

(No Model.)

J. A. GRAHAM.
NON-REFILLABLE BOTTLE.

No. 574,680.

Patented Jan. 5, 1897.

Fig. 1.

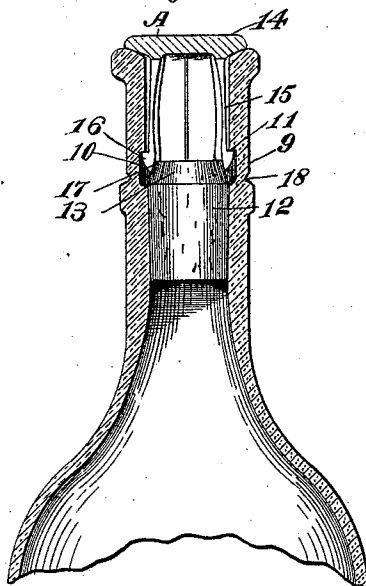


Fig. 2.

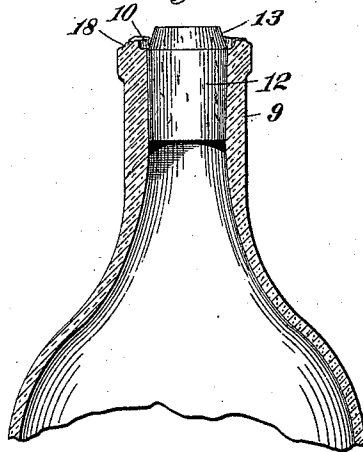
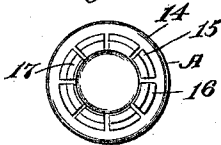


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH A. GRAHAM, OF MERIDEN, CONNECTICUT.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 574,680, dated January 5, 1897.

Application filed April 29, 1896. Serial No. 589,492. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. GRAHAM, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to bottles of that class more particularly designated as "non-refillable" bottles; and the object of the invention is to provide an article of this class which is absolutely non-refillable, except by the breakage of the same, and to provide means adapted to secure this result which will be simple in construction, readily assembled, and inexpensive to manufacture.

In the drawings accompanying and forming part of this specification, Figure 1 is a longitudinal sectional view of a portion of a bottle with the cork and the means for preventing the detachment of said cork in position in the neck thereof. Fig. 2 is a view similar to Fig. 1 with a portion of the bottle-neck broken off, whereby the cork can be removed; and Fig. 3 is an end view of the device for securing the cork in position.

Similar characters designate like parts in all the figures of the drawings.

It will be understood that the devices employed for preventing the refilling of the bottle can be used in connection with all kinds, constructions, and shapes of bottles and other analogous articles having a neck or similar extension and that they comprise means for preventing the detachment of the cork therefrom, except when the neck of the bottle is broken, and which will, therefore, be herein termed, for the purposes of this specification, a "cork-locking" device, (designated generally by A.)

In the preferred form thereof herein shown and described the bottle-neck 9 is shown provided with an interior annular recess 10, forming an annular shoulder 11, for the purpose hereinafter set forth, and which recess and shoulder may be formed at any desired distance from the mouth of the bottle, corresponding, however, with the length of the cork-locking device hereinafter described.

Any desired construction of cork 12 may be used, preferably formed, however, of some suitable yielding material and preferably

having one of its ends beveled, as at 13, although corks without such beveled portions may be employed.

The cork-locking device A in the form shown comprises a cap 14, constructed of any suitable material, but preferably of cast-iron, and which cap is adapted to rest on the outer end of the bottle-neck and is provided with a series of extending spring-arms 15, having hook-shaped ends 16, the inner opposing faces of said hook-shaped ends being preferably beveled, as at 17, whereby they are adapted to be engaged by the end of the cork in the manner hereinafter set forth. Each of these spring-arms is herein shown of varying thickness longitudinally thereof, whereby greater resiliency is obtained. It will be understood that any desired number of these spring clamping-arms 15 may be formed on the cap.

In the use of this device, the bottle having been filled with the desired contents, the cork is inserted in the neck thereof and pushed down slightly below the shoulder 11 of the annular recess 10. The cork-locking device A is then placed in position in said neck, with the cap 14 thereof resting upon the outer end of the neck, and which under face may be of any desired shape to correspond with the edge of said neck and thereby permit the same to be firmly seated thereon, whereby the spring-hooks 16 of the arm 15 will spring into engagement with the annular shoulder 11 of the recess 10, and the removal of the cork will thereby be prevented, except by breaking the neck of the bottle, for which purpose, when it is desired to remove the contents, such neck is provided with an annular exterior recess or groove 18, preferably at that part thereof encircling the interior annular recess 10, whereby on breaking the bottle-neck the device A can be removed and retained, if desired, for future use, and the cork can then be quickly and easily withdrawn in the ordinary way.

When the cork-locking device is in position, the beveled end 13 of the cork engages the inner beveled faces 17 of the hooks 16, and, owing to the yielding material of such cork, thereby holds said hooks against displacement from the shoulder 11, the pressure of the gases in the bottle also tending more or less to force the cork upward to permit its beveled end to engage the inner opposing faces

of the hooks, and thereby constitute a wedge to hold the spring-hooks in engagement with the shoulder 11.

It will be understood that while an annular recess 10 is herein shown as one means of forming the shoulder 11 such shoulder may, however, be formed by an annular rib, especially in those cases where the cork is made of extremely yielding material, whereby the cork and also the spring-hooks can be forced past such rib and permitted to expand into position below the same, and thus prevent the removal of the locking device and the cork. By this construction of cork-locking device it will be seen that not only is it impossible to remove the cork without breaking the bottle, but it is also impossible to reach or tamper with the cork in any way, as the cap of the securer, being of relatively great thickness and fitting over and completely closing the mouth of the bottle, prevents the insertion of a tool or other device.

Having described my invention, I claim—

1. A bottle or analogous article having a neck provided with an internal shoulder; a cork therein; and a cork-locking device having a plurality of inwardly-extending arms having locking devices adapted to engage said shoulder, and having their inner opposing faces engaged by one end of said cork.

2. A bottle or analogous article having a neck provided with an annular recess on its interior forming a shoulder; a cork therein; a cork-locking device comprising a metal cap

having a series of inwardly-extending spring-arms having hooked ends adapted to engage said shoulder, and having their inner opposing faces engaged by one end of said cork.

3. A bottle or analogous article having a neck provided with an annular recess on its interior forming a shoulder; a cork therein having a beveled end; a cork-locking device comprising a metal cap adapted to rest on the outer end of said bottle-neck and to also close the mouth thereof, and having a series of inwardly-extending spring-arms having hook-shaped ends adapted to engage said shoulder, said hooked ends having interiorly-beveled faces adapted to be engaged by the beveled end of said cork.

4. A bottle or analogous article having a neck provided with an annular recess on its interior forming a shoulder, and with an exterior recess or groove encircling said interior recess; a cork therein having a beveled end; a cork-locking device comprising a cast-iron metal cap adapted to rest on the outer end of said bottle-neck and to close the mouth thereof, and having a series of inwardly-extending spring-arms having hook-shaped ends adapted to engage said interior shoulder, said hook-shaped ends having interiorly-beveled faces adapted to be engaged by the beveled end of said cork.

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