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HOLDER FOR MILK CARTONS OR THE LIKE

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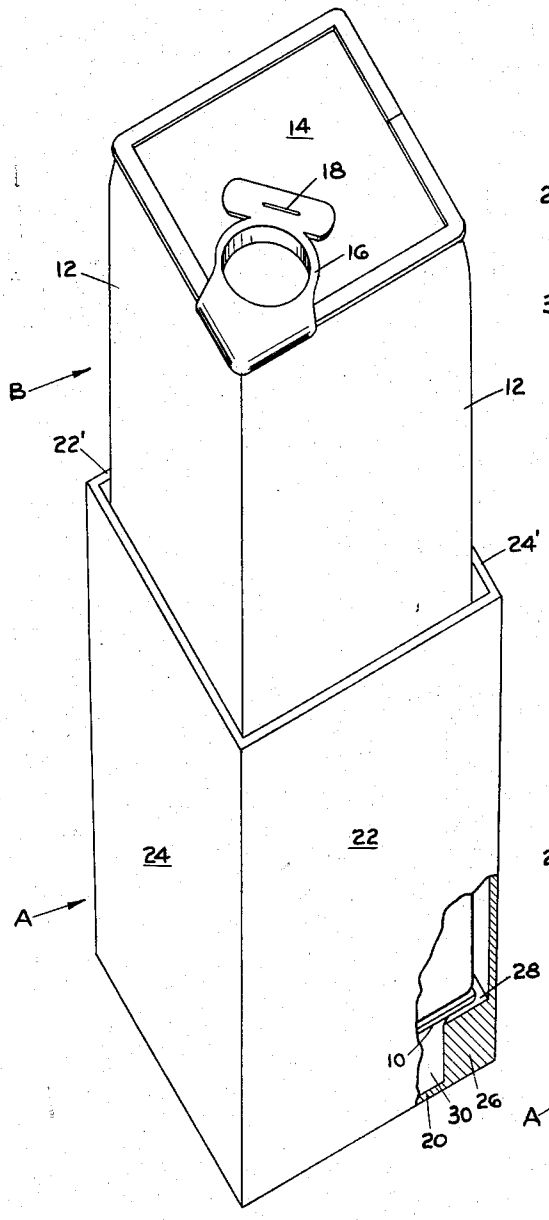


FIG. 1

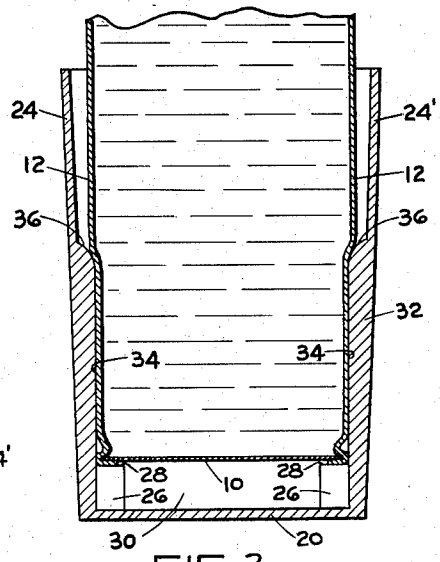


FIG. 3

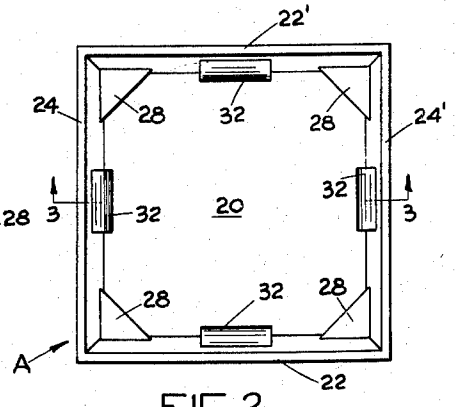


FIG. 2

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HOLDER FOR MILK CARTONS OR THE LIKE

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4 Claims. (Cl. 220—85)

The invention relates to a holder or coaster for cartons of the type which contain milk, orange juice, or like fluid.

Milk or similar fluid-containing cartons are subjected to a great deal of handling and substantial abuse prior to being placed in the refrigerator by the ultimate user. Not infrequently, the cartons are damaged by the time they reach the refrigerator shelf, and leak. Such leakage creates a messy condition, may contaminate other foods in the refrigerator, and is distressing to the tidy housewife.

One of the objects of the invention is to provide an improved holder for a milk or like fluid-containing carton which will contain any fluid which may leak from the carton.

Another object of the invention is to provide a holder which will contain the leaked fluid in such a manner that the carton generally will not be surrounded by, or set in the fluid.

Another object of the invention is to provide a carton holder formed with means for engaging the carton to enable lifting both the carton and the holder together, though only a portion of the carton which extends above the holder is grasped and lifted.

Still another object of the invention is to provide a carton holder constructed to enable nesting of a plurality of the holders in order to save space in shipping and display of the holders for sale.

Still a further object of the invention is to provide a holder which will afford the aforementioned advantages, and which can be economically manufactured as a single integral unit by the molding of a plastic material in a mold of simple configuration, the plastic material possessing the characteristic of translucency, to enable viewing the interior of the holder through a wall thereof to indicate whether the fluid has indeed leaked from the carton, the plastic material also possessing the characteristic of a substantially high coefficient of friction to enhance the engagement between holder and carton.

These, and other objects and advantages of the invention, will be apparent from the following detailed description taken in conjunction with the drawing, in which:

Fig. 1 is a perspective view, partly broken away and in section, showing a milk carton received in a holder made in accordance with the invention;

Fig. 2 is a top plan view of the holder; and

Fig. 3 is a vertical cross-sectional view taken approximately in the plane of line 3—3 of Fig. 2, but additionally showing a fluid-containing carton received in the holder.

Referring to the drawing for a specific and preferred embodiment of the invention, the coaster or holder, generally designated A, is constructed to receive, or have set therein, a carton B containing milk, orange juice or like fluid. The carton is of a construction which is now quite common and standard in the trade. Such carton

comprises a bottom end or wall **10** having connected thereto the side walls **12**, the upper ends of the side walls being connected to a top end or wall **14**. The top end is provided with the usual opening, and a cap-type closure **16** therefor is hinged to the top wall by a staple **18**. Lifting the end of the closure enables the contents to be poured from the carton. Without going into any further detail concerning the construction of these now standard milk cartons, it may be pointed out that such cartons have a height of approximately eight (8) inches, and measures approximately two and three-fourths (2¾) inches square around the outer periphery of each of the top and bottom ends. When filled, or partially filled, with milk, orange juice or the like, the weight of the fluid bulges the flexible side walls outwardly so that the distance between the outer surfaces of each pair of opposite side walls is increased to approximately three (3) inches or more.

The holder A preferably is made of flexible, plastic material which is molded into a single integrally formed unit. A preferred plastic composition is polyethylene which is characterized by having a substantial high coefficient of friction for a plastic material, and when molded affords a measure of translucency, at least sufficient to enable viewing through a side wall of the holder to indicate whether there is fluid in the holder. It will be understood, however, that other suitable plastic materials may be used.

The holder is molded to provide a bottom wall **20** having an outline generally the same as the outline of the corresponding wall or end of the carton, so that in the illustrated preferred embodiment the bottom wall is square. Two pairs of oppositely disposed side walls **22**, **22'** and **24**, **24'** extend outwardly from the side edges of the bottom wall, and are preferably outwardly tapered; that is to say, the angle of the side walls with respect to the horizontal plane of the bottom wall is in excess of 90°. Such taper allows a plurality of holders to be nested, one within another, to save space in shipment and display of the holders. At the corner juncture between each pair of adjacent side walls, **22**, **24'**, and **24**, **22'**, etc., and the bottom wall **20**, pedestals **26** are molded integrally with the side walls and the bottom wall, there being four (4) such pedestals for the four (4) corners at the bottom of the holder. The pedestals preferably are molded to provide a solid section, rather than having an overhanging shelf-like contour, in order to facilitate molding without undercuts in the mold, and to further rigidify the relationship between the side walls with respect to each other and the bottom wall. The top surfaces **28** of the pedestals provide a support for the bottom end **10** of the carton on a level which is spaced above the upper surface of the bottom wall **20** of the holder. The distance between the side walls at the level provided by the supporting surfaces **28** of the pedestals preferably is slightly greater than the corresponding dimension of the bottom end of the carton.

The pedestals may be formed to any suitable height for the purpose of providing the space **30** between the level of the supporting surfaces **28** and the bottom wall **20** to receive fluid which may drip or leak from the carton. While the extent that an individual carton may leak cannot be predetermined, making the pedestals approximately one (1) inch in height will provide a space of sufficient volume to keep the bottom **10** of the carton, in most instances, above the level of fluid from the leaking carton. Thus, generally, the carton will not be surrounded by fluid until discovered by the housewife, and the leaked fluid may be used.

The carton holder A may be approximately three or four (3 or 4) inches in height and, therefore, when the

carton B is set therein, a substantial portion of the carton projects above the uppermost edge of the holder. In removing the holder, with the carton set therein, from the refrigerator, it is not unnatural to grasp the upper end of the carton. In order to retain the holder on the carton, or the carton within the holder, when the carton is so grasped and lifted, a pair of opposite side walls 22 22', or 24, 24', but preferably all four side walls, are provided with inwardly projecting means 32 for frictionally engaging the carton.

To enable insertion of the fluid-containing carton into the holder, and support of the carton on the pedestal surfaces 28 without distortion of the holder, the projections 32 on a pair of opposite side walls are spaced apart a distance slightly greater than the corresponding dimension of the bottom wall 10 of the carton. Although clearance is provided for passage of the bottom wall of the carton, as shown in Fig. 3, the projections will firmly press against the laterally extended side walls of the fluid-filled, or partially-filled carton, because of the bulge imparted to the flexible side walls of the carton by the weight of the fluid. The volume of liquid within the carton aids in exerting pressure against the projections. Even an unopened carton is not entirely filled, thereby allowing the liquid to be displaced. In order that the projections 32 frictionally engage a substantial area of the carton side walls, and thereby provide a substantial engaging force, the carton engaging surfaces 34 on a pair of opposite side walls are made so that they are parallel with respect to each other, rather than being convexly shaped to provide only tangential contact. As a result, areas of substantial linear engagement are provided between the holder and the carton. Opposite parallel surfaces 34 have substantial width and height, and may even extend to the top edge of the side walls, though it has been found that adequate frictional engagement is obtained by extending the projections vertically only to the extent shown in Fig. 3. At the top edge, each projection is provided with a lead-in 36 or downward slope to facilitate by-passing of the projections by the bottom end of the carton. When the side walls 22, 22' and 24, 24' of the holder are provided with an outward taper, the resulting cross-section of the side walls at the projecting portions possess a downward taper, or a taper in a direction opposite to the taper of the side walls, as shown.

By forming the projections as above described, with their straight and vertically extending, parallel carton engaging surfaces 34, the molding of the holder is simplified. The mold is formed with a corresponding cavity of simple outline without any reverse curvature to interfere with the removal of the product from the mold. Also, the solid section construction of the pedestals permits formation of simple cavities in the mold without any undercuts to interfere with the removal of the product from the mold. In addition, the described configuration of the holder provides a container which, when not in use as a holder for milk cartons or the like as described, may be used as a food receptacle, there being no areas from which food may be difficult to dislodge. A lid may be furnished for this added function.

Although the invention has been specifically described in connection with a holder for a flexible walled carton which is substantially rectangular or square in shape, it will be apparent that the holder may be variously modified without departing from the spirit and scope of the invention. The holder may be molded to receive a carton which is substantially tubular in shape so that instead of the carton having four side walls, there is but one continuous cylindrical flexible wall. Also, whereas four individual pedestals have been shown, one at each corner of the rectangular or square-shaped holder, it is within the scope of the invention to provide a single unitary pedestal extending around the entire inner periphery of the holder. This, of course, requires additional material, and is not as desirable as the separately formed pedestals illustrated.

It is believed that the advantages of the described invention will be apparent from the foregoing detailed description. It will also be apparent that while the invention has been described and illustrated in a preferred form, numerous changes may be made to obtain equivalent structures for the accomplishment of the described improved results without departing from the spirit and scope of the invention as sought to be defined in the following claims.

I claim:

1. A holder for cartons containing milk or like fluid, said carton being characterized by flexible sides which bulge laterally beyond a vertical projection of the top and bottom ends thereof when the carton is at least partially filled with fluid, said holder being integrally molded of flexible plastic material, and comprising a bottom wall having substantially the same outline as the bottom end of the carton, side walls extending upwardly from said bottom wall, integrally molded pedestals at the corner juncture of the side walls and the bottom wall, said pedestals having a height to provide a support for the carton on a level spaced vertically above the bottom wall, and inwardly projecting means molded integrally with each side wall of a pair of opposite side walls for frictionally engaging opposite sides of the carton, the distance between the carton engaging surfaces of opposite projecting means being slightly greater than the corresponding dimension of the bottom end of the carton, said distance being less than the distance between the bulged side walls of an at least partially filled carton, said carton engaging surfaces being substantially parallel to each other to provide a substantial area of engagement with the carton.

2. A holder for cartons containing milk or like fluid, said carton being characterized by flexible sides which bulge laterally beyond a vertical projection of the top and bottom ends thereof when the carton is at least partially filled with fluid, said holder being integrally molded of flexible plastic material, and comprising a bottom wall having substantially the same outline as the bottom end of the carton, side walls extending upwardly from said bottom wall, integrally molded, solid section pedestals at the corner juncture of the side walls and the bottom wall, said pedestals having a height to provide a support for the carton on a level spaced vertically above the bottom wall, the distance between the side walls at said level being slightly greater than the corresponding dimension of the bottom wall of the carton, and inwardly projecting means molded integrally with each side wall of a pair of opposite side walls for frictionally engaging opposite sides of the carton, the distance between the carton engaging surfaces of opposite projecting means being slightly greater than the corresponding dimension of the bottom end of the carton, said distance being less than the distance between the bulged sides of an at least partially filled carton, said carton engaging surfaces being substantially parallel to each other to provide a substantial area of engagement with the carton.

3. A holder for cartons containing milk or like fluid, said carton being characterized by flexible sides which bulge laterally beyond a vertical projection of the top and bottom ends thereof when the carton is at least partially filled with fluid, said holder being integrally molded of flexible plastic material and comprising a bottom wall having substantially the same outline as the bottom end of the carton, side walls extending upwardly from said bottom wall at an angle in excess of 90° with respect to the horizontal plane of the bottom wall to provide a tapered contour for the holder, an integrally molded, solid section pedestal at the juncture of the side walls and the bottom wall, said pedestal having a height to provide a support for the carton on a level spaced vertically above the bottom wall, the distance between the side walls at

said level being slightly greater than the corresponding dimension of the bottom wall of the carton, and inwardly projecting means molded integrally with each side wall of a pair of opposite side walls for frictionally engaging opposite sides of the carton, the distance between the carton engaging surfaces of opposite projecting means being slightly greater than the corresponding dimension of the bottom end of the carton, said distance being less than the distance between the bulged side walls of an at least partially filled carton, said carton engaging surfaces extending in a vertical direction for a substantial distance and being substantially parallel to each other, whereby the cross-section of the projecting means has a taper extending in a direction opposite to the aforementioned side wall taper.

4. A holder for cartons containing milk or like fluid, said carton being characterized by flexible sides which bulge laterally beyond a vertical projection of the top and bottom ends thereof when the carton is at least partially filled with fluid, said holder being integrally molded of flexible plastic material having the characteristics of a substantial coefficient of friction and translucency and comprising a bottom wall having a substantially square outline, side walls extending upwardly from said bottom wall at an angle in excess of 90° with respect to the horizontal plane of the bottom wall to provide a tapered contour for the holder, integrally molded, solid section

pedestals at the corner juncture of the side walls and the bottom wall, said pedestals having a height to provide a support for the carton on a level spaced vertically above the bottom wall, the distance between the side walls at said level being slightly greater than the corresponding dimension of the bottom end of the carton, and inwardly projecting means molded integrally with and centrally of each side wall for frictionally engaging the sides of the carton, the distance between the carton engaging surfaces of opposite projecting means being slightly greater than the corresponding dimension of the bottom end of the carton, said distance being less than the distance between the bulged sides of an at least partially filled carton, said carton engaging surfaces extending in a vertical direction for a substantial distance with opposite surfaces substantially parallel to each other to provide a substantial area of engagement with the carton, the cross-section of each projecting means thereby having a taper extending in a direction opposite to the aforementioned side wall taper, said projecting means being formed with a lead-in portion at the upper edge thereof.

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