

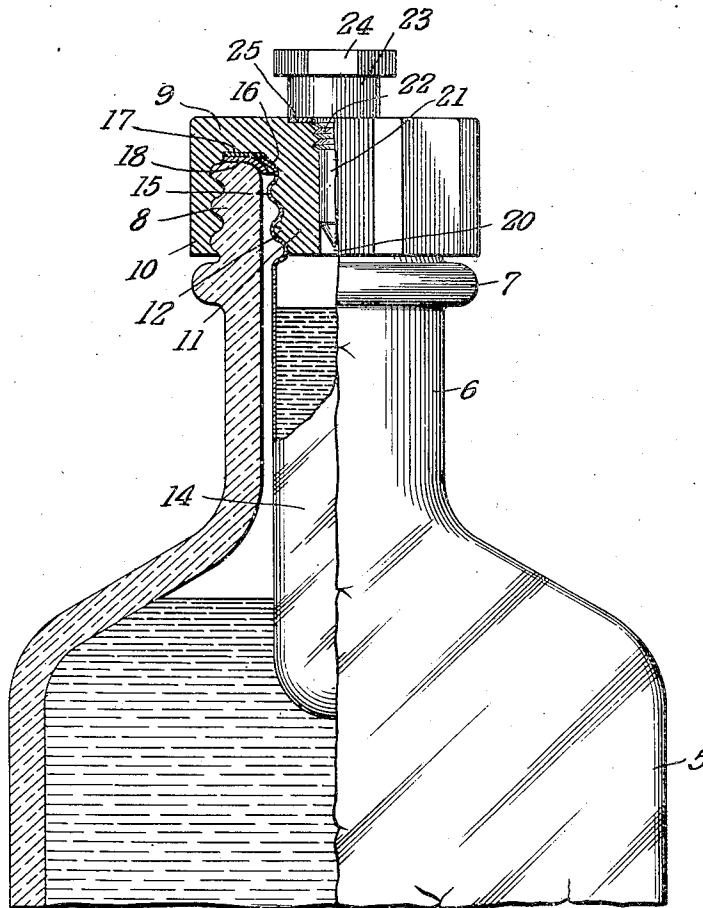
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BOTTLE CLOSURE

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BOTTLE CLOSURE

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This invention relates to improvements in containers and closures combined therewith.

It frequently occurs that in the distribution of certain liquids, as chemicals or medical specialties, it is desirable to carry, in connection therewith, a relatively small amount of another liquid substance, which may or may not be required to mix with the contents of the main container.

Hitherto this has usually been accomplished by a separate, auxiliary container, entirely independent of the first or main container, and which requires extra expense and space in packing, besides other disadvantages, which are obvious to those familiar to the art to which this invention pertains.

It is therefore an object of the present invention to provide a main container, which may be an ordinary bottle provided with a relatively wide mouth, the bottle having a removable cap containing an axial inreaching member to which is attached an auxiliary receptacle, the same to extend into the bottle neck.

A further feature is in the provision of means whereby the auxiliary receptacle may be readily attached or detached to the bottle cap, and when in an attached position to maintain its contents leak proof.

Another aim is to provide a removable plug for the bottle cap through which the contents may be distributed in such small quantities as is usually desirable.

These and other objects, such as the provision of an attractive container, are accomplished by the novel design, construction, and combination of parts hereinafter described, and illustrated in the accompanying drawing, forming a material component of this disclosure, and in which:—

The figure is a partial side elevational, partial vertical sectional view, taken through the upper portion of a container, as made in accordance with the invention.

The main container, indicated generally by the numeral 5, is preferably made of glass or like transparent material through which the contents may be seen, the shape of the container being circular, oval or rectangular, as preferred.

Joined with the converging upper portion of the bottle 5 is a neck 6, preferably having an enlarged beading 7, above which is a screw threaded end portion 8.

A main cap or closure element 9, is prefer-

ably made of phenol condensate rosins, or other firm substance not readily affected by ordinary chemicals, water, oils or changes in temperature, this closure including an outer skirt portion 10, which may be fancifully formed and corrugated to provide an efficient grip.

Extending inwardly, concentric with the exterior of the cap, is an axial projection 11 provided on its outer surface with coarse screw threads 12, tapering from its innermost end to the upper, solid portion of the cap.

An inner auxiliary receptacle 14 is generally cylindrical and provided with closed lower end, the receptacle being preferably made of cellulose, chemically prepared and treated in a manner to render it transparent and at the same time capable of yielding so as to be substantially unbreakable.

The upper end of the inner receptacle 14 is molded or formed to present screw threads 15, adapted to snugly fit the conical threads 12 of the cap, its extreme upper end being flared outwardly to present a flange 16 suited to contact with the inverted base of the cap element 11.

Set in the upper end of the annular recess, formed between the closure elements 10 and 11, is a flexible washer 17 against which the outwardly flared end 16 of the inner receptacle makes contact, while on the underside of the flange element 16, resting tightly against the upper edge of the bottle neck, is a similar washer 18.

From the foregoing it will be seen that a substantially impervious joint may be formed, so that the contents of the inner receptacle 14, such as oil or other liquids, is maintained at all times in a safe and effective manner.

In order to mix the contents of the inner receptacle, wholly or in part, with the contents of the main container, the cap is unscrewed from the bottle, the inner receptacle removed, and such portion of its contents as may be desired entered through the mouth of the main container, after which the inner receptacle may be thrown away and the cap replaced in position.

In order to distribute the contents of the main container, an axial opening 20 is formed through the element 11, and provided with a plug 21, having a sharply conical point at its inner end and screw threads 22 on its

shank to engage corresponding threads in the upper portion of the cap.

Above the screw threads is a cylindrical body 23, provided with a polygonal sided cap 24 by which the plug may be screwed firmly against a washer 25, set concentrically in the upper side of the cap.

Obviously upon removing this plug, the contents of the main container may be shaken out in such small quantities as may be desired.

As changes of construction could be made within the scope of the invention, it is intended that all matter contained in the foregoing description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent, is:—

20 1. The combination with a container having a hollow circular neck and a screw thread on its upper portion, of a cap engageable thereon, a plug integral with said cap to extend concentrically into the neck, said plug
25 having a threaded exterior, an auxiliary receptacle to extend into the main container and engage the threads of said plug, said receptacle having a yielding marginal flange, and packing washers in said cap above and below said flange.

30 2. The combination with a container having an externally threaded mouth, of a cap fitted to engage the threads, a pair of packing washers interposed between said cap and the container top, a concentric plug on said
35 cap having a tapered thread, an auxiliary receptacle having threaded engagement with said plug and extending into the container, and a flange on said auxiliary receptacle extending between said washers.

40 3. The combination with a rigid container having a threaded mouth, of a rigid cap having a skirt portion engaged on said mouth, a threaded conical plug on said cap spaced
45 from the skirt portion, a yielding cylindrical receptacle having one end closed and the other engaging said conical threaded plug, an outstanding flange at the extremity of said receptacle, and means for gripping said
50 flange to form an impervious joint.

55 4. A combination with a container having an externally threaded mouth of a cap fitted to engage the threads, a concentric plug on said cap having a tapered thread, an auxiliary receptacle having a threaded engagement
with said plug and extending into the container, and a pair of packing washers, one of which is interposed between the cap and the open upper edge of the receptacle
60 and the other of which surrounds and closely engages the receptacle and is interposed

between the upper washer and the container mouth, the wedging effect of the taper on the central plug serving to assist the washers in the tight sealing of the opening into the receptacle and the opening into the container. 70

5. A combination with a container having an externally threaded mouth of a cap fitted to engage the threads, a concentric plug on said cap having a tapered thread, an auxiliary receptacle having a threaded engagement
75 with said plug and extending into the container, and a pair of packing washers, one of which is interposed between the cap and the open upper edge of the receptacle and the other of which surrounds and closely
80 engages the receptacle and is interposed between the upper washer and the container mouth, the wedging effect of the taper on the central plug serving to assist the washers in the tight sealing of the opening into
85 the receptacle and the opening into the container, the said taper on the plug also serving to force the wall of the receptacle outwardly and increase the sealing effect of the second mentioned washer between the receptacle and the container mouth. 90

6. A container having a screw cap, a receptacle formed of yielding material and having a flared mouth providing a flange
95 extending over the mouth of the container, said receptacle being removably engaged to said cap to suspend the receptacle in the container, said cap having an axial sprinkler passage communicating with said receptacle,
100 a plug controlling the mentioned passage, the said receptacle being normally secured to said cap and removable from the container therewith whereby the cap and receptacle form a unitary closure for the container, and
105 means associated with said flange for sealing the container.

7. A container having a screw cap, a plug on said cap extending into the container, a receptacle formed of yielding material and having a flared mouth providing a flange
110 extending over the mouth of the container, said receptacle being removably engaged to said plug to suspend the receptacle in the container, said cap having an axial sprinkler opening through said plug leading to the
115 interior of said receptacle and open to said container upon removal of the receptacle, a screw plug controlling the mentioned opening, the said receptacle being normally secured to said cap and removable from the container therewith, and means associated
120 with the flared end of said receptacle for sealing the end of said container.

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