No. 746,681. PATENTED DEC. 15, 1903.

J. J. DARRAGH, JR.

NON-REFILLABLE BOTTLE.

APPLICATION FILED MAR. 11, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 3a

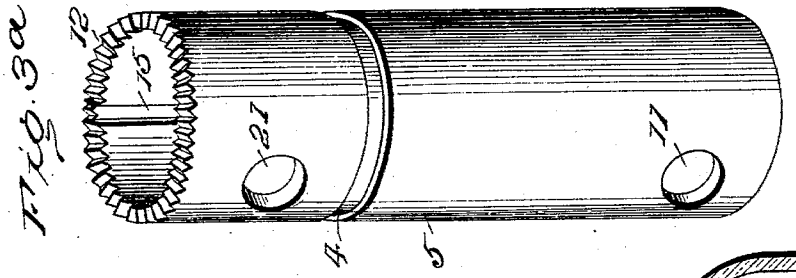


Fig. 2.

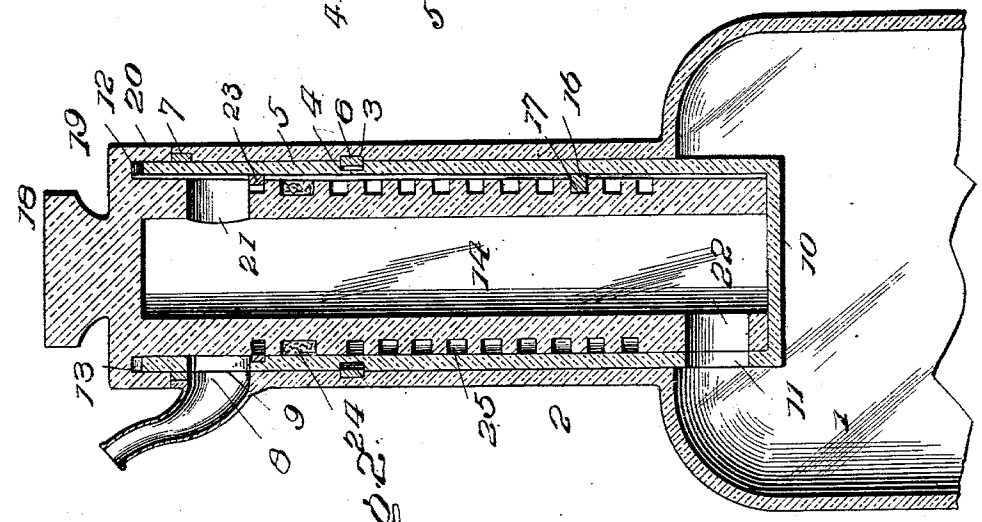
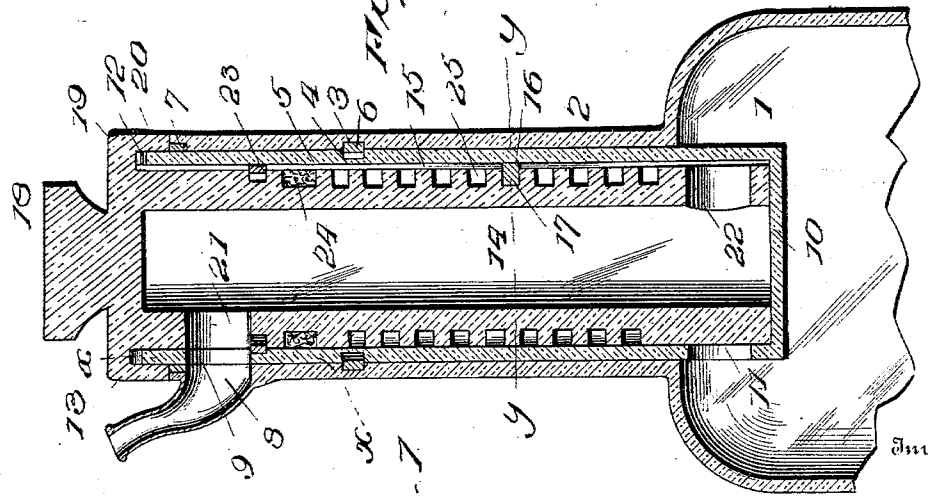


Fig. 1.



Witnesses

Gladys L. Thompson

Inventor

J. J. Darragh, Jr.

By R. A. B. Lacey Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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NON-REFILLABLE BOTTLE.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

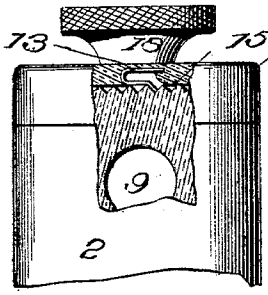


Fig. 3.

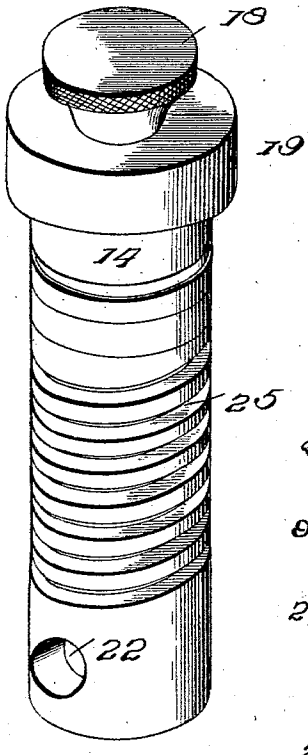


Fig. 5.

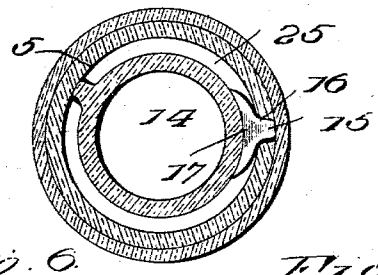


Fig. 6.

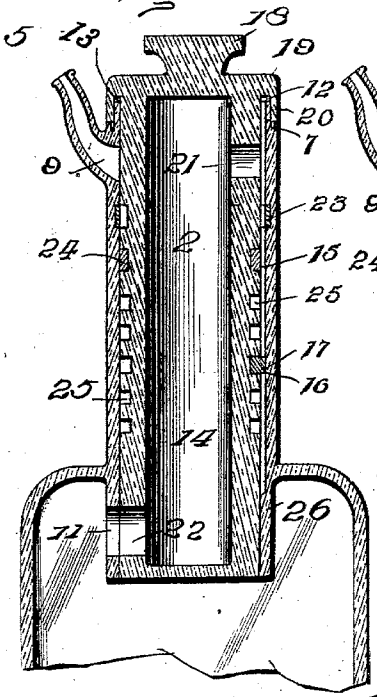


Fig. 7.

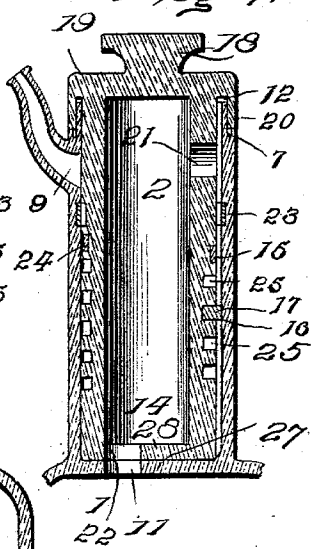


Fig. 8



Inventor

J. J. Darragh, Jr.

Witnesses

Jas. Mingle

Gladys L. Thompson

By

R. H. & D. Lacey Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 746,681. Patented December 15, 1903.

UNITED STATES PATENT OFFICE.

JOHN J. DARRAGH, JR., OF MEMPHIS, TENNESSEE.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 746,681, dated December 15, 1903.

Application filed March 11, 1903. Serial No. 147,326. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. DARRAGH, Jr., a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention has for its object to prevent the refilling of a bottle or like vessel when the liquid contents have been drawn therefrom, thereby preventing imposition upon the consumer and the proprietor of a special brand of goods by offering for sale an inferior article.

In accordance with this invention the bottle when empty is locked or sealed in such a manner as to prevent replenishing without rendering detection possible and necessitating breakage or mutilation of parts, which would attract the attention of the observing person, thereby materially lessening the chances of the nefarious practice of reuse of bottles, packages, and the like containing well-known and reputable brands of goods.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical central section of the upper portion of a bottle embodying the invention, the measuring-cylinder being turned so as to bring its outlet in register with the outlet of the bottle. Fig. 2 is a view similar to Fig. 1, showing the measuring-cylinder turned to throw its outlet out of register and its inlet in register with the opening leading into the bottle or package. Fig. 3 is a detail perspective view of the cylinder adapted to be secured within the neck of the bottle or like receptacle. Fig. 3ª is a detail perspective view of the stationary cylinder. Fig. 4 is a detail section about on the line X X of Fig. 1, showing more clearly the relation of the ratchet mechanism between the measuring-cylinder and the stationary cylinder. Fig. 5 is a horizontal section about on the line Y Y of Fig. 1, showing more clearly the traveling wedge or lock for securing the measuring-cylinder after the last charge has been drawn off from the bottle. Fig. 6 is a detail view similar to Fig. 1 of a modification. Fig. 7 is a view similar to Fig. 6 of a further modification. Fig. 8 is a detail view of the traveling wedge or lock.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The body of the bottle, receptacle, or like package is indicated at 1, and 2 represents the neck thereof, same being provided in its inner wall with an annular groove 3 to match a corresponding groove 4 of stationary cylinder 5 for reception of spring lock-ring 6, by means of which stationary cylinder 5 is firmly secured in place. A packing-ring 7, of cork, rubber, or like material, is seated in the upper end of neck 2 and makes a tight joint with stationary cylinder 5 to prevent escape or entrance of any liquid. An outlet 8 is provided in a side of the neck 2 near its upper end, and a corresponding outlet 9 is formed in a side of cylinder 5 near its upper end, the two outlets 8 and 9 being in coincident relation. Cylinder 5 is closed at its lower end, as shown at 10, and is provided in a side with an inlet 11, cylinder 5 being of such length as to project a short distance into the upper portion of bottle or package 1. The upper end of cylinder 5 is provided with cog-teeth 12 for coöperation with a ratchet or pawl 13, let into a recess at the upper end of measuring-cylinder 14. The teeth 12 and ratchet 13 coöperate to prevent backward turning of measuring-cylinder 14, while admitting of same being moved forward. This is a vital feature of the invention, and on the successful operation thereof depends the efficiency of the invention. The stationary cylinder 5 is provided upon its inner side with a longitudinal groove or channel 15, which receives a portion, as lug 16, of the traveling wedge or lock 17.

The measuring-cylinder 14 snugly fits within the stationary cylinder 5 and is open at the bottom and closed at the top and is provided at its upper end with an operating

knob or button 18 to admit of firm and convenient grip when it is desired to turn the measuring-cylinder to bring the openings therein in register with the openings of the stationary cylinder. The measuring-cylinder is provided at its upper end with an outer flange 19 to extend over upper end of stationary cylinder 5 and with pendent rim 20 to overhang the upper end of neck 2 and embrace the upper end portion of cylinder 5. The measuring-cylinder is provided in a side near its upper end with an outlet 21 and near its lower end with an inlet 22, the latter being adapted to register with inlet 11 and outlet 21 being adapted to register with outlets 8 and 9. The openings 21 and 22 are arranged at diagonally opposite points, so that when opening 22 is in coincident relation with inlet 11 outlet 21 is out of register with outlets 8 and 9, and vice versa. The measuring-cylinder is secured within the stationary cylinder 5 by any suitable means, preferably by a lock-ring 23, located in companion grooves formed in the meeting sides of cylinders 5 and 14. A packing-ring 24 is located in an annular groove formed in the outer side of measuring-cylinder 14 near its upper end and is adapted to make a tight joint between the two cylinders at a point adjacent to and below lock-ring 23. A thread or spiral groove 25 is provided in the outer side of measuring-cylinder 14 at a point between its ends and is of a size to accommodate traveling wedge or lock 16 without binding and admit of same moving readily in the thread or groove. The number of threads or convolutions in the length of the spiral passage 25 will be governed by the relative capacity of measuring-cylinder 14 and bottle or package 1, the purpose being to lock the measuring-cylinder against further movement after the last measure has been drawn from the bottle or package.

The traveling wedge or lock 17 is longitudinally curved, and the end portions taper toward their extremities to insure positive locking by a wedge action. When the parts are assembled, the wedge 17 fits the thread or spiral groove 25 of measuring-cylinder 14 and the lug 16 enters the vertical groove or channel 15 of stationary cylinder 5.

When it is required to draw off the contents of the bottle, package, or other receptacle, measuring-cylinder 14 is turned to bring its inlet-opening 22 in register with inlet 11 of cylinder 5, whereby outlet 21 is thrown out of register with outlets 8 and 9. The bottle or receptacle is tilted, so as to fill measuring-cylinder 14, after which same is turned to throw inlets 22 and 11 out of register and to bring outlets 21, 8, and 9 into register, when the contents of the measuring-cylinder will pass off from the bottle in the usual manner. It must be remembered that the ratchet mechanism between measuring and stationary cylinders is such as to prevent backward rotation of the measuring-cylinder. Hence the latter can be turned in a forward direction only. A complete revolution of the measuring-cylinder is necessary to effect withdrawal of goods from the bottle or package corresponding to the capacity of the measuring-cylinder by proper manipulation of the bottle and the conjunctive parts. As the measuring-cylinder is turned the wedge or lock 17 is caused to travel in the thread or spiral passage 25, and when the measuring-cylinder has made its last turn the part 17 reaches the end of the thread or spiral passage and locks the measuring-cylinder against further forward movement, same being held against backward rotation by means of the ratchet mechanism 12 and 13. If the bottle or package 1 contains, for instance, ten measures of cylinder 14, the groove 25 will embody ten threads or convolutions to admit of the measuring-cylinder being rotated ten times before wedge 17 will come into play to lock the cylinder against further movement. It will thus be understood that the number of threads or convolutions of the spiral passage 25 will depend upon the number of measures of cylinder 14 contained in the bottle or package 1. The cylinder 5 being stationary and the channel 15 straight, it is obvious that the wedge or lock 17 will travel in a direct path as the measuring-cylinder is turned.

Figs. 6 and 7 show a construction dispensing with the stationary cylinder 5 and attaining the same objects, the vertical channel or groove 15 being formed in the inner side of neck 2 and the upper end of said neck being provided with teeth 12 for coöperation with ratchet and pawl 13 in the manner stated. As shown in Fig. 6, the neck 2 is extended a short distance into the upper portion of the bottle, as indicated at 26, and is provided with opening 11 in register with opening 22 of measuring-cylinder 14. As shown in Fig. 7, the lower end of neck 2 is closed by partition 27, in which is formed opening 11, and the lower end of the measuring-cylinder is closed, as shown at 28, and provided with opening 22 to register with opening 11. The remaining parts are substantially the same as herein described and operate in a like manner. In the forms shown in Figs. 6 and 7 the part 2 is to be considered the substantial equivalent of the stationary cylinder 5.

Having thus described the invention, what is claimed as new is—

1. In a non-refillable bottle or package, a measuring-cylinder provided with an inlet and an outlet and mounted for rotation to admit of receiving a charge and delivering same, means coöperating with said measuring-cylinder to prevent backward movement, and a lock coöperating with said cylinder and advanced thereby and adapted to secure same after being turned a given number of times, substantially as set forth.

2. In a non-refillable bottle or like package, the combination of a measuring-cylinder adapted to receive a quantity of goods and

deliver same and mounted for rotary movement and adapted in one position to receive a charge and in another position to deliver same, means for preventing backward movement of the measuring-cylinder, and a traveling lock advanced by the forward movement of said cylinder for securing same after a predetermined number of discharges have been made, substantially as specified.

3. In a non-refillable bottle or like package, a measuring-cylinder rotatably mounted and provided with a thread or spiral passage and adapted to receive a charge in one position and to deliver same in another position, means for preventing backward movement of said cylinder, and a lock advanced by said thread or spiral passage and adapted to secure the cylinder after same has made a predetermined number of turns, substantially as set forth.

4. In a non-refillable bottle or like package, the combination of a measuring-cylinder rotatably mounted and provided with an inlet and an outlet, said cylinder receiving a charge in one position and adapted to deliver same in another position, a ratchet mechanism cooperating with the measuring-cylinder to prevent backward movement thereof, a traveling lock, a straight and spiral grooves coöperating with said lock to effect movement thereof to secure the cylinder when same has made a given number of revolutions, substantially as set forth.

5. In combination, a rotary measuring-cylinder provided with an external thread or spiral groove and having an inlet and an outlet, an inclosing part having a corresponding inlet and outlet and a straight passage, a ratchet mechanism between the measuring-cylinder and inclosing part to prevent backward movement of the cylinder, and a lock mounted in said thread and having a portion extended into said straight passage substantially as described.

6. In combination, a stationary cylinder, a measuring-cylinder rotatable therein and having an inlet and an outlet and an overhanging flange, a ratchet mechanism between said flange and adjacent portion of the stationary cylinder for preventing backward rotation of the measuring-cylinder, and a traveling lock between the two cylinders caused to move forward by the advance movement of the measuring-cylinder to secure same after a given number of turns have been made, substantially as specified.

7. In combination, a stationary cylinder having a straight groove and ratchet-teeth at its end, a measuring-cylinder rotatably mounted in the stationary cylinder and having an external thread and provided with an inlet and an outlet and having an outer flange to extend over the end of the stationary cylinder, a pawl applied to said outer flange for coöperation with the teeth of the stationary cylinder to prevent backward rotation of the measuring-cylinder, and a lock having portions mounted in the thread and straight groove of said cylinders to secure the measuring-cylinder after same has made a given number of revolutions, substantially as set forth.

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

JOHN J. DARRAGH, JR. [L. S.]

Witnesses:
J. B. STONERY,
R. H. WOODSON.