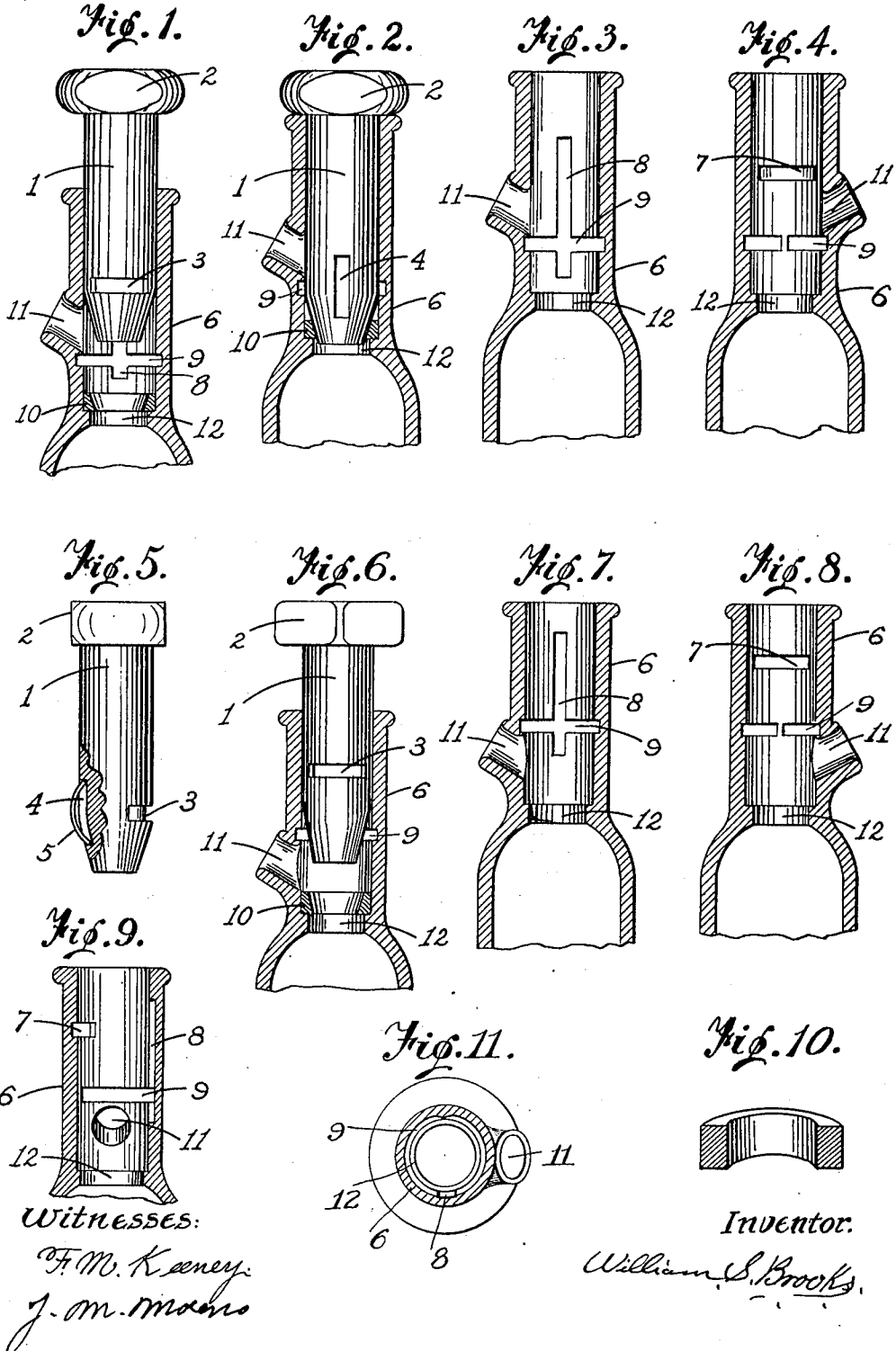


W. S. BROOKS.
NON-REUSABLE BOTTLE.

APPLICATION FILED MAY 3, 1911. RENEWED AUG. 26, 1912.

1,040,500.

Patented Oct. 8, 1912.



UNITED STATES PATENT OFFICE.

WILLIAM S. BROOKS, OF SAN DIEGO, CALIFORNIA.

NON-REUSABLE BOTTLE.

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Specification of Letters Patent.

Patented Oct. 8, 1912.

Application filed May 3, 1911, Serial No. 624,705. Renewed August 26, 1912. Serial No. 717,193.

To all whom it may concern:

Be it known that I, WILLIAM S. BROOKS, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented a new and useful Improvement in Non-Reusable Bottles, of which the following is a specification.

This invention relates to improvements in bottles, more particularly of that class which, after having been filled and closed, cannot be emptied of the original contents and again refilled and closed in the original manner, the invention having the several features herein specified, its objects being the provision of inexpensive, efficient, simple, and durable parts whereby the closure of the bottle is effected, and further, whereby the bottle may be opened for removal of the contents without breaking any of the parts thereof, thus eliminating all danger from broken particles or fragments of glass. In present and prior constructions of this character, the arrangement is such as to require a large number of complicated parts, which, after being applied, necessitate the breaking of some portion of the bottle or parts to enable the contents to be emptied. To obviate these and other defects, I have provided a device in which a loose fitting glass stopper is pressed into engagement with a cork or other suitable annular packing ring or gasket, and held in such position by a locking spring, the stopper being arranged to be rotated for a half turn and pulled outward for a predetermined distance, the completion of the movement causing the stopper to be simultaneously locked against further movement in either direction by locking springs which engage with both stopper and the neck of the bottle. By this arrangement the stopper cannot be returned to its original position and the loose fit of the same in the neck of the bottle prevents the successful refilling and the retaining of any liquids or similar articles of a like nature, my invention comprising the combination and arrangement of parts, substantially as herein described and claimed, and of which a convenient embodiment is shown in the accompanying drawings.

While simple and efficient means are herein provided for accomplishing the objects of

the invention and the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that no limitation is necessarily made to the precise structural details herein exhibited, but that changes, alterations, and modifications which are within the spirit and scope of the invention, may be made when desired.

Of the drawings in which like characters denote corresponding parts, Figure 1 is a vertical sectional view of a bottle to which my invention has been applied, with the stopper in an open position, Fig. 2 is a similar view with the stopper in a closed position, Fig. 3 is a similar view with the stopper and packing ring removed therefrom, showing the locking slots in the neck, Fig. 4 is a similar view showing the opposite inner side of the neck, Fig. 5 is a detail view of the stopper having a locking spring in position in the longitudinally arranged slot, Fig. 6 is a vertical sectional view of a modified form of the invention in which all of the locking slots are above the side opening or outlet, Fig. 7 is a sectional detail view of the neck of the bottle in the modified form, showing the locking slots, Fig. 8 is a sectional detail view of the modified form showing the opposite inner side of the neck of the bottle, Fig. 9 is a sectional detail view of the modified form taken on a plane transversely of the plane of the side outlet, and Fig. 10 is a sectional detail view of the annular packing ring before it has been compressed by the tapered end of the stopper. Fig. 11 is a sectional view through the center of the lower transverse slot of the bottle neck.

More particularly of the drawings, a cylindrical-bodied stopper 1, having a flat-sided head 2, is provided with locking slot 3, arranged circumferentially upon the cylindrical body thereof, and slot 4, arranged longitudinally of the axis thereof, each slot carrying a locking spring 5, one to limit the rotation and the other to limit the longitudinal movement of the stopper. Neck 6 is provided with a corresponding groove 7, to limit the outward movement of the stopper, and 8, to limit the rotation thereof. Groove 9 engages with the circumferential locking spring and secures the stopper after it has been

pressed down upon annular packing ring 10. The contents of the bottle are removed from the bottle through side opening 11, after the stopper is locked in the open position. 5 Flange 12, supports the packing ring.

In the use of a bottle to which my invention has been applied it will be seen that after filling the bottle, the stopper may be pressed down until the packing ring is firmly 10 compressed by the tapered end of the stopper, the stopper to be pushed down so as to cause the locking spring in the circumferential slot to engage with the lower transverse groove in the neck of the bottle, thus 15 securing the stopper in engagement with the packing ring or gasket. In the closed position of the stopper the locking spring in the longitudinal slot of said stopper bears against the smooth inner surface of the neck and the stopper may be secured against rotation by applying a seal to the stopper and neck. To remove the contents the stopper must be rotated until the longitudinally arranged locking spring engages with the corresponding 20 groove in the neck which also releases the transversely arranged locking spring from the lower circumferential locking groove on the inner side of the neck, when the stopper may then be withdrawn 30 from engagement with the packing ring. The outward movement of the stopper will cause the circumferential locking spring to engage with the upper corresponding groove in the neck of the bottle, thereby causing the 35 stopper to be locked against any further movement whatever. The lower locking groove in the neck of the bottle extends in a nearly complete circle, leaving the flush surface of the neck diametrically opposite 40 the longitudinal slot, and, as the flush surface is extremely narrow, the stopper is rotated for a complete half turn to disengage the circumferential locking spring, therefore the longitudinal locking spring will engage 45 with the corresponding slot simultaneously with the release of the transverse locking spring from the lower circumferential slot. Thus it may be seen that the bottle cannot be closed again in the original manner and 50 therefore cannot be reused, the essence of my invention comprising means for preventing the fraudulent refilling and reusing of

bottles after the original contents are emptied.

I claim as my invention:

1. In a non-reusable bottle, a neck integral with the bottle, having transverse and longitudinal slots on the inner side, a stopper loosely fitting the neck and having transverse and longitudinal slots upon the exterior thereof, and locking springs, adapted to engage with the slots on the stopper and on the inner side of the neck, substantially as set forth. 60

2. In a non-reusable bottle, a neck integral with the bottle having an opening in the side thereof, a stopper which loosely fits the neck, an inner flange at the union of the neck with the body of the bottle, an annular packing ring supported by the inner flange, a tapered end on the stopper engaging with the packing ring, and springs operating in slots in the stopper and neck of the bottle to hold the stopper in a closed position in engagement with the packing ring; and in an open position away from the packing ring, substantially as set forth. 65 70 75

3. In a non-reusable bottle, a neck integral with the bottle having an opening in the side thereof, a stopper which loosely fits the neck, and locking springs engaging with corresponding slots in the stopper and neck, one spring arranged transversely of the axis of the stopper to limit the outward movement of the same, and the other spring arranged longitudinally of the axis of the stopper to limit the rotation of the same, substantially as set forth. 80 85

4. The combination in a non-reusable bottle, of a slotted neck having two transverse and one longitudinal slots on the inner side, an inner flange below the slots, a packing ring supported thereby, a rotatable stopper having a tapered end to compress the packing ring, and a corresponding transverse and longitudinal slot, and locking springs engaging with the slots in the neck and the slots on the stopper. 90 95

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

WILLIAM S. BROOKS.

Witnesses:

F. M. KEENEY,
J. M. MASTER.