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DISPENSING CLOSURE CAP

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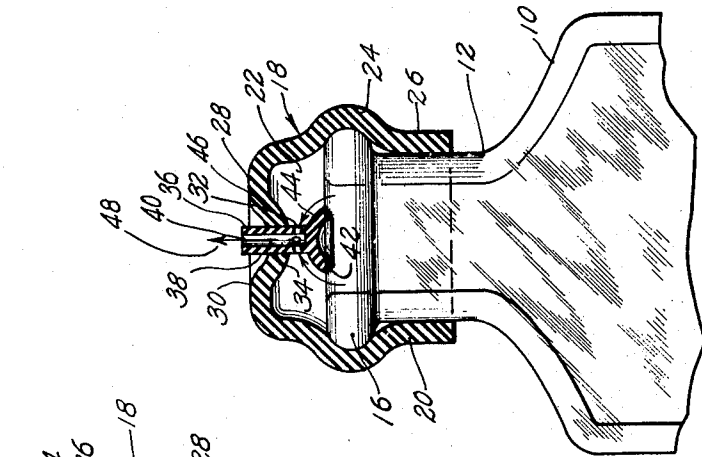


Fig. 3

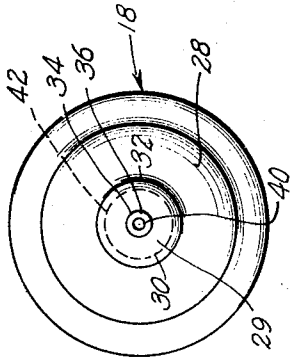


Fig. 2

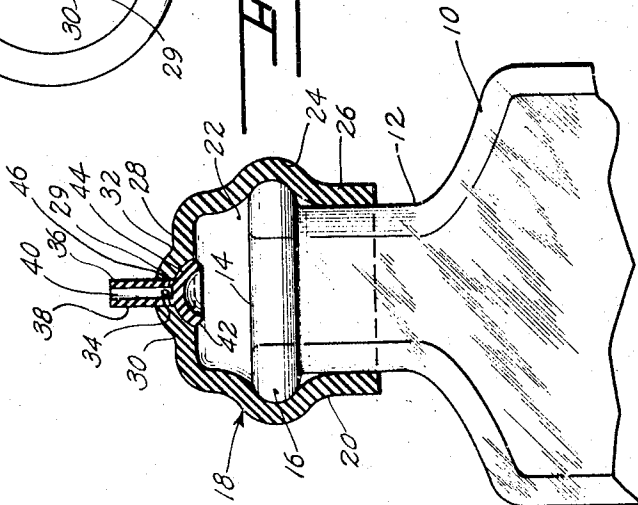


Fig. 1

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DISPENSING CLOSURE CAP

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1 Claim. (Cl. 215-74)

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This invention relates to dispensing closure caps for bottles and the like.

An object of the invention is to provide a closure cap which may be affixed to the open end of a bottle or the like without the use of threads on the cap or bottle, and which may be used to dispense liquid and other contents from the bottle.

Another object of the invention is to provide a closure cap for attachment to the open end of a bottle or the like, for sealing the contents against leaking out of the bottle, said cap being so constructed as to permit a portion thereof to be opened to form a discharge outlet for the fluid contents of the bottle, and further so constructed as to be quickly restored to closed position without any adjustments other than a flick of the finger.

A further object of the invention is to provide a closure cap for attachment to the open end of a bottle for dispensing the contents thereof when desired and for sealing the bottle at other times, said cap being simple in design, inexpensive to manufacture, effective in operation, and easily adaptable to most types of bottles and the like.

Other objects and advantages of the invention will become apparent from the following description of a preferred embodiment thereof as illustrated in the accompanying drawings, and in which,

Figure 1 is a sectional elevation of my improved dispensing closure cap in sealed or closing position upon a bottle neck,

Figure 2 is a top plan view of the device shown in Figure 1, and

Figure 3 is a sectional view similar to that of Figure 1, but showing the dispensing closure cap in unsealed or open position upon a bottle neck for dispensing fluid therefrom.

Reference may now be had to the drawings, in which similar reference characters denote similar parts throughout the several views. As shown, there is a bottle or other fluid container 10, having an upstanding hollow neck 12 with an upwardly open mouth 14 through which the fluid contents of the bottle pass in leaving the bottle. The upper rim 16 of the bottle neck is rounded projecting outwardly to provide a lip as shown.

To close the bottle shown, I provide a novel sealing and dispensing cap generally indicated at 18. The cap 18 is formed of a resilient material such as rubber, and includes upstanding outer substantially cylindrical walls 20, defining a downwardly open recess 22 for the reception of the upper end of the bottle neck 12 in such manner as to embrace the bottle rim 16. As illustrated

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best in Figures 1 and 3, the flexible cylindrical side walls 20 of the closure cap yield outwardly at 24 to accommodate the bottle rim, the lower portion 26 of the cap returning to its original inside diameter to bear firmly against the outer surface of the bottle neck to block passage of liquid therebetween.

The chamber 22 is closed at the top by a top member 28 which is preferably molded integral with the side walls 20. The central portion 29 of the top member 28 between locations 30 and 32 is intended to snap upwardly into an upwardly arched position as shown in Figure 1, and downwardly into a downwardly arched position as shown in Figure 3, depending upon whether the cap is in sealed position or is unsealed for dispensing fluid. The central portion 29 has an axial bore or aperture 34 formed therein for the reception of the slidable hollow tubular shank 36 of a dispensing element or nipple 38 having an upwardly open axial bore 40 extending through the shank.

The shank 36 is supported upon an arched disc-like base member 42, the upper curved surface 44 of which is adapted to seat against the upwardly arched inner surface of the central portion 29 of the cap when it is in upwardly arched position as seen in Figure 1, that is in sealed position. The tubular shank 36 has one or more lateral apertures 46 formed in the lower ends of its walls just above the upper surface 44 of the arched base 42.

It is apparent that when the dispensing nipple or valve 38 is in its uppermost sealing position as shown in Figure 1, its shank projects above the top 28 of the cap, with the portion of the shank containing the apertures 46 surrounded by the rubber walls of the bore 34 of the cap top so as to block passage of liquid through said apertures into the bore 40 of the valve shank, and that also the arched upper surface 44 of the base 42 is in sealing contact with the arched undersurface of the cap top. Hence no fluid can pass out of the bottle when the parts are disposed as in Figure 1.

To dispense fluid from the bottle, it is only necessary to depress the valve shank 36 with the fingers to the position shown in Figure 3, thus snapping the central cap portion 29 to downwardly arched position, and also moving the shank 36 and the disc 42 carried thereby below the lower surface of the cap portion 29, exposing the apertures 46 to the inside of the chamber 22. When the bottle is then inverted, fluid enters the chamber 22, and flows through the apertures 46 into the axial bore 40 of the valve shank, flowing out

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of its open end in the direction of the arrow 48.

The valve nipple remains in depressed position until the desired amount of fluid is extracted from the bottle, and then can be closed by flicking the same with the finger, whereupon the downwardly arched central portion 29 will snap into the position shown in Figure 1, carrying with it the valve shank and disc to again seal the bottle.

The closure cap according to my invention can be made to fit any bottle, eliminating the need for threads on the bottle or the cap, and for the usual cork sealing washer in other forms of sealing caps. This makes it possible to manufacture this cap at low cost, and eliminates the danger of losing the cap or of spilling the fluid in the bottle.

Although I have described a preferred embodiment of my invention in specific terms, it is to be understood that various changes may be made in size, shape, materials and arrangement without departing from the spirit and scope of the invention as claimed.

I claim:

A sealing and dispensing closure for attachment to the lip of the open mouth of the container adapted to contain a liquid, comprising a cap made of resilient material and including a substantially flat top member and substantially cylindrical walls depending therefrom so as to form a chamber for the reception therein of said lip, said top member having an opening arranged substantially centrally thereof and communicating

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with the interior of the mouth of the bottleneck, a dispensing valve element mounted for sliding movement in said top member, said valve element embodying a lower arched disc-like base normally bearing upwardly against the bottom of said top member to form a seal therebetween and a vertically-disposed hollow tubular shank open at its top projecting from said base and carried by the latter, said shank extending through the opening in said top member and slidably movable in the latter opening, there being a lateral aperture extending through the lower portion of the wall of the hollow shank and normally sealed by the walls of the opening in the top member, said dispensing valve element being openable upon the application of a downwardly-directed pressure to the open end of its shank.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
600,901	Voelker	Mar. 22, 1898
1,328,060	Silverman	Jan. 13, 1920
1,481,146	Perry	Jan. 15, 1924
1,751,237	Hoban	Mar. 18, 1930
2,083,156	McCabe	June 8, 1937
2,263,890	Salvesen	Nov. 25, 1941