

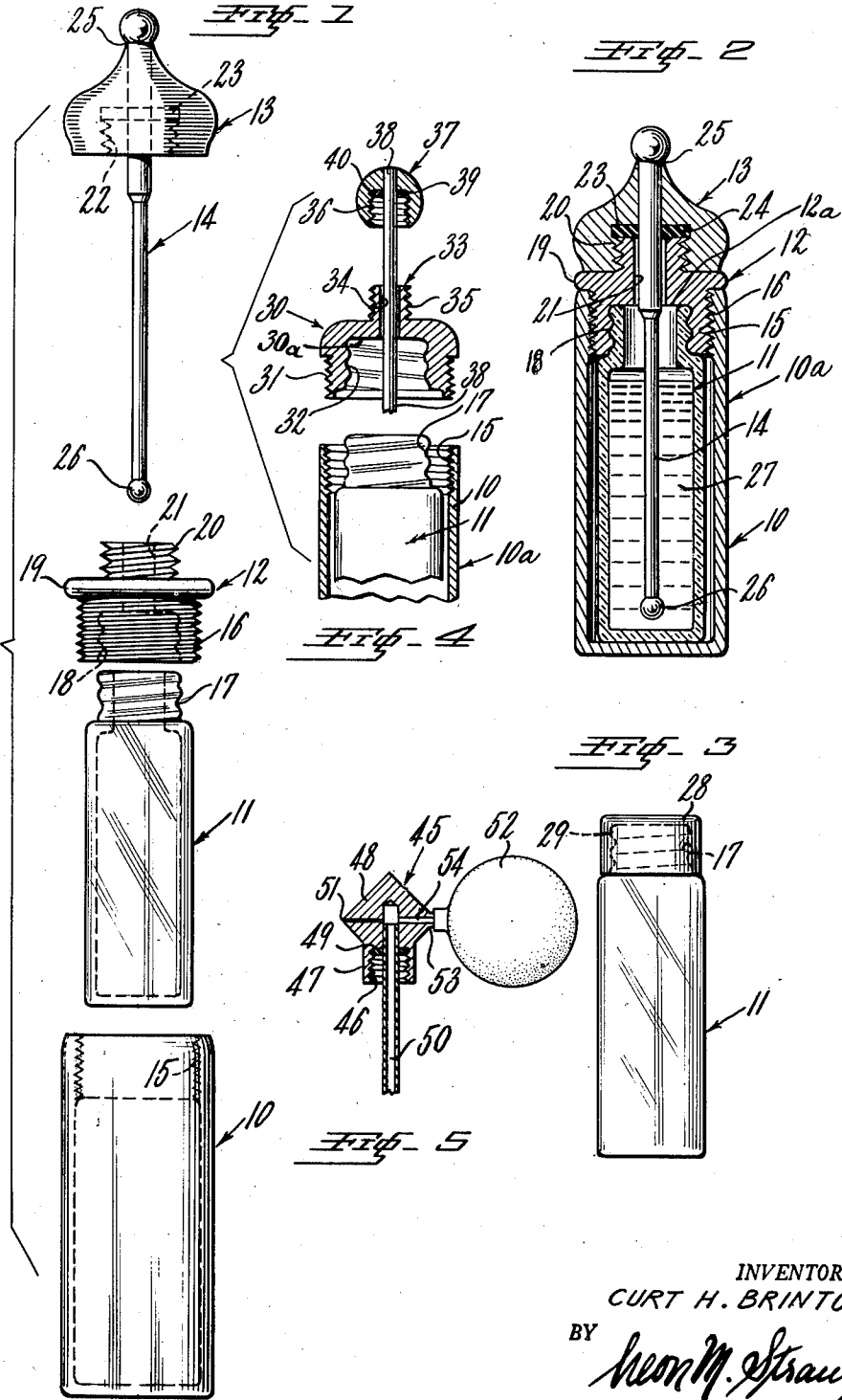
Dec. 30, 1952

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2,623,229

VIAL AND APPLICATOR THEREFOR

Filed April 23, 1949



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UNITED STATES PATENT OFFICE

2,623,229

VIAL AND APPLICATOR THEREFOR

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Application April 23, 1949, Serial No. 89,353

1 Claim. (Cl. 15-140.3)

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This invention relates to dispensers for perfumes and like receptacles.

It is an object of the invention to provide means affording transformation of a conventional perfume dispenser which is generally discarded after it is emptied, to a dispenser which may be repeatedly used and in which a refill may be inserted for prolonged use.

It is a further object of the invention to provide an aesthetically shaped container or dispenser made of metal or plastic in which a glass receptacle forming the refill or vial may be inserted and protected against leakage and breakage.

Yet a further object of the invention is to provide means facilitating withdrawal of the contents of such refill by means of an applicator while the refill is securely held within the dispenser.

Still another object of the invention is to provide means offering the possibility of reducing the employment of gaskets and washers to a minimum.

A still further object of the invention is the provision of means affording interconnection between the threads of the dispenser proper, the refill or vial, the applicator and the closure for the dispenser.

Another object of the present invention is to provide means permitting the interchangeability of the applicator with an atomizer or sprayer for use in connection with the dispenser or like receptacle and without removing the refill or vial from which liquid, such as perfume, is to be dispensed.

Yet another object of the present invention is to provide means ensuring firm support of the refill or vial within the dispenser without the use of springs or resilient washers, gaskets and the like.

With the aforesaid and other objects in view, the invention will be hereinafter more fully described and the combination and arrangement of parts will be shown in the accompanying drawing and pointed out in the claim which forms part of the specification.

In the drawing:

Fig. 1 shows an elevational, exploded view of a dispenser, refill, closure and applicator;

Fig. 2 is a vertical sectional view of the dispenser made in accordance with this invention, in assembled and closed condition;

Fig. 3 is a side-elevational view of the vial or refill before the insertion thereof into the dispenser;

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Fig. 4 is an exploded, sectional view of the upper portion of the dispenser and refill thereof, together with a somewhat modified closure cap and applicator;

Fig. 5 shows a sectional view of a sprayer or atomizer for use in place of the applicator seen in Fig. 4.

Referring now more particularly to the drawing, there is shown in Fig. 1 a dispenser housing 10 made of metal, plastic or similar material, a refill or vial 11 made of glass or like transparent material, connector piece 12 of metal, plastic or rubber composition and closure cap or head piece 13 with applicator 14. As can be seen in Fig. 2, housing 10 threadedly engages by means of inner threads 15 outer threads 16 of the downwardly directed skirt portion of the connector piece 12, whereas vial 11 engages by means of its threaded neck 17 inner threads 18 of said skirt portion of the connector piece 12. Connector piece 12 has further a projecting rim or finger piece 19 to facilitate manipulation of said connector piece and a reduced extension with outer threads 20 and with an inner bore 21. The outer threads 20 are adapted to engage the inner threads 22 of cap 13 which has a recess 23 for retaining a rubber gasket 24. Through head piece 13 extends the applicator rod 14 which is secured in any convenient manner within the head piece 13 as by soldering at 25 and which terminates in a ball-shaped end 26.

Fig. 3 shows the refill or vial 11 adapted to contain a liquid, such as perfume 27. Vial 11 is closed by means of a discardable cap 28 having the inner threads 29 adapted to engage the threads 17 of the neck of vial 11.

If it is desired to replace an empty vial contained in dispenser 10a, the cap 28 of a refill or vial is unscrewed, then discarded and the refill threads 17 brought into engagement with threads 18 of connector piece 12. Thereafter connector piece 12 is attached by means of threads 16 and inner threads 15 to the housing 10. Head piece 13 with applicator rod 14 is then applied for connection to connector piece 12 by the engagement of threads 22 with threaded extension 20, whereby rod 14 passes through bore 21, as clearly shown in Fig. 2.

Fig. 4 shows the upper part of the housing 10 and vial 11 with a different type of connector piece 30 which has a skirt portion with outer threads 31 adapted to engage the inner threads 15 of the housing 10, and with inner threads 32 for the engagement with threads 17 of the neck of the vial 11. Connector 30 has an upwardly directed

extension portion 33 with inner bore 34 and outer threads 35. These outer threads are adapted to engage the inner threads 36 of a head piece or knob 37 carrying the applicator 38 which is of equal diameter throughout its length, and a gasket 40 placed in a recess 39 of knob 37.

It will become clear from Fig. 4 that applicator rod 38 when inserted through bore 34 reaches into the interior of vial 11 whereupon knob 37 may engage connector 30 at its extension 33 by means of threads 35 and 36 to thereby bear down on a rounded finger piece extending between threads 31—32 and threads 35.

Instead of head piece or knob 37, and as seen in Fig. 5, an atomizer 45 may be employed which has a head piece 48 and an extension 47 with inner threads 46. An inner washer 49 is employed to prevent leakage from within the dispenser therewithout. The applicator rod 38, as seen in Fig. 4, is replaced by a hollow tubular member 50 which extends through head 48 and communicates with a bore 51. A rubber ball 52 is removably affixed to end 53 of head 48 and is adapted to press through passage 54 air into reduced bore 51 whereby liquid from vial 11 is sucked up into tube 50 for spraying and atomizing purposes, as it is well known in the art.

It will be easily understood that due to the particular shape and construction of the connector, interconnection between a refill and a dispenser container may be had whereby the container may always be employed whereas the refill can be replaced. If the dispenser is to be used for different purposes, the connector piece is so constructed that it can readily receive other head or closure structures, as exemplified in Figs. 4 and 5.

As can be easily realized from Figs. 2 and 4, the threaded portions of the housing and of the neck of the vial may be made substantially coextensive with each other, whereby the interconnection between vial and container may be readily brought about by the connector piece or means 12 or 30.

A certain tolerance between the wall and bottom of vial 11 on the one hand and the inner walls of the dispenser housing 10 on the other hand should be taken into consideration to allow for variations in the dimensions of the refill. The abutment of the end of the vial against end wall 12a or 30a of the connector piece is such that a leakproof connection between connector piece 12 or 30 with the vial may be had without the employment of gaskets.

It can thus be seen that there has been provided in accordance with this invention a dispenser device for liquids which comprises a housing having an upper end, a vial having a neck and adapted to be contained in and surrounded by said housing, respective threaded portions at said upper end of said housing and at said neck of said vial, both said threaded portions being substantially coextensive with and positioned adjacent each other, threaded connector means engaging said threaded portions, respectively, whereby said housing and said vial are interconnected with one another, said threaded connector means having a central passageway in communication with said vial and including an extension having outer threads, a closure element or head piece having inner threads engageable with said outer threads of said extension, said head piece being provided with an applicator,

said applicator extending through said passageway into said vial when contained in said housing, and a gasket in said head piece and seated rearwardly of said inner threads for tightly closing said vial against said applicator rod.

Although the invention has been described with reference to certain specific embodiments thereof, it is to be distinctly understood that various modifications and adaptations of the arrangements herein disclosed may be made as may readily occur to persons skilled in the art without constituting a departure from the spirit and scope of the invention as defined in the objects and in the appended claim.

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

A combination vial and container device comprising a hollow container body having an upper end provided with inner threads, a vial fitted in said container and terminating in a neck having outer threads thereon, a tubular connector element holding said vial in position within said container and provided with a projecting finger piece, the outer diameter of said container substantially corresponding to the outer diameter of said finger piece, a skirt portion positioned on one end of said finger piece and having outer threads for engagement with said inner threads of said container, inner threads within said connector element spaced and independent from said outer threads of said connector element and terminating in an inner end wall, said inner threads of said connector element being in alignment with and engaging the outer threads of said vial whereby upon engagement of said inner threads of said container with the outer threads of said connector element the finger piece of the latter engages the upper end of said container and forms a prolongation thereof, a tubular extension coaxial with said skirt portion and positioned on the other end of said finger piece and provided with outer threads, an applicator provided with a head piece and including a rod extending therefrom for passage through said tubular connector element into said vial, said head piece being provided with a bore having inner threads whereby upon engagement of said threaded bore with the outer threads of said tubular extension said head piece abuts against said finger piece in the closed position of said device, and a washer forming the end wall of said threaded bore to prevent escape of fluid from within said vial without said container.

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