

Feb. 7, 1967

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3,302,858

TAB-OPEN CLOSURE CAP FOR DRINKING CUP-CARTON

Filed Sept. 16, 1965

FIG. 1.

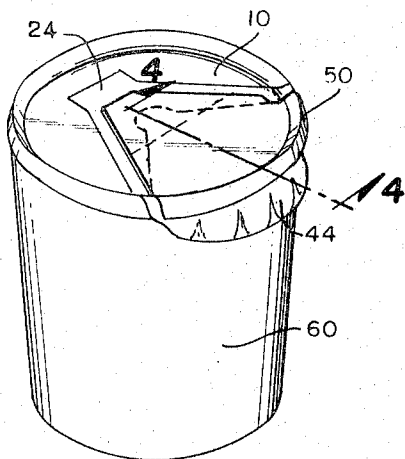


FIG. 5.

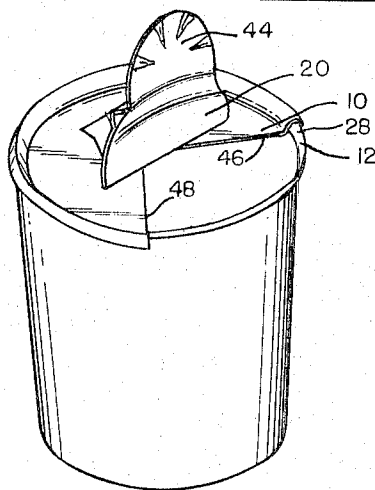


FIG. 3.

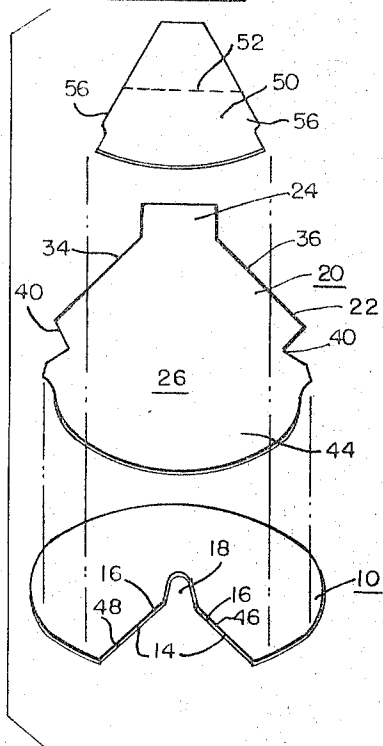


FIG. 4.

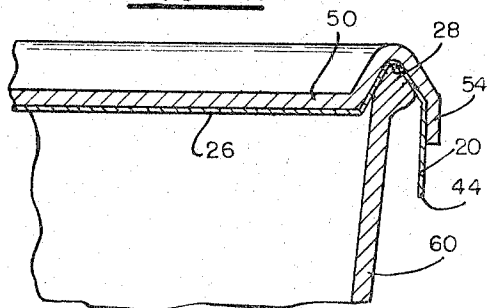
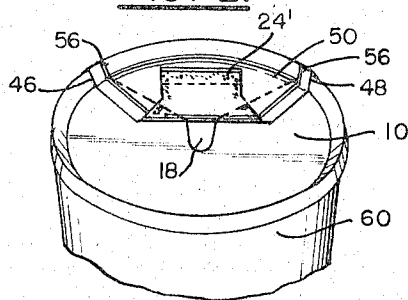


FIG. 2.



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Filed Sept. 16, 1965, Ser. No. 487,705
5 Claims. (Cl. 229—51)

This invention relates to a closure cap for a drinking cup or carton. More particularly, it relates to a closure which is an improvement over that described in my United States Patent 3,090,542 issued May 21, 1963.

A principal object of this invention is to provide a water-proof leak-proof closure cap for conventional drinking cup-cartons used for the packaging of milk or other liquid foods so that they can be safely transported and dispensed to the consumer.

A more specific object is the provision of a closure or lid constructed of simply fabricated elements at least some of which are readily torn free from others which remain engaged by the cup and which afford a convenient arrangement for drinking liquids from the cup.

A further object is to provide a drinking cup-carton with a cap which is suitable for the dispensing of milk or other liquids from a vending machine and for the consumption of such liquids directly from the cup or carton without recourse to a straw or sipper.

The invention will be better understood from the following description taken with the accompanying drawings in which

FIGURE 1 is a view in perspective showing the closure in place and sealing the drinking cup-carton;

FIGURE 2 is a similar view showing the cup about to be filled with liquid;

FIGURE 3 is an exploded view showing the pieces which are assembled to form the completed closure;

FIGURE 4 is a view in section taken on line 4—4 of FIGURE 1 and drawn to a somewhat larger scale; and

FIGURE 5 is a similar view showing the cup after the closure has been lifted to open the cup for drinking.

The lid consists of three separate elements shown in FIGURE 3. The first part of the lid consists of a generally flat disc or cover piece 10 adapted to provide a V shaped flange 12 (FIGURE 5) extending along the circular periphery of the disc 10 when pressed onto cup 60 as hereinafter described. The V shaped flange opens downwardly so as to close tightly on the upper edge or rim 28 of the cup 60. A sector 14 is cut out from disc 10, sector 14 amounting to almost one-third of the area of disc 10 and is defined by two straight edges or diameters 16 and a centrally located circular cut-out 18 located about the central axis of the lid 10.

The second part of the lid shown in FIGURE 3 comprises an irregularly shaped laminated sheet 20 adapted to completely cover the sector shaped opening 14 in disc 10. Member 20 terminates in a pull tab 24 at the narrow end of member 20 and includes a tapering central portion 22 intermediate of the pull tab and an irregularly shaped body portion 26, the edge of which is adapted to be deformed when sealed onto the cup or container so as to form a V shaped flange 28 in the same manner as lid 10, so as to form a bib 44. Body 26 is bounded by radially extending sides 34, 36 which extend outwardly toward a bib 44. Sides 34, 36 each terminates short of bib 44 and are cut away or stepped down as shown at 40, so that when the assembled lid is pressed onto cup 60, the edges of indentations 40 permit the edges of the third portion of the lid to be substantially touching the edges 16 in the region where they are folded over cup 60.

Sheet 20 may be a piece of aluminum foil laminated

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between two sheets of waxed paper or other water-proof laminates may be used. As shown in FIGURE 1, sheet 20 extends past flange 28 so as to provide a bib 44 overhanging the cup 60 when the lid is closed.

The three part closure of my invention is completed by a sector shaped cover piece 50 which is of a suitable size and shape such that it fits over the opening 14 cut out of piece 10. A score line 52 on cover piece 50 is provided so as to facilitate filling of the cup. After the closure is positioned on a cup, a sealing flange 54 is formed when the cover is pressed on the cup. Flange 54 has a length such that its extremities 56 (FIGURE 2) fit closely adjacent to ends 46 and 48 of cover 10 from which they are separated only by the thickness of sheet 20.

The three pieces of the cover shown in FIGURE 3 are secured together by any suitable means.

FIGURE 1 shows the container with the completed lid in place and FIGURE 2 shows the lid bent back on score line 52, e.g. by lifting on tab 24 so as to expose opening 18 for insertion of a liquid-supplying filling means, whereby the cup 60 is filled with milk or other liquid. FIGURE 5 shows the lid bent back during the process of removing cap 50 and sheet 20, e.g. by pulling on bib 44, so as to expose the opening 14 used by the consumer for emptying the cup, e.g. by drinking the contents.

It is believed that the manner in which the improved drinking cup of the instant invention operates will be apparent, but for completeness a preferred operation is described as follows:

The cup-cartons are stacked before filling and the flat closure cap blanks are also stacked after the three portions thereof have been adhesively united. The assembling of the closure cap to the cup-carton is effected just prior to the filling step. Suitable known means position the cap blank over the cup and then crimp the cap to the cup around the entire perimeter of the open top of the cup-carton. The only opening remaining in the cover is at 18 (FIGURE 2), this being the opening through which the cup-carton is to be filled with milk or other liquid. The filling tube can push tab 24 out of the way and fill the cup-carton. Then a known mechanism can push tab 24 back over opening 18 and can seal it to the lid 10, for example by means of a non-toxic pressure sensitive adhesive 24' on the underside of pull tab 24 except for the very tip of the tab which is left free of adhesive so that it may be lifted clear of the cap in case it is desired to open the lid at 18 for use of a straw instead of drinking directly from the cup.

It will be seen that a relatively simple and inexpensive closure for cup-cartons is provided by the present invention and it is not intended that it be limited except as may be required by the appended claims.

I claim:

1. A closure cap for cup-cartons comprising a flat laminated blank adapted to be pressed onto the top of the cup-carton sufficiently tight to form a leak proof closure for said cup-carton, said blank consisting of three separate elements, as follows:

a bottom element consisting of a generally flat circular disc from which two portions have been cut away, namely a circular portion cut from around the center of the circle and adapted to form a filling or sipping opening in said disc and a sector cut from said disc and adapted to form a dispensing opening in said disc;

an intermediate element comprising a laminated sheet of a size and shape such that when placed on said disc, the sheet covers the two cut away portions of said disc and includes additional material adapted

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to extend along the perimeter of the cut away portions of said disc, said sheet including a pull tab adapted to overlie said filling opening and a bib adapted to extend outward of the curved side of said circular sector, so as to provide a portion to be gripped when it is desired to open said closure by separating the elements of said blank from one another to expose the cutaway sector in said disc and also as a sanitary protection for the lip of the cup; and a cover piece comprising a sector shaped cover, slightly larger than the sector shaped piece cut away from the bottom element; said three elements being secured together in face to face relationship with the intermediate element disposed between said bottom disc and said cover piece and with said cover piece overlying the cutaway portion of said bottom disc.

2. The closure of claim 1 wherein the intermediate element is a sheet of aluminum foil laminated between two sheets of waxed paper or plastic.

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3. The closure of claim 1 including a pressure sensitive adhesive on the underside of said pull tab.

4. The closure of claim 1 pressed onto a cup whereby the circular periphery of said disc is crimped to form a flange extending over the major portion of the circumferential portion of the upper edge of said cup, and the laminated intermediate element and cover piece are both crimped into a flange extending over the remaining circumferential portion of the upper edge of said cup.

5. The closure of claim 4 wherein the pull tab remains unsealed to permit filling of said cup.

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