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FLEXIBLE DISPENSING CLOSURE FOR RIGID CONTAINERS

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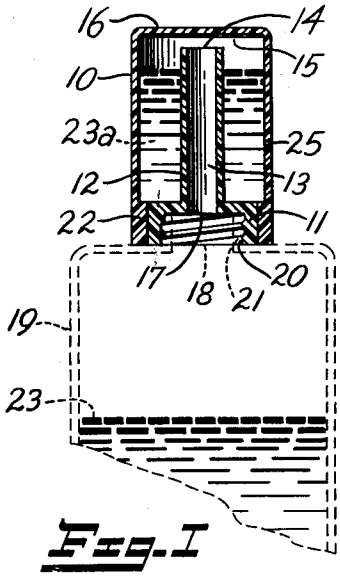


Fig. 1

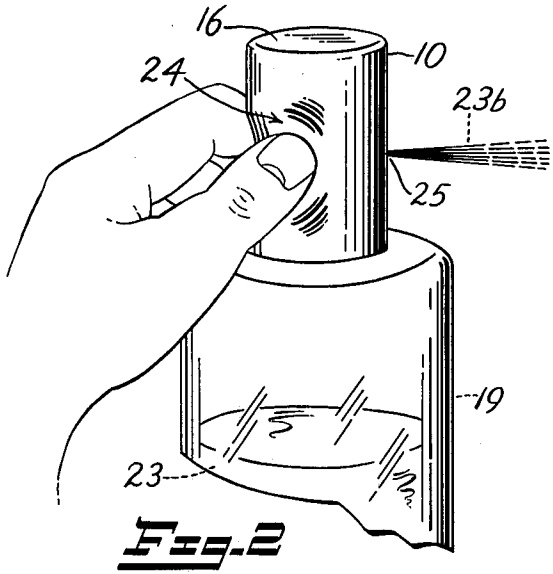


Fig. 2

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FLEXIBLE DISPENSING CLOSURE FOR RIGID CONTAINERS

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This invention relates to dispensing devices and more particularly to a flexible dispensing device for dispensing liquid products packaged in rigid containers.

The main object of this invention is to provide a simple, inexpensive and highly efficient article of this kind which is readily adaptable to use in conjunction with glass bottles and metal containers.

A further object of this invention is to provide a low cost and effective dispensing closure for rigid containers which enables the user to spray dispense or jet squirt dispense the liquid contents of the container.

Still another object is to provide a flexible dispensing closure which enables the user to easily and quickly dispense quantities of liquid preparations without the necessity of removing the closure from the bottle.

A still further object is to provide a flexible dispensing closure of the class described which spray dispenses the contents of the container while the container is vertically held in an upright position.

Other objects and features of this invention will become apparent from the accompanying drawings and descriptions.

Various means have been heretofore employed for vertically dispensing liquid products, including complex and relatively expensive arrangements requiring such component parts as press buttons or actuators, mounting caps, washers, valve stems, valve bodies, dip tubes, covering domes, etc. Further, pump type spray dispensers have been heretofore employed in conjunction with glass bottles, requiring elongate dip tubes, metal springs, and various force fitted component parts.

It is to be understood that dispenser equipped containers are devised to make products do a better job, provide greater convenience, and normally the consumer pays premium prices. Obviously, then, a lower cost efficient dispenser item has a decided competitive merchandising advantage, especially when marketed in conjunction with products selling at low retail cost levels.

For a complete understanding of the present invention, reference is to be had to the following descriptions and accompanying drawings.

In the drawings:

FIG. 1 is a central vertical sectional side view of the dispensing closure containing a liquid product and shown in relation with an accompanying container indicated by broken lines.

FIG. 2 is a perspective view showing a glass bottle (in fragmentary section) and dispensing closure therefor, and illustrating the latter being flexed in use.

The dispensing closure shown in FIG. 1 of the drawings consists of a housing member **10** of flexible resilient material and may be formed of synthetic resinous thermoplastic substance, polyethylene, polyvinyl chloride, rubber or the like. The container fitment member **11** supports a substantially rigid integral and centrally disposed vertical tubular portion **12** having a longitudinal bore **13** open at both ends and extended upward so that its top orifice **14** is in close proximity to the inner side **15** of the dispensing closure top **16** and its lower orifice **17** is centrally disposed with relation to the open mouth **18** of the container **19**. The internal threads **20** of the container fitment member may be provided to securely engage the container external threads **21**. An annular shoulder **22** may be integrally formed with the housing member ex-

tended inward from the inner side of its side wall reinforcing the housing member at its portion secured to the container fitment member.

In use, the liquid product **23** flows through the bore upon tilting the container and a substantial quantity of the liquid product **23***a* becomes stored within the housing member and retained therein up to the top end of the tubular portion when the container is again normally uprighted. Upon compressing a portion of the housing member side walls between the fingers as shown at **24** in FIG. 2, a desired predetermined quantity of the liquid product **23***b* is dispensed through the aperture **25**.

It is believed that a clear understanding of the invention will be readily apparent to those skilled in this art, in view of the foregoing descriptions taken in conjunction with the accompanying drawings and more detailed descriptions are therefore deemed unnecessary.

It is to be understood that all matter contained in the foregoing descriptions or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense; that certain changes from the exact shapes or constructions shown or materials described, and fully comprehended by the spirit of the invention may be made without affecting the scope and spirit of the invention as hereinafter claimed.

What is claimed is:

1. A flexible dispensing closure for rigid containers, comprising a housing member of flexible resilient material, synthetic resinous thermoplastic substance, rubber or the like, having a dispensing aperture extending through its wall portion; a container fitment member for engagement with the mouth of a container having an integral tubular portion and secured to the housing member so that the tubular portion is vertically disposed within said housing member with its top end in close proximity with the inner side of the housing member top wall, a bore open at both ends and extending through said tubular portion having its lower orifice openly exposed through said fitment member accessible to the container mouth, whereby a quantity of the liquid contents of the container will flow into the housing member substantially filling it to its maximum capacity upon tilting the container and thereby retaining the liquid level up to the top of the tubular portion when the container is positioned normally upright for ejecting a predetermined amount of the liquid through the dispensing aperture upon flexibly compressing the housing member side walls.

2. A flexible dispensing closure for rigid containers, comprising a housing member of flexible resilient material, synthetic resinous thermoplastic substance, rubber or the like, having a dispensing aperture extending through its side wall and an open lower end having an annular shoulder extending inwardly from the inner side of said side wall; a container fitment member adapted for threaded engagement with the mouth of a container and secured within said annular shoulder, a centrally disposed substantially rigid integral tubular portion having a longitudinal bore extending through each end vertically positioned within the housing member so that its top orifice is in close proximity with the inner side of the housing member top wall and its opposing lower orifice openly exposed longitudinally through said fitment member accessible to the container mouth, whereby a quantity of the liquid contents of the container will flow into the housing member substantially filling it to its maximum capacity upon tilting the container and thereby retaining the liquid level up to the top of the tubular portion when the container is positioned normally upright for ejecting a predetermined amount of the liquid through the dispensing aperture upon flexibly compressing the housing member side walls.

3. A flexible dispensing closure for rigid containers comprising a housing member of resilient material, synthetic resinous thermoplastic substance, rubber or the like; a container mouth fitment portion; a tubular portion disposed vertically upward from the fitment portion within the housing member; a dispensing aperture extending through the housing member side wall and disposed below a horizontal plane defining alignment with the top of the tubular portion; a bore open at both ends extending longitudinally through the tubular portion having its lower orifice openly exposed accessible to the container mouth, whereby a quantity of the liquid contents of the container will flow into the housing member upon tilting the container and thereby retain the liquid level up to the top of the tubular portion when the container is positioned normally upright for ejecting a predetermined amount of the liquid through the dispensing aperture upon flexibly compressing the housing member side walls.

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