Oct. 14, 1952 L. L. PATTERSON 2,613,382

LIQUID DISPENSING DEVICE HAVING A GLOBULAR COMBINED APPLICATOR AND OUTLET VALVE

Filed Sept. 9, 1946

Fig. 1.

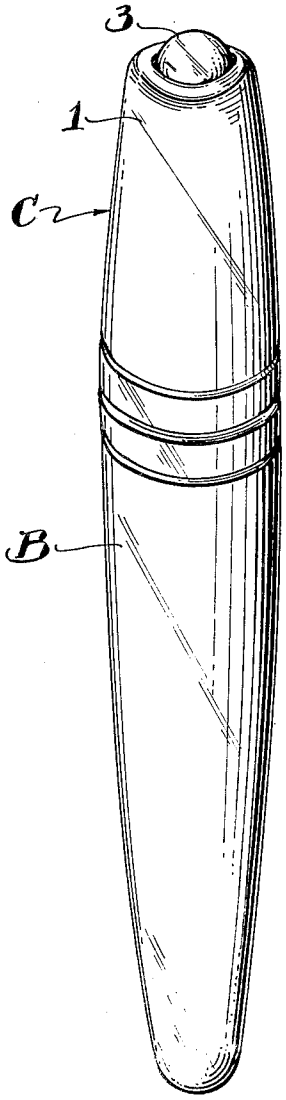
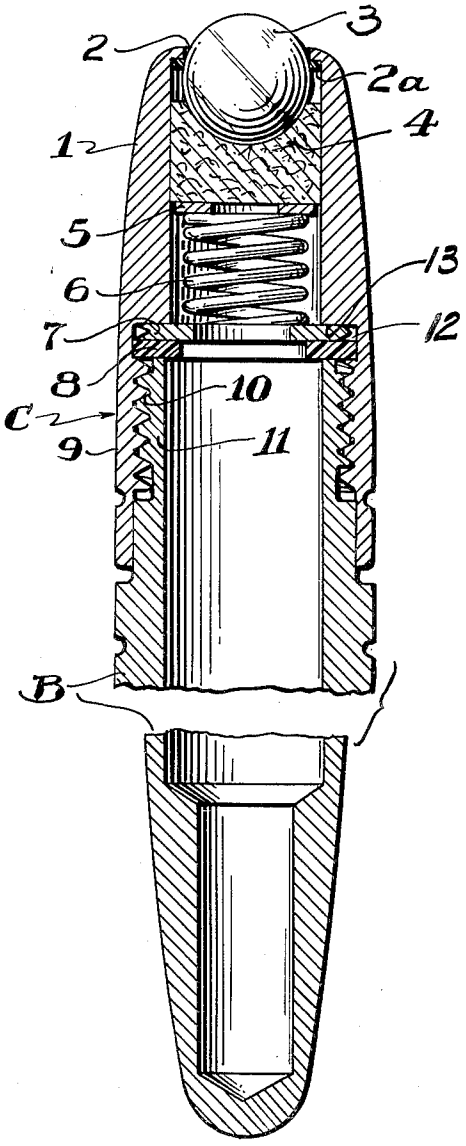


Fig. 2.



Louis L. Patterson,
INVENTOR.

BY

L. L. Patterson.
ATTORNEY.

Patented Oct. 14, 1952

2,613,382

UNITED STATES PATENT OFFICE

2,613,382

LIQUID DISPENSING DEVICE HAVING A GLOBULAR COMBINED APPLICATOR AND OUTLET VALVE

Louis L. Patterson, Los Angeles, Calif.

Application September 9, 1946, Serial No. 695,711

1 Claim. (Cl. 15—132.7)

1

This invention relates to a liquid dispensing device having a combined globular applicator and outlet valve, utilizable as a perfume dispenser.

Although the art to which this invention pertains is in a well developed state, yet certain defects in the construction and operation of devices relating thereto, for the dispensing of liquid perfumes remain to be removed, among which are incapacity for reliably dispensing only the minute quantity of perfume required at one time; and also failure to provide the most efficient and inexpensive sealing means to prevent leakage of liquid perfume from the dispenser when it is not in use.

Accordingly, it is an object of this invention to provide a dispenser for liquid perfume wherein a more minute metered quantity of perfume can be dispensed each time the article is used.

Another object is to provide an improved double liquid sealing means for the dispensing portion of the device.

Another and more specific object is to provide a depressible and rotatable ball valve dispensing element having the lesser portion of its surface in an exposed position, in combination with a perfume-saturated body of compressible porous material in contact with the concealed part of said ball valve, so that, when only a very minute quantity of the perfume is to be used it is only necessary to impart a turning movement to said ball valve, thereby moistening with the perfume its exposed part; depressing said ball against said porous body being necessary only when less minute quantities of the perfume are dispensed.

Other objects, advantages and features of invention will hereinafter appear.

Referring to the accompanying drawing, which illustrates a preferred embodiment of the invention,

Fig. 1 is a nearly side elevational view of the device, but shown somewhat in perspective with its dispensing end directed toward the observer.

Fig. 2 is a longitudinal midsection of the device, on an enlarged scale, a part being broken out to contract the length of the view.

Referring in detail to the drawing, the dispenser shown comprises an elongated, fusiform article having a hollow body portion B onto which is screwed an elongated, open-ended cap C which has a somewhat tapered nose portion 1 containing a concentric circular dispensing mouth 2. Through said mouth, which is guarded by a leak-preventing gasket 2a, projects the lesser part of a ball valve 3, the inner side portion of said valve being in a continual contact with a disk-like body

2

4 of soft felt, or like material. Said felt body forms a reservoir for a considerable amount of the liquid perfume. Underlying this felt body is a metal washer 5 against which abuts one end of a spiral compression spring 6, the opposite end of said spring abutting against a washer 7, which, in turn, abuts laterally against a leak-preventing gasket 8.

Describing more in detail parts which have been mentioned, the washer 7 is of an externally screwthreaded character, being desirably manufactured by first providing an externally screwthreaded tube and then mechanically cutting off successive washers 7 from an end of such tube. The cap C is provided at its inner end with a skirt portion 9 having internal screwthreads 10 of the same size and pitch as the screwthreads of the washer 7, so that said washer may be screwed into the inner end of said cap skirt 9 before the latter is screwed onto the diametrically reduced, externally screwthreaded end portion 11 of the hollow body B.

It will be seen that the threads 10 within the skirt of the cap C terminate before they reach the inner end of said skirt leaving a circular, unthreaded pocket or diametrically enlarged space 12 to contain both the washer 7 and gasket 8, said washer abutting against a shoulder 13 when the cap C is firmly screwed onto the barrel or body B.

It will be observed that the external diameter of the gasket 8 is somewhat greater than the internal diameter of the screwthreads 10 of the skirt 9. However, owing to the gasket being elastic the insertion thereof into said pocket 12 is readily accomplished by flexing the washer into a cup shape during its insertion past said threads 10, the washer resuming its normal size and contour as soon as it reaches said pocket. Due to the fact that said gasket overrides the innermost of the threads 10, when the barrel is unscrewed said gasket holds the washer 7 up against the shoulder 13 and also keeps closely in place the entire dispensing assembly within the nose portion of the cap C. However, even if said gasket becomes displaced the washer 7 will only move outwardly until it contacts with the innermost of the threads 10 of the skirt 9.

After the barrel B has been filled with a liquid perfume, the cap C containing the dispensing assembly (ball 3, washer 2a, soft felt disk 4, washer 5, spring 6, keeper washer 7 and gasket 8) is screwed onto said barrel until the mouth of the body portion B of the device clamps the gasket 8 between itself and the

washer 7 in a leak-proof manner. Upon directing downwardly the applicator end of the article the felt body 4 will become saturated with perfume from the barrel, so that by slightly depressing the exposed portion of the ball applicator 3 a roughly metered small quantity of perfume may be dispensed without a continued flow from the reservoir. If it is desired to use a still smaller quantity of perfume the ball may be rotated, without depressing it, by brushing it across the part of the body to be perfumed.

Owing to the fact that the spring-pressed washer 5 forms an apertured follower behind the spongy body 4, liquid perfume may flow from the part B through said follower into said body 4.

I claim:

A liquid dispensing device having a combined applicator and outlet valve, comprising an elongated, fusiform article having a hollow body portion, an elongated, open-ended cap having a somewhat tapered nose portion with a concentric circular dispensing mouth portion, a ball valve occupying said mouth portion, a leak-preventing gasket in said mouth portion surrounding said valve, said valve being of greater diameter than said mouth and normally in part projecting therefrom, a body of spongy material within said cap and in continual contact with a portion of said ball valve, an annular washer loosely fitted within said cap in an underlying relation to said body of spongy material, a spiral compression spring one end of which abuts against said washer pressing the latter against said body of spongy material, a second annular washer against which the opposite end of said spring abuts, said second washer being externally screwthreaded and said cap having an internally screwthreaded skirt

with an unthreaded annular pocket at the inner end of its screw-threaded part, said second washer being insertable into said pocket by screwing it through said threaded part of said skirt; whereby to hold said ball valve, body of spongy material, said first washer and compression spring in an assembled relation with said cap, there being, toward the dispensing end of the article in relation to said pocket, an annular shoulder which forms an end wall of said pocket and against which said second washer flatly abuts, and an annular gasket occupying said pocket and underlying the side of said second washer opposite to said shoulder, said screwthreaded skirt of said cap being screwed onto an externally threaded end of said body portion in such a manner as to clamp said annular gasket between said open end of said body portion and said second washer in a liquidtight manner.

LOUIS L. PATTERSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
554,189	Kochendarfer	Feb. 4, 1896
840,413	Alexander	Jan. 1, 1907
1,194,347	Allen	Aug. 15, 1916
2,122,580	Morris	July 5, 1938
2,202,114	Morf	May 28, 1940
2,403,875	Neumann	July 9, 1946

FOREIGN PATENTS

Number	Country	Date
419,573	Great Britain	Nov. 14, 1934
679,441	France	Jan. 9, 1930