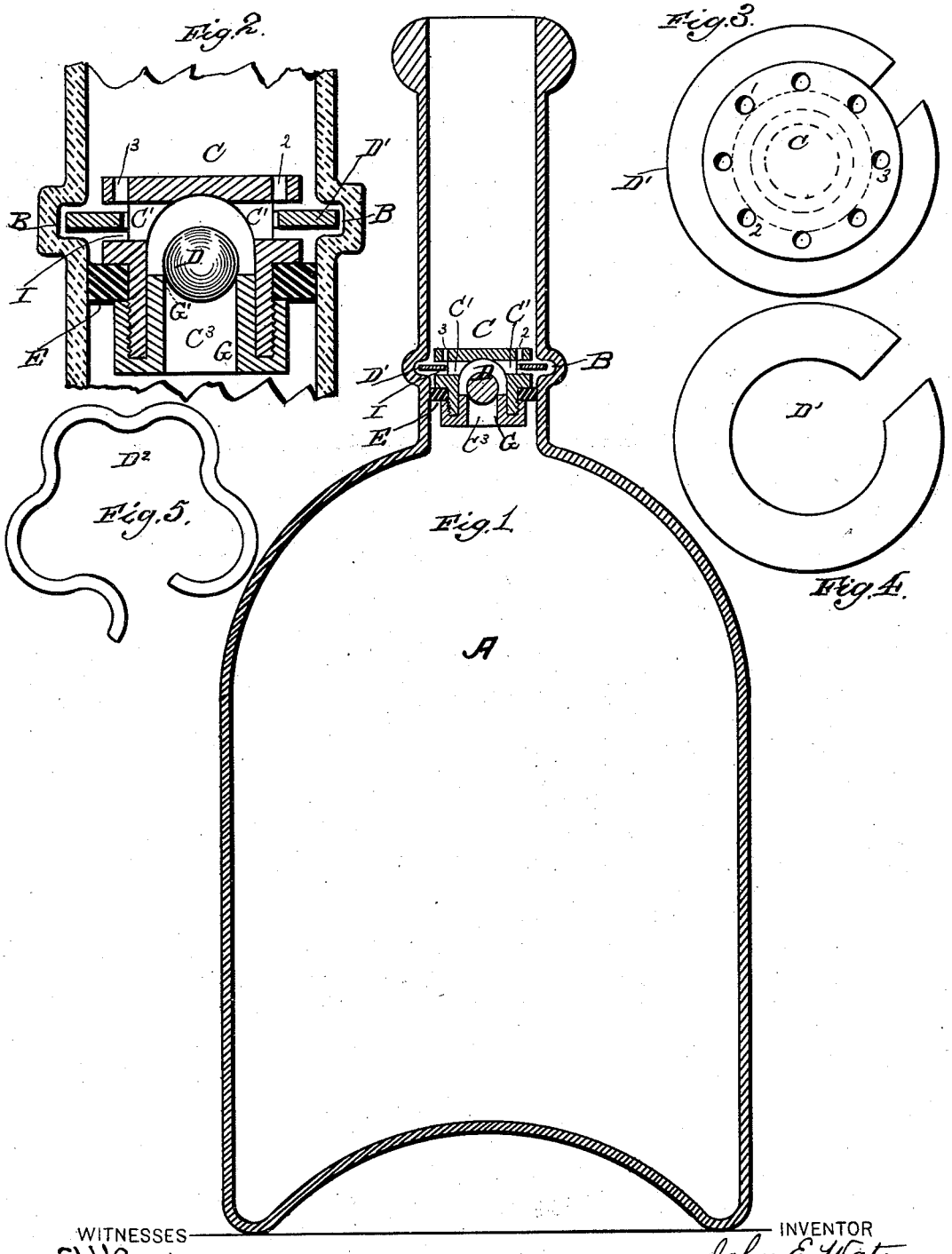
(No Model.)

J. E. WATSON.

BOTTLE AND ATTACHMENT TO PREVENT ITS BEING REFILLED.

No. 305,988. Patented Sept. 30, 1884.



WITNESSES

E. H. Bates

John P. Morrow

INVENTOR

John E. Watson,

by Anderson & Smith

his ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN EDWARD WATSON, OF LOUISVILLE, KENTUCKY.

BOTTLE AND ATTACHMENT TO PREVENT ITS BEING REFILLED.

SPECIFICATION forming part of Letters Patent No. 305,988, dated September 30, 1884.

Application filed December 15, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. WATSON, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Bottles and Attachments to Prevent their Being Refilled; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a vertical central section of a bottle having my invention applied thereto. Fig. 2 is an enlarged section. Figs. 3, 4, and 5 are details.

This invention has relation to means for preventing bottles from being refilled after having been emptied of their original contents; and it consists in the construction and novel arrangement of devices, as hereinafter set forth, and pointed out in the appended claims.

In the accompanying drawings, H designates a bottle, of glass or any other suitable material, having cast, blown in, or otherwise formed on the inside of the neck a deep groove or channel extending entirely around its interior circumference, as shown at B, which is intended to receive a part of an open elastic ring, or corrugated ring, for the purpose of locking or securing the valve-box on the inside of the bottle-neck, and thereby preventing removal of the valve-box.

B designates the groove in the neck of the bottle, and shows the proper place for it in the neck.

C designates a valve box or chamber of glass, pottery-ware, metal, or any suitable material, having cast, pressed, or otherwise formed on its outside, and extending entirely around the exterior, a deep groove or channel, I, in which loosely fits the locking-ring or corrugated ring D^2 D'.

On the lower end of the valve box or chamber can be formed a screw-thread for receiving a valve-seat, and just above the threaded portion is placed a washer or band, E, of rubber, cork, or any suitable elastic material, which is slightly larger than the valve-box in diameter, being made so in order to perfectly fill the neck of the bottle, for the purpose of forming a joint between the valve-box and bottle-neck below the groove or channel in the neck.

The valve-seat portion also has its outside part well screwed up against the elastic washer or band E, forming a tight joint between it and the valve box or chamber C. The opening C^3 serves as a passage for the contents of the bottle through the valve-box, and several openings, 1 2 3, &c., extending from the inner or enlarged chamber to the groove on the outside, and to the upper portion of the bottle-neck, serve as exits for the escape of the liquids when being drawn or poured off.

Within the central or enlarged chamber, and resting on the valve-seat piece G at the point G', is a spherical valve, D, made of wood, cork, or any suitable buoyant material, preventing the passage of any fluid from the outside to the inside of the bottle. The valve D is made light or buoyant in order that in case the bottle be turned down side up, and attempt be made to force the liquid into the bottle, the valve will float against the seal, preventing the entrance of any liquid. It is not necessary to make the valve spherical, as a flat valve would answer equally as well; hence I do not confine myself to any particular-shaped valve.

It is apparent that the enlarged chamber in the interior of the valve-box is to be of sufficient size to allow the free passage of the fluid around it in drawing off the liquid.

D' and D^2 designate the two forms of open or lock rings, made of metal or any suitable elastic material, and these rings may be made in different shapes; but whatever shape be used it must be such that when under compression it will nearly hide itself within the groove on the outside of the valve-box, and when released will of its own elasticity spring outward in order that when in proper position in the neck of the bottle the groove is outside of the valve-box. Being directly opposite the groove in the neck of the bottle, the ring or lock will of its own elasticity spring outward, partially occupying at the same time both of the grooves, and preventing the removal of the valve-box or tampering with the valve or seat.

G designates an opening through the valve-seat portion of the valve-box, admitting the contents of the bottle into the valve-box central chamber, and is the only passage from within to the outside.

G′ is the part of the valve-seat portion which forms the seat of the valve. This portion of the valve-box can be made separately, and may be secured to the upper portion of the valve-box, as may be deemed best. I, however, prefer the screw-thread connection, as shown in the drawings.

The mode of operating this non-refilling device is as follows: When filling the bottle with the original mixture or compound designated by the label, there is no valve-box in the neck of the bottle; hence the bottle can be filled as rapidly as the ordinary form of bottle, there being at that time no obstruction in the bottle-neck to prevent the free flow of the liquid inward. After the bottle has been filled to the proper height, which can be done by any antomatic bottle-filling apparatus, the attachment is placed within the neck of the bottle, which is to prevent the bottle from being refilled after the contents have been used. This is done in the following manner: The lower part of one of the valve boxes or chambers is fitted with an elastic band or washer well up against the shoulder in the lower side of said upper part. There is then inserted in the central or interior chamber through the opening at the bottom side one of the elastic buoyant spherical or ball valves, after which the valve-seat part of the valve-box is screwed well up to the elastic washer or band. Then one of the open or corrugated rings or locks is inserted into the grooves on the outside of the upper part of the valve-box, and with the thumb and forefinger pressed inward until entirely covered by the groove. The valve-box thus put together is then inserted into the neck of the bottle at the mouth, and the neck being smooth will keep the lock-ring confined within the groove until the valve-box is pressed down far enough to bring its groove directly opposite the groove in the neck of the bottle, when the rubber or elastic band will have passed into the portion of the neck below the groove, making a tight joint, and the open or corrugated ring confined in the groove in the valve-box will by its own elasticity spring outward, occupying portions of both grooves—that is to say, the grooves in the neck of the bottle and of the grooves in the valve-box. This adjustment of the open or corrugated ring serves to prevent the further movement of the valve-box.

To pour the fluid out, it is only necessary to elevate the body part of the bottle in the ordinary manner, when the liquids will pass by the valve, and through the valve on out through the proper exit, as shown in the drawings; but when the bottle has been emptied of its contents the valve D on the valve-seat will prevent the admission from the outside to the inside, thus preventing the filling of the bottle with any imitation or fraudulent compound to be sold or offered under the original label on the bottle.

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

1. An attachment to be applied to bottles for preventing the refilling of the bottle after having once been filled and emptied, composed of a valve-box having a deep outside groove extending around its circumference, and fitted with an interior valve opening outward with its proper exits, and on its lower part an elastic band or washer adapted to fit tightly on the valve-box and against the neck of the bottle to form a tight joint between them, substantially as specified.

2. The combination, with a bottle having an internal annular groove in its neck, of a valve-box having an exterior circumferential groove and fitted in the neck of the bottle, and an open ring confined within the grooves, and springing outward to occupy the groove in the neck of the bottle and the groove on the outside of the valve-box at one and the same time, for the purpose of preventing the removal of the valve-box from the neck of the bottle, substantially as specified.

3. The fastening consisting of the interior annular groove in the neck of the bottle, a valve-box having an exterior circumferential groove, and a ring adapted, when the groove in the valve-box and the groove on the inside of the neck of the bottle are directly opposite, to spring outward, occupying portions of both grooves at one and the same time, substantially as specified.

4. A valve-box of any suitable material having a circumferential groove or channel on its outside, acting in conjunction with an interior annular groove formed in the neck of the bottle, in combination with an open ring occupying both grooves at one and the same time, substantially as specified.

5. A bottle having a valve-box secured in the inside of the neck by means of a spring-lock, in combination with a valve, valve-seat, and an elastic washer or band on the outside of the valve-box, substantially as specified.

6. The combination of a bottle having an annular groove or channel formed on the inside of the neck with a valve-box having a groove formed on its exterior, extending around its circumference, a ring or spring having sufficient elasticity within itself to spring outward, occupying a portion of the space in each of the grooves, forming a lock to prevent the removal of the valve-box from the neck of the bottle, in combination with an elastic band or washer, a valve-seat, and valve adapted to prevent the refilling of the bottle after it has been emptied of its original contents, substantially as specified.

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

JOHN EDWARD WATSON.

Witnesses:
C. GERRARD,
MARTIN THOMAS.