

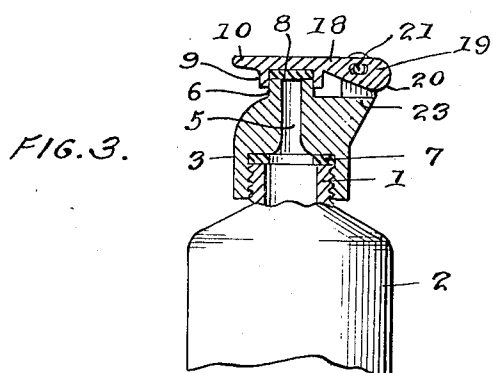
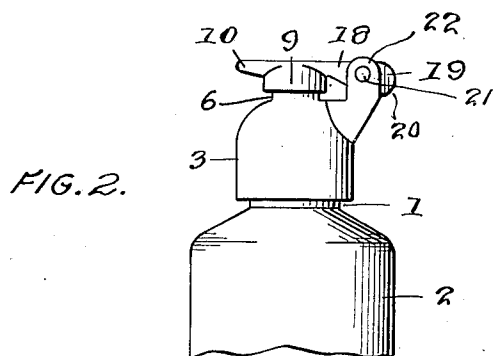
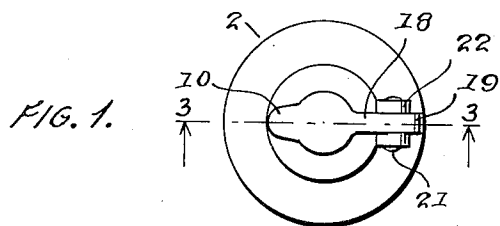
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CLOSURE DEVICE HAVING SELF-LOCKING PIVOTED CAP

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CLOSURE DEVICE HAVING SELF-LOCKING
PIVOTED CAP

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1 Claim. (Cl. 222-545)

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The present invention relates to the general class of dispensing devices, and more specifically to an improved cap closure device for collapsible dispensing tubes of the portable type, including an attachable nozzle and a pivoted closure for the mouth of the nozzle.

The primary object of the invention is the provision of a closure of this type which may be manufactured in quantities, from plastic and other suitable materials, at low cost of production; in which the component parts may readily be assembled to form the completed device; and which device is simple in both construction and operation for controlling the flow of fluent material from the collapsible or flexible dispensing tube.

The device of my invention is particularly adapted for interchangeable use with the usual screw caps of standardized nipples of the tubes containing toothpaste, shaving-cream, and similar materials, and it may be substituted for these customary screw caps. When thus substituted as a permanent fixture for the usual screw cap, the closure of my invention may quickly be opened and closed without recourse to the use of the usual detaching and attaching threads of a cap and nipple, thereby eliminating the possibility of distorting the threads and consequent difficulty in mounting and dismounting the closure for the tube.

The novel closure of my invention is also applicable for initial and permanent use with the specific types of collapsible or flexible tubes containing these fluent materials and possessing the standard screw threaded nipple.

The invention consists essentially in certain novel combinations and arrangements of parts including and consisting of an attaching nozzle having a pivoted arm and closure cap for the mouth of the nozzle, together with means that co-act with the nozzle for temporarily retaining the cap in open position relative to the mouth of the nozzle while the material is being ejected from the tube and dispensed through the nozzle, and in other combinations of parts as will hereinafter be more specifically described and set forth in the appended claims.

In the accompanying drawings I have illustrated a complete example of the physical embodiment of my invention wherein the parts are combined and arranged in accord with modes I have thus far devised for the practical application of the principles of my invention, but it will be understood that changes and alterations may be made in these exemplifying drawings and

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mechanical structures, within the scope of my claim, without departing from the principles of my invention.

In Figures 1, 2, and 3, which disclose an embodiment of my invention,

Figure 1 is a top plan view showing the device of my invention attached to the threaded nipple of a collapsible tube.

Figure 2 is a view in side elevation with the cap closed; and

Figure 3 is a sectional detail view as at line 3-3 of Fig. 1 with the cap or closure closed, and mounted on the nipple of a conventional collapsible dispensing tube.

Referring more in detail to the drawings the closure of my invention is threaded on the externally threaded nipple 1 of a standard collapsible or flexible tube 2 that is adapted to be rolled upwardly from its lower end toward the nipple, or squeezed to eject the fluent material from the mouth of the nipple and through the nozzle 3 when the cap 9 is opened, or removed from over the mouth of the nipple.

The nozzle 3, which is shaped to conform to the nipple 1 is internally threaded to conform to the external threads of the nipple, and the interior bore 5 of the nozzle, through which the fluent material is ejected from the nipple, terminates in a neck portion 6 having an outlet opening or mouth.

An open center gasket or washer 7, of cork or other suitable material is interposed between the nozzle and the nipple to prevent waste and to insure an airtight joint between the nipple and the nozzle, and a second sealing disk 8, of cork is provided for the same purpose between the closure cap 9 and the mouth of the nozzle.

The cap 9 is shaped like an inverted cup, and it is designed to slip over the mouth of the nozzle for sealing the closure, and to be withdrawn therefrom to permit ejection of the fluent material in the shape of a ribbon as usual.

For convenience in controlling the closure cap as it is withdrawn from or slipped over the mouth of the nozzle, an integral lug 10 is fashioned on the cap where it is readily accessible for the finger or thumb in manipulating the cap.

The cap 9 is fashioned with a radial arm 18 which projects therefrom and at its outer end the arm 18 of the cap is provided with a perforated head 19, and the head is fashioned with a semicircular cam face 20. A pivot pin 21 is passed through the perforated head and mounted in a pair of perforated ears 22 integral with

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the nozzle, and the nozzle, between these ears, is fashioned with a cam seat 23 for frictional engagement with the cam face 20, when the cap is uplifted.

Thus, by finger or thumb pressure against the lifting lug 10 the cap may be lifted from the mouth of the nozzle, on the pin 21 as a pivot, and the cap and arm are swung to uplifted position as the semicircular cam face 20 swings into frictional engagement with the seat 23 of the nozzle. The nozzle is thus uncovered and the cap is swung to position where it is out of the way and does not interfere with the ejection of the fluent material from the nozzle.

For re-capping the nozzle the friction-held cap and arm are swung down with the inverted cup 9 closing the nozzle, and held in that position by co-action of the cam faces 20 and 23 of the arm and nozzle respectively.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

A closure device for attachment to a threaded outlet of a dispensing tube comprising a housing having an internally threaded opening adapted to be threadedly received by the dispensing tube outlet, a cylindrical neck portion extending from said housing, a passageway extending through said housing and neck concentric with said neck and communicating with said opening for passing material from the dispensing tube, a pair of spaced ears integrally upstanding from said

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housing, an arm having an end portion thereof received between said ears, said arm end portion between said ears having a slot and a substantially convex cam face adapted to contact said housing, a circular flange secured to said arm forming an inverted-cup therewith and adapted to fit over said neck portion for closing said bore, and a pivot pin secured to said ears and extending through said slot, whereby said arm can be pivoted on said pin, and thereby said cup, toward and away from said neck portion and when pivoted away from said neck portion said arm can be slid on said pivot for causing said convex cam face to frictionally contact the housing between said ears for releasably holding said arm away from said neck portion.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
1,509,465	Baya	Sept. 23, 1924
1,702,998	Foltis	Feb. 19, 1929
1,794,987	Sebolt	Mar. 3, 1931
1,998,373	Love	Apr. 16, 1935
2,009,761	Calderara	July 30, 1935
2,111,186	Jenks	Mar. 15, 1938
2,196,530	Johnson et al.	Apr. 9, 1940