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J. A. PATTERSON
NONREFILLABLE BOTTLE

2,869,747

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Fig. 1.



Fig. 2.

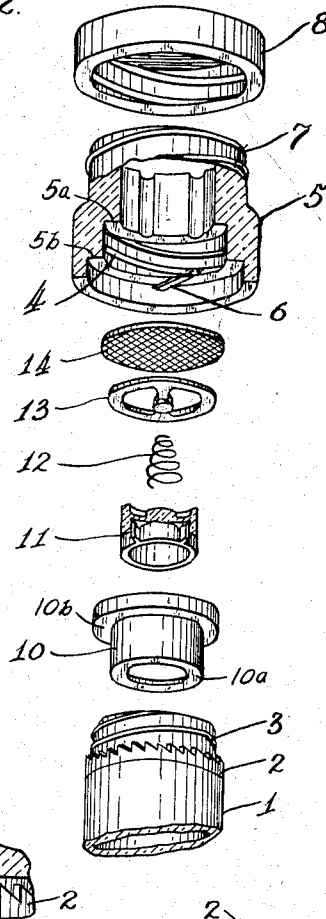


Fig. 6.

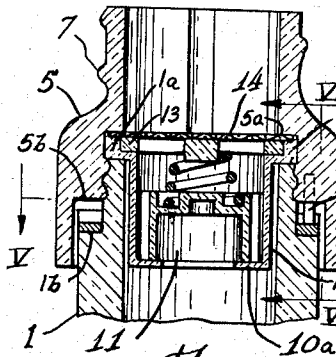
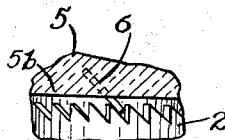


Fig. 3.

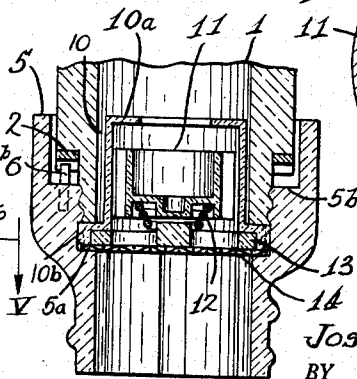


Fig. 4.

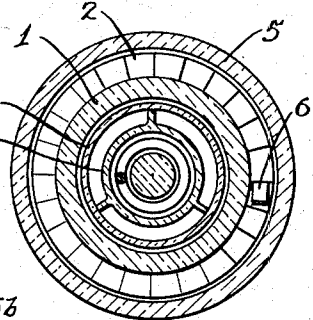


Fig. 5.

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2,869,747

NONREFILLABLE BOTTLE

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1 Claim. (Cl. 215—19)

This invention relates to a nonrefillable bottle which allows the contents to be poured outwardly freely but prevents unauthorized refilling of the bottle with liquid, as in the case of branded whiskies.

In the past, there have been many attempts to provide a nonrefillable bottle, but these have not met with success for the reason that the devices were too complicated in construction, impractical and unreliable in operation, as well as not being truly tamper-proof and sufficiently economical to manufacture and assemble for commercial use.

An object of my invention is to provide a novel attachment for making a bottle nonrefillable, which attachment has relatively few and simple parts which are inexpensive to manufacture and assemble and which are highly reliable in operation.

Another object of my invention is to provide a nonrefillable bottle which is truly tamper-proof to insure against unauthorized tampering with the operation of the parts.

Other objects and advantages of the present invention will become more apparent from a study of the following description taken with the accompanying drawing wherein:

Figure 1 is an elevational view of a bottle provided with a nonrefillable attachment embodying the principles of my invention;

Figure 2 is an enlarged exploded view of the attachment shown in Figure 1 wherein the parts are separated to more clearly illustrate the manner of their cooperation;

Figure 3 is a fragmentary enlarged longitudinal sectional view of the nonrefillable attachment shown in Figures 1 and 2 illustrating the position of the parts when the bottle is upright as shown in Figure 1;

Figure 4 is a view similar to Figure 3 except that it shows the attachment in an inverted position to show the position of parts when liquid is being poured out of the bottle;

Figure 5 is a transverse cross-sectional view taken along line V—V of Figure 3 and;

Figure 6 is a fragmentary elevational view of the toothed metal ring fused to the neck portion of the bottle and the manner of its cooperation with the spring pawl.

Referring more particularly to Figures 1 and 2, numeral 1 denotes a bottle, such as a glass whisky bottle, having a neck portion with a shoulder 1a thereabove and a shoulder 1b therebelow onto the latter of which is fused or otherwise tightly fitted a metal ring 2 whose top surface is provided with ratchet teeth. External threads are provided on the bottle at the extremity of the neck portion, which are adapted to be threaded to corresponding or complementary internal threads 4 of a sleeve 5. Sleeve 5 may be of plastic or other suitable material having upper and lower internal circular shoulders 5a and 5b, respectively, the latter of which has fused thereto, a leaf spring 6 disposed at an angle and adapted to serve as a pawl which cooperates with the ratchet teeth of ring 2

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as shown more clearly in Figure 6. Thus, as the sleeve 5 is screw threaded onto the bottle, the spring pawl 6 will move to the left, as viewed in Figure 6, so as to freely ride on the ratchet teeth until sleeve 5 is tightly screwed on. Thereafter it is impossible to unscrew sleeve 5 since any such attempt would be met by the locking or latching action of spring 6 against the vertical surface of the ratchet tooth which it contacts. Thus an exceedingly simple lock which prevents unauthorized unscrewing of sleeve 5 and tampering is provided.

Sleeve 5 is provided with external threads 7 onto which a cap 8 may be screwed on. Cap 8 may be provided with internal threads, or in some cases, merely with a relatively soft internal surface which makes its own threads when the cap is screwed onto sleeve 5. A valve retaining cup 10 of plastic material is provided which forms a valve seat for valve 11 which has a radially inwardly extending circular flange 10a which is adapted to slidably fit in the cup. Valve 11 has radially outwardly projecting fins to provide an easy sliding fit with the inner walls of cup 10. Valve 11 is also cupped, as shown more clearly in Figures 3 and 4, so that liquid which is being poured out will fill the cup and the weight thereof will tend to insure opening of the valve. A helically spiral spring 12 is provided having its end of larger diameter seated in a well portion of valve 10 and its end of smaller diameter in engagement with the projecting hub portion of a perforated plastic holder 13. The rim of holder 13 is adapted to fit within a well portion of larger diameter of the radially outwardly extending circular flange 10b of retaining cup 10 as shown more clearly in Figure 3. A tamper-proof guard 14 in the form of a metal mesh of disc shape is adapted to be sandwiched between an inner well portion of sleeve 5 and an end portion of valve 11 as shown in Figure 3. Cap 8, of course, is adapted to be screw threaded onto sleeve 5 to provide a sealed closure for the bottle.

In operation, when the bottle is upright as shown in Figure 1, valve 11 will be seated in retaining cup 10 as shown and as aided by the tension of spring 12. Therefore, should any attempt be made to pour liquid into the bottle after sleeve 5 has been locked the closed valve would prevent entry into the bottle.

However, when it is desired to pour out the contents of the bottle, the bottle is inverted, as shown in Figure 4, and part of the liquid contents thereof will flow into the cup portion of the valve 11, filling it therefore adding its weight to overcome the action of spring 12 to allow the valve to be fully opened or retracted from its seat on cup 10. Thus the contents of the bottle will flow through the annular space surrounding valve 11, that is, between the fins thereof and within cup 10.

In view of the presence of the tamper-proof guard 14 it is not possible to insert a tool of any kind to enable unauthorized opening of the valve to pour unauthorized liquid, such as an inferior grade of whiskey, into the bottle.

Thus it will be seen that I have provided an efficient, nonrefillable bottle embodying an attachment having relatively few parts which are extremely simple and inexpensive to manufacture and yet highly reliable in operation; furthermore I have provided a very simple and reliable lock which enables secure locking of parts together so that they may not be unscrewed or otherwise taken apart; furthermore I have provided a tamper-proof guard which is highly reliable in operation and which contributes to making a practical nonrefillable bottle.

While I have illustrated and described an embodiment of my invention, it will be understood that this is by way of illustration only, and that various changes and modification may be made within the contemplation of my invention and within the scope of the following claim.

I claim:

A nonrefillable cap attachment for use on a bottle having a threaded neck portion terminating in a shoulder thereabove and also having a shoulder therebelow with a metal ring supported thereon and fused thereto having ratchet teeth on its horizontal surface disposed along a circle, said attachment comprising an internally threaded sleeve for screw threading onto said threaded neck portion and having upper and lower internal circular shoulders forming cylindrical well portions, a valve retaining cup having a circular flange extending radially outwardly from its upper mouth portion and seated on the first named shoulder of the bottle neck, a perforated disc supported on said circular flange and clamped thereon by said upper circular shoulder, said valve retaining cup having a radially inwardly extending circular flange on the bottom portion thereof, a one-way cup shaped valve supported in said cup and including a spring biasing the mouth portion of said valve into seating engagement with said last mentioned flange and to the closed position and including a spring retaining element sandwiched between said first mentioned flange and perforated disc, said sleeve having a skirt surrounding and extending downwardly

from said ratchet teeth to prevent access thereto and having an angularly disposed leaf element fused in and extending downwardly from said lower shoulder into engagement with said ratchet teeth, whereby as the sleeve is rotated a one-way locking action will take place and all parts of said valve will be locked in place by said sleeve to prevent tampering with the valve.

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