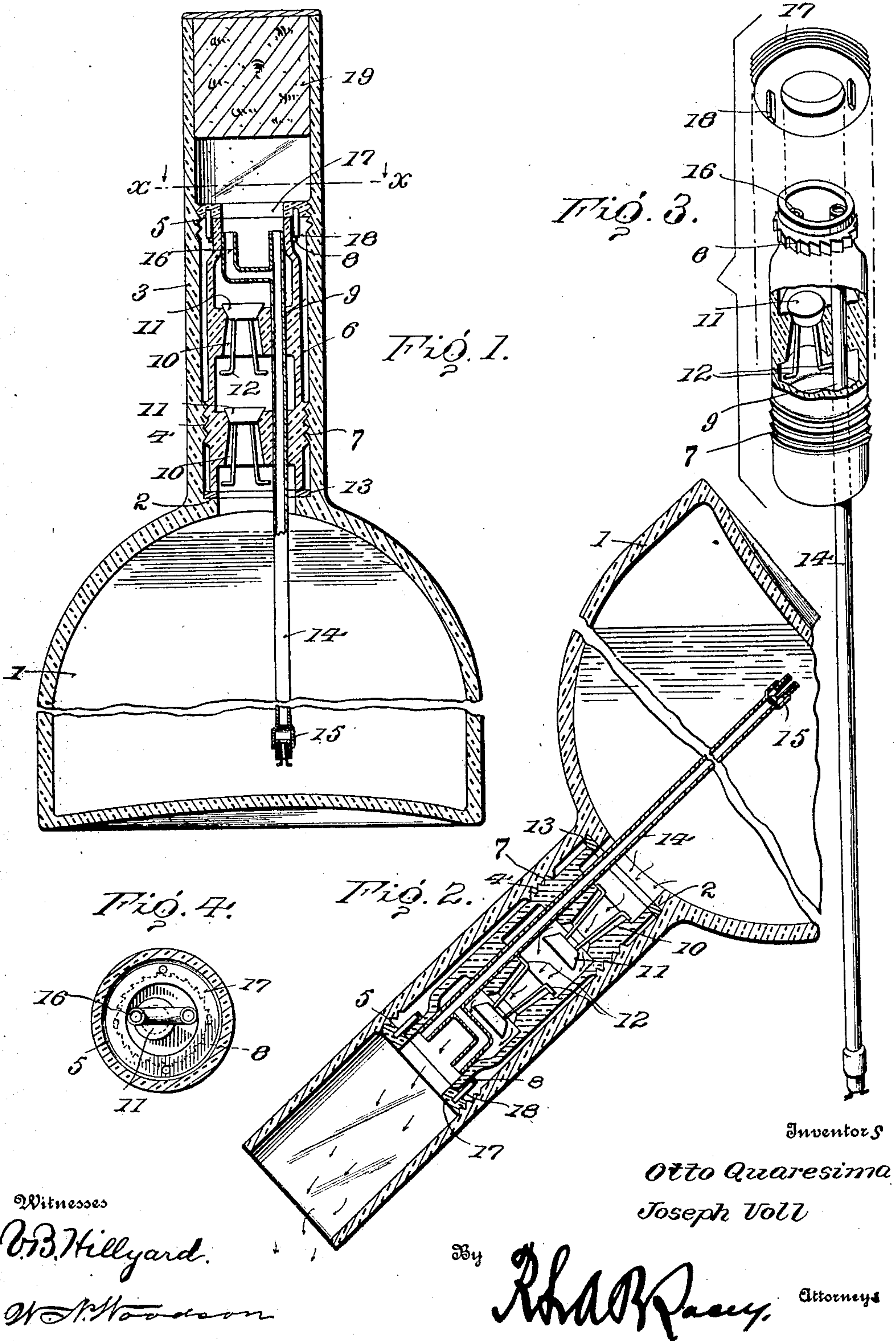


O. QUARESIMA & J. VOLL.
NON-REFILLABLE BOTTLE.
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Patented Feb. 16, 1909.



Witnesses
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UNITED STATES PATENT OFFICE.

OTTO QUARESIMA AND JOSEPH VOLL, OF HAZLETON, PENNSYLVANIA.

NON-REFILLABLE BOTTLE.

No. 912,978.

Specification of Letters Patent.

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To all whom it may concern;

Be it known that we, OTTO QUARESIMA and JOSEPH VOLL, citizens of the United States, residing at Hazleton, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

The present invention appertains to bottles, jugs or like necked receptacles for containing liquid, the purpose being to prevent the reuse of the bottle after the same has been emptied, thereby protecting the party placing upon the market a certain brand of goods, as also insuring the consumer obtaining the genuine article, or goods desired.

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

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a vertical central section of a bottle provided with safety means embodying the invention, the intermediate portion of the bottle being broken away. Fig. 2 is a view similar to Fig. 1, showing the bottle tilted, as in the act of pouring off the liquid contents thereof. Fig. 3 is a detail perspective view of the safety means. Fig. 4 is a horizontal section on the line $x-x$ of Fig. 1.

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 invention is shown applied to a bottle, although it is to be understood that it may be readily adapted to a jug, or other receptacle having a neck. The body 1 of the bottle is provided with an inner shoulder 2 at the base or juncture of the neck 3, therewith, said inner shoulder serving to limit the movement of the plug when placing the same in position within the neck 3. The neck is provided near its lower end with screw threads 4 and near its upper end with other screw threads 5, the one being right and the other left, for a purpose presently to be explained.

The safety means consists of a plug 6 having a portion 7 near its lower end externally screw threaded to match the screw threads 4 of the neck 3 so as to secure the plug within the neck and hold it upon the shoulder 2. The plug 6 is hollow and its upper portion is contracted and formed with an outer series of ratchet teeth 8. A series of partitions 9 are arranged within the plug at different points in its length, each partition having an opening 10 which is normally closed by means of a valve 11 which is adapted to open upward and to close downward. To prevent displacement of the valves and to insure their seating, each is provided with pendent arms 12 of light spring wire and having their lower ends bent outwardly so as to engage under the respective partitions adjacent to the openings 10. The valves 11 may be of any form and construction and are made tapering and their seats correspondingly flare. There may be as many valves and partitions as may be found necessary or advantageous to secure the desired results. A packing 13 is interposed between the shoulder 2 and the plug 6 to secure a tight joint.

An air tube 14 has its upper end secured in the plug 6 and its lower end terminating within a short distance of the bottom of the bottle or receptacle, and provided with a check valve 15 of any construction and design, so long as it serves to prevent the liquid contents of the bottle from entering the tube 14 and at the same time permitting of free ingress of air when tilting the bottle to pour off the contents thereof. The tube 14 is passed through openings formed in the partitions 9 and is supported therein. A branch 16 at the upper end of the tube 14 above the uppermost partition, insures ingress of air without requiring the bottle to be tilted from a particular side.

A guard 17 serves to secure the plug 6 in place and prevent removal thereof. This guard consists of a ring exteriorly threaded to match the screw threads 5. Detents 18, pendent from the guard 17, cooperate with the ratchet teeth 8 to prevent removal of the guard after the same has been placed in position.

It is to be understood that the plug 6 is secured within the neck of the bottle by the matching right hand screw threads 4 and 7. After the plug has been placed in position, the guard 17 is inserted in the upper end of

the neck and is screwed home therein. As the guard 17 is screwed home, the detents 18 ride upon the ratchet teeth 8. By reason of the screw threads 5 being left hand, the guard 17 is screwed home by a rotary movement, the reverse of that required to screw the plug 6 within the neck of the bottle. After the guard 17 has been properly positioned within the neck of the bottle, it cannot be removed because of the interlocking connection between it and the plug, and, furthermore, because of the right hand screw thread connection of said plug with the bottle neck and the left hand screw thread connection of the guard with said bottle neck.

The detents 18 may be spring pins or wires enabling them to ride upon the ratchet teeth 8 when turning the guard home and interlocking with said ratchet teeth to prevent unscrewing or removal of the guard in an attempt to turn the same backward.

The bottle may be filled in the usual manner and when filled the plug 6 and guard are placed in position, after which the bottle is corked or sealed in the accustomed way so as to prevent spilling of the contents in the event of the bottle being upset or tilted. After the cork 19 has been removed, the liquid contents of the bottle may be drawn off in the usual way by tilting said bottle, as indicated in Fig. 2. As the liquid passes off from the bottle, air enters through the tube 14 to replace that drawn off, thereby insuring a steady outflow of the liquid so long as the bottle is tilted. When the bottle is returned to an upright position, valves 11 and 15 automatically close, thereby preventing any liquid being poured into the bottle to take the place of that withdrawn.

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

1. In combination with a necked receptacle, a valved plug secured within the neck of the receptacle by means of a screw thread joint, a guard secured within the neck of the receptacle by means of a screw thread the re-

verse of that holding the plug in place, and interlocking means between said guard and plug.

2. In a necked receptacle, the combination of a valved plug secured within the neck of the receptacle by means of a screw thread and provided at its upper end with ratchet teeth, and a guard secured within the said neck by means of a screw thread the reverse of that securing the said plug in place and having detent means cooperating with the said ratchet teeth to form interlocking means between the guard and plug.

3. In a necked receptacle, the combination of a valved plug secured within the neck of the receptacle and having its upper portion contracted and formed upon its outer side with ratchet teeth, a guard secured within said neck by means of a screw thread the reverse of that holding the plug in place, and detents carried by said guard and adapted to cooperate with the ratchet teeth upon the contracted portion of said plug to prevent removal of either said guard or plug.

4. In a necked receptacle, the combination of a valved plug, and an air tube supported in said plug and having a branch at its upper end.

5. In a necked receptacle, the combination of a hollow plug secured within the neck and provided with a series of partitions having openings therein, valves cooperating with said openings to normally close the same, and an air tube supported in said partitions and extending to within a short distance of the bottom of the receptacle and having a branch at its upper end above the uppermost partition.

In testimony whereof we affix our signatures in presence of two witnesses.

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Witnesses:

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