Oct. 30, 1951 C. P. ZURLINDEN 2,573,378

BOTTLE-POURING CAP AND CLOSURE

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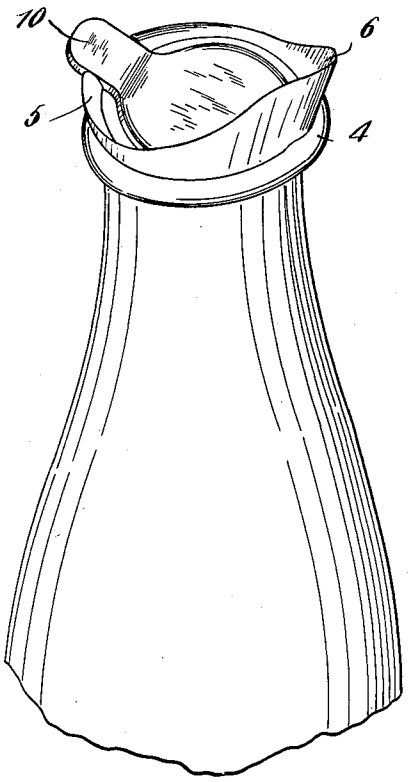


FIG. 1

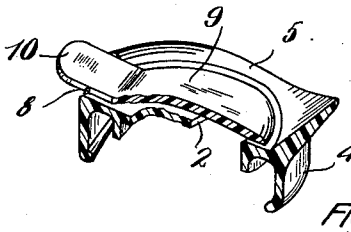


FIG. 3

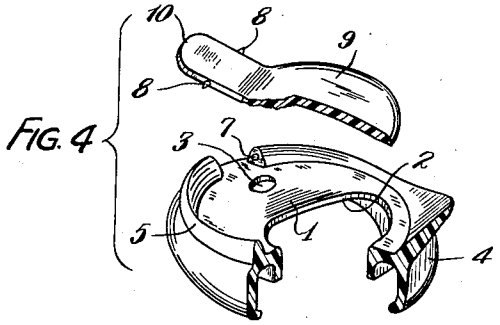


FIG. 4

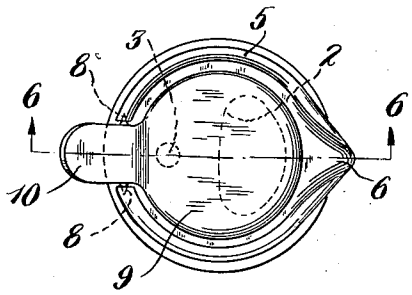


FIG. 2

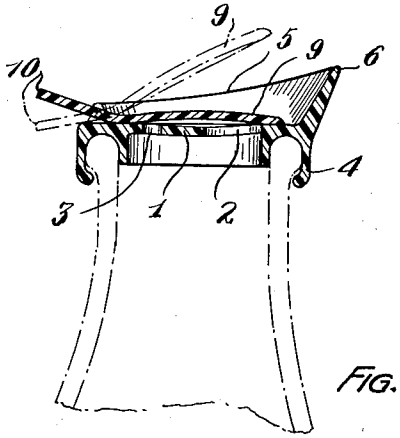


FIG. 5

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BOTTLE POURING CAP AND CLOSURE

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2 Claims. (Cl. 215—73)

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This invention relates to the general art of cap closures for bottles, as for instance milk bottles; and, more specifically, my present device is intended to facilitate the opening and closing of such bottles when pouring therefrom from time to time.

As is of course well known, milk is usually delivered to the customer in the familiar style of bottle with a paper disk closure and this cap is repeatedly removed and replaced by the user during the period of using the contents of the bottle. This practice has proved not only inconvenient but also unsanitary.

There have been numerous previous attempts to correct this situation, judging from the number of patents that have been granted along this same general line; but, according to my best information, none of these patents has been put into use in recent years.

It is therefore the object of my present invention to devise a cap which may be readily applied to a bottle, which may be readily opened and closed, which will relieve the heretofore unsanitary condition, and which may be manufactured and sold at a popular price.

In a word, the object of my invention is to provide an efficient, sanitary and inexpensive form of detachable device that is capable of converting a bottle into a pitcher with a readily manipulatable closure therefor.

Other objects will appear from the following description and claims when considered together with the accompanying drawing.

Fig. 1 is a perspective view illustrating my device in position upon a conventional form of milk bottle;

Fig. 2 is a top plan view of this device;

Fig. 3 is a perspective view of this device, cut away;

Fig 4 is a distended perspective view of my device, cut away; and

Fig. 5 is a vertical sectional view of my present device, illustrating how it engages the neck portion of the milk bottle and illustrating also the closure member in raised or open position.

It is to be understood that the present form of disclosure is merely for the purpose of illustration and that there might be devised various modifications thereof without departing from the spirit of my invention as herein set forth and claimed.

My present form of device, as herein illustrated, comprises only two parts, both of which may be made of plastic. One of these two parts has a central portion 1 with a forwardly located

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pouring opening 2 and a rearwardly located air vent 3. A depending annular inverted substantially U-shaped portion 4 is formed integral with the central portion 1 and is adapted to have sufficient resilience to permit snug frictional engagement over the top edge of the bottle mouth and with the inner and outer surfaces thereof. Formed integral also with the central portion 1 there is an annular upstanding rim portion 5 of substantial height, which is enlarged into the pouring spout 6 in the region of the pouring opening 2 and which is provided with two oppositely disposed ends at the rear part of the device.

The two rear ends of the rim portion 5 have recesses 7 which are aligned with each other and are adapted to receive the mating lateral projections 8 upon opposite sides of the narrowed rear part of the one-piece closure member 9 so as to form a hinge connection therefor. This closure member is adapted to rest upon the central portion 1 so as to close the pouring opening 2 and the vent opening 3. The rear of the closure member terminates in an upwardly extending lever portion 10 for ready optional manipulation by the finger of the user for opening the closure 9.

The central portion 1 is slightly inclined downwardly towards the pouring opening 2 so that any liquid, which might otherwise accumulate thereupon after the pouring operation, will drain through the opening 2 into the bottle. The closure member 9 will be of somewhat dome form and only its marginal portion will have closing engagement with the central portion 1. In this way, any drainage from the central portion 1 will be facilitated and there will be minimum danger of surface adhesion between the closure 9 and the central portion 1 as there will be a minimum accumulation of milk or other liquid upon the portion 1 to cause such adhesion.

It is to be noted that the central portion 1 has a smooth surface throughout its entire extent so as to permit return flow of any excess liquid therefrom by gravity and in a thorough manner back through the opening 2.

The lower member may be made of such material that its resiliency will permit the inverted U-shaped portion to conform itself to any irregularities or variations in the mouth portion of a bottle neck. Also, this same resilience will permit the rear ends of the annular rim portion 5 to be spread momentarily to sufficient extent to receive the projections 8 and to hold the same in such assembly as above described.

In actual use, the familiar paper cap of a milk bottle, for instance, will be removed by the con-

sumer and my present device will be applied to the mouth of the bottle by engaging the inverted U-shaped portion 4 down over the edge portion of the bottle mouth. It is to be understood that this device may be made in different sizes and that the proper size will be selected for use upon a bottle with a certain size of mouth. This device will keep the bottle closed until it is desired to use part of its contents. Then, by merely grasping the bottle and tilting the same forwardly, the closure will swing by gravity to open position and the contents of the bottle may be discharged through the opening 2. In this connection it will be explained that the closure is so mounted that the greater part of its weight will be forward of its hinge connection. Upon returning the bottle to upright position, the closure will by gravity return to closed position. Thus the device may be opened and closed without touching the closure or the mouth portion of the bottle, the mere movement of the bottle to and from pouring position being sufficient for effecting operation of the closure 9.

The weight of the liquid against the inner surface of the closure 9 will also serve to open the same when the bottle is tilted for pouring. If ever found necessary, the user may resort to the lever 10 for opening the closure member 9.

Thus I have devised a comparatively simple form of pouring cap closure which comprises only two parts and which may be manufactured at comparatively low cost and yet possesses the noted advantages of convenient and sanitary use over an indefinite period of time. Furthermore, this device is of a substantially smooth nature throughout and may be readily and thoroughly cleaned whenever desired, thereby adding to the sanitary nature of the device.

What I claim is:

1. A bottle pouring cap comprising one member having a substantially flat central portion with an integral flexible inverted substantially U-shaped portion about the entire margin thereof and depending therefrom and adapted to engage about and to conform itself to the inner and outer mouth edge portions of a bottle entirely thereabout, said central portion having a pouring opening therethrough and an integral annular upstanding marginal portion of substantial height surrounding the same and substantially within the circumference of said inverted U-shaped portion and formed at the forward portion thereof into a pouring lip in the region of said pouring opening and formed with oppositely recessed spaced ends at the rear thereof, and a one-piece substantially rigid flat closure member adapted to occupy closed position upon said central portion and within and below the upper edge of said annular marginal portion so as to close said pouring opening, said closure member having a rearwardly extending narrow portion positioned between the ends of said upstanding marginal portion and having oppositely aligned integral lateral projections mounted in said recessed ends of said upstanding marginal portion in a freely pivotal manner so as to provide a hinge connection for said closure member at the rear thereof, whereby said closure member will swing by gravity to open position when the bottle to which the pouring cap is attached is tilted forwardly for pouring and will close by gravity when the bottle is returned to upright position.

2. A bottle pouring cap of the same structure as recited in claim 1 hereof and in which said central portion is slightly inclined downwardly and inwardly towards said pouring opening so as to drain any excess back through said pouring opening, and in which said closure member has only its marginal portion in actual engagement with said central portion.

CYRIL P. ZURLINDEN.

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