Nov. 21, 1967 R. L. BEESLEY ETAL 3,353,659

PLASTIC TOTE CASE

Filed June 18, 1965 2 Sheets-Sheet 1

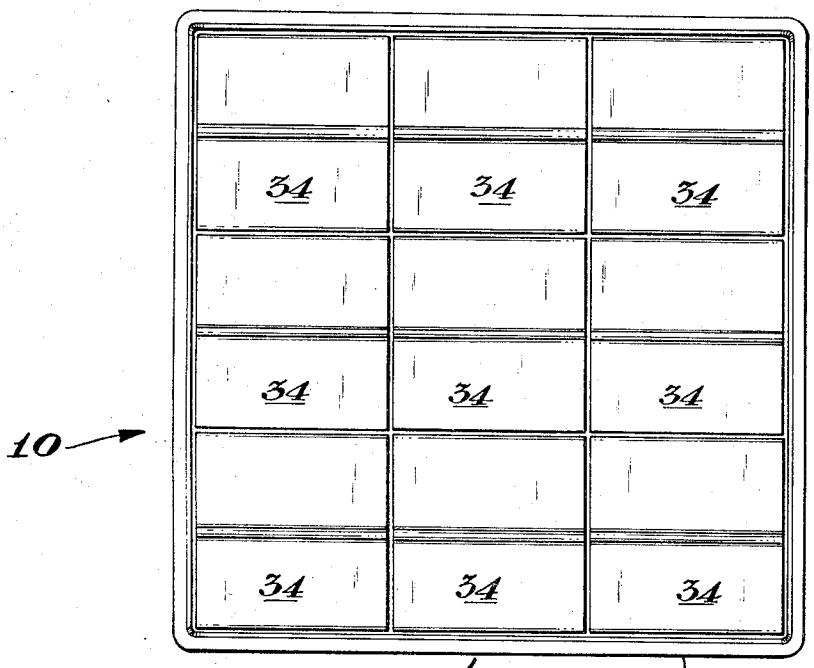


Fig. 2

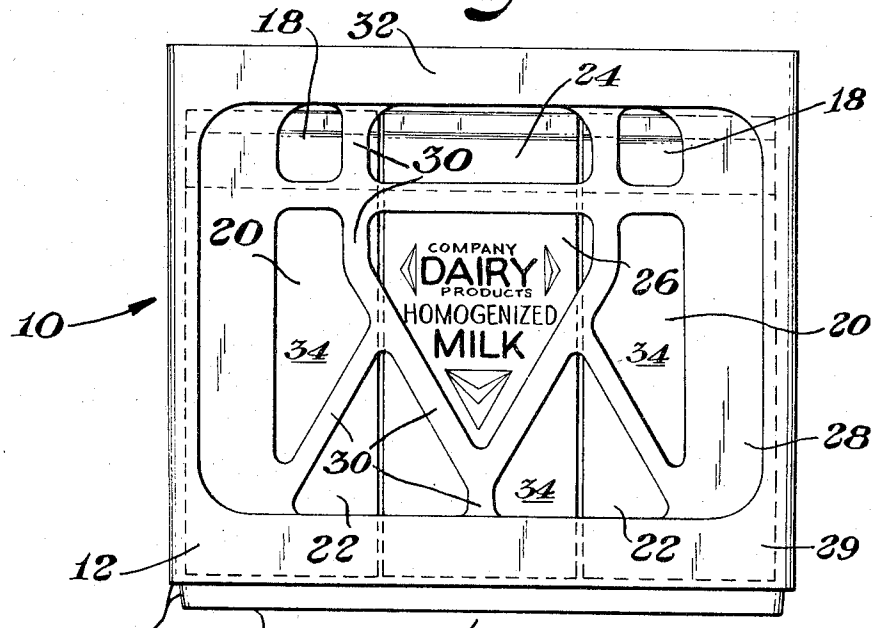


Fig. 1

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PLASTIC TOTE CASE

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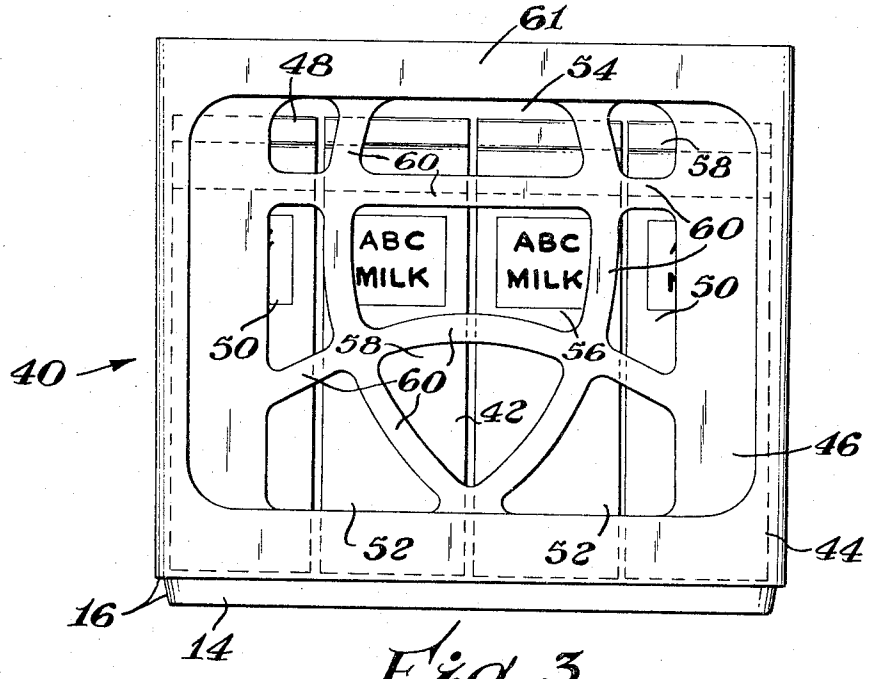


Fig. 3

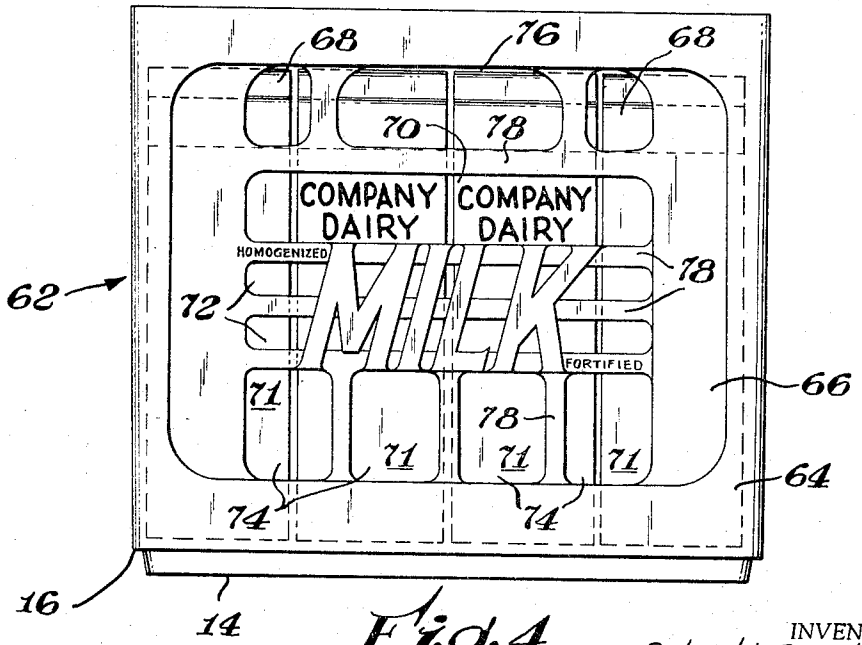


Fig. 4

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PLASTIC TOTE CASE

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ABSTRACT OF THE DISCLOSURE

A plastic tote case which cooperates with containers located therein by employing strategically located cut-out areas in the case sidewalls to provide commercial identification of the case contents and which also employs graphics so located as to complement the identification of the contents. The openings not only serve the purpose of identification but also greatly reduce the overall weight of the tote case and can render the tote case interchangeable between different users.

This invention relates generally to a tote case and, more particularly, to molded plastic tote cases suited for handling paperboard, plastic and glass liquid containing packages, such as milk containers.

Heretofore such tote cases have had substantially solid side walls, usually with reinforcing means to give them sufficient strength and rigidity to allow them to perform their intended function. Such substantially solid side walls not only results in relatively high case weight, but necessitates a graphic display area on the case wherein the name of a particular dairy or other company using the tote case is customarily imprinted. Because of the latter feature, such cases were therefore not interchangeable between different companies. Examples of such prior art tote case constructions are those illustrated in U.S. Patents 3,005,572 and 3,002,650.

In contrast to the above prior art tote case constructions, and as a distinct improvement thereover, the tote case construction of the present invention avoids the above enumerated disadvantages.

Accordingly, it is an object of the present invention to provide an improved plastic tote case for handling and storing containers.

Another object of the present invention is to provide an extremely light weight tote case.

Still another object of the present invention is to provide a plastic tote case which is interchangeable between different users.

Yet another object of the present invention is to provide an improved plastic tote case wherein the graphics on the containers located therein are employed and cooperate with the case structure to provide identification for the case.

Briefly then, the present invention resides in providing an improved plastic tote case which cooperates with containers located therein, by employing strategically located cut-out areas in the case side walls, to provide commercial identification of the case contents. The openings not only serve the purpose of identification but also greatly reduce the overall weight of the tote case and renders the tote case interchangeable between different users.

Yet additional objects and advantages of the present invention and its numerous cognate benefits and features are even more apparent and manifest in and by the ensuing description and specification taken in conjunction with the accompanying drawing in which, wheresoever possible, like characters of reference designate corresponding material and parts throughout the several views thereof, in which:

FIGURE 1 is a side elevational view of a tote case constructed according to the principles of the present invention, all sides of which can be substantially alike, the case having containers located therein;

FIGURE 2 is a top plan view thereof;

FIGURE 3 is a side elevational view similar to that of FIGURE 1 only showing a modified side wall construction; and

FIGURE 4 is a side elevational view similar to that of FIGURE 1 only showing yet another modified side wall construction.

Referring more particularly to FIGURES 1 and 2, a plastic tote case **10** has a substantially square configuration both in its side elevation and plan views with its side walls **12** preferably being integrally molded with its bottom wall **14**. However, it is conceivable that bottom wall **14** could be made separately from side walls **12** and be of a different material, such as wood, for example. Bottom wall **14** and side walls **12** include therebetween a stacking shoulder **16**.

Preferably, the case **10** is molded from a light weight strong and substantially rigid plastic material such as high impact polystyrene, high density polyethylene, polypropylene or of other plastic materials having substantially similar characteristics. At least one side wall **12**, and preferably all four, are provided with openings **18**, **20**, **22**, **24** and **26** in planar surface **28**, which surface **28** most desirably is recessed slightly from the outermost surface **29** of side wall **12** to reduce case weight. These openings preferably encompass over one-third of the area of each side wall. For purposes of convenience in describing the present invention, corresponding reference characters have been employed for openings which are the same shape as or of reverse shapes to one another.

The aforementioned openings are arranged so that there is disposed therebetween and defined thereby a complex of cross-pieces, in this case shaped as bars **30** located so as to confine the contents of the case, to display the makings of the case contents to their best advantage and to provide a handle grip. In the latter instance, the bars **30** define the openings **24** which can be employed as hand openings when grasping the case. The grasp area, of course, comprises that material of upper rim **32** of side wall **12** located above each opening **24**.

As illustrated, tote case **10** includes a plurality of containers **34** for milk. These particular containers are of such a size that they fit three across a side wall of case **10**, with the middle container being located approximately adjacent the center section of the side wall. The predominant graphics on each container **34**, in this particular illustration, are generally centrally located on the side of the container and define a generally inverted triangular configuration. Opening **26** is also of a generally inverted triangular configuration located in the center area of side wall **12** so as to be coincident with and expose the main portion of the graphical imprint of the middle container **34**. Thus, one looking at side wall **12** can readily identify the particular product within the tote case **10**. The other openings **18**, **20** and **22** are provided to reduce additionally the overall weight of the case. The openings also provide more clean outs for cleaning and washing the case, and lend an aesthetic appearance to the case. Enough of the recessed area **28** remains for bars **30** to keep the containers **34** captive in the case. It is only necessary that one container **34** on a side wall **12** have its graphical imprint exposed for case identification.

Of course, the particular configuration of FIGURES 1 and 2 are only exemplary of the principles of the present invention and other various modifications of the invention can be employed. For the purpose of illustrating other possibilities, but not to be considered as being limiting, there are shown two other embodiments in FIGURES 3 and 4, respectively.

The tote case **40** illustrated in FIGURE 3 is particularly adapted to contain four containers **42** across each side wall **44**, the case thus carrying a total of sixteen containers. Each side wall **44** has a recessed area **46** including therein a plurality of openings **48**, **50**, **52**, **54**, **56** and **58**. Since smaller containers **42** are located within the case **40** than those which are contained within case **10** of FIGURE 1, a greater number of generally smaller openings are located within the side wall providing many bars **60** to prevent the smaller containers from escaping through the side walls. In this embodiment, the primary graphical area of at least one container **42** is substantially visible through the generally centrally located opening **56**, even though two such containers are visible through this opening. The products contained within the tote case **40** thus are readily identifiable to one looking at the case side wall **44**. Again, an upper opening **54** provides a hand opening permitting grasping of the case about the upper rim **61** which acts as a handle.

Yet another possible arrangement involving the principles of the present invention is that illustrated in FIGURE 4 wherein a tote case **62** has a side wall **64** including a thinner recessed area **66**. Openings **68**, **70**, **72**, **74** and **76** are provided within the recessed area **66** for generally the same reasons as those described earlier with respect to tote cases **10** and **40**. Some of these openings peculiarly define parallel bars **78** which serve to keep the containers from slipping through the side wall **64**. Here molded or otherwise imprinted graphics are contained on the side wall **64** itself. These are identified on the drawing as the terms "HOMOGENIZED," "MILK" and "FORTIFIED," which are typical terms that might be used on any milk case, for example. Such terms would be interchangeable between many dairy companies and therefore the openings on the side wall **64** need only show so much of the graphics on containers **71** as tell the particular company's name concerned. Thus, it can be seen that the generally centrally located opening **70** is only wide enough to show that the milk contained in the case is from the "COMPANY DAIRY" which phrase is found on a container **71**. In all other aspects, the particular side wall construction of the case **62** functions in the same manner as that previously described for cases **10** and **40**.

While it is obvious from the above that the present invention works well when embodied in tote cases for milk cartons and the like, it can also be understood that the concept may be employed to achieve the same results in other areas. For example, cases for beverage bottles, egg cartons, detergent containers, etc., can be designed with side wall openings to provide the same or similar identifying and weight reducing functions. Additionally, while certain representative embodiments and details have been shown for the purposes of illustrating the invention, it will be apparent to those skilled in the art that various changes and modifications can be made therein without departing from the spirit and scope of the invention.

Accordingly, what is claimed as new is:

1. The combination comprising a substantially rigid molded plastic tote case for holding a plurality of individual containers, said plastic tote case having a bottom wall, four sidewalls formed integrally with said bottom wall, at least one of said sidewalls defining a plurality of openings comprising at least one third of the area of said sidewall, one of said openings being centrally located in said sidewall, at least one container located in said case adjacent the central opening of the sidewall, said container having a graphical display area, the metes and bounds of said central opening being substantially the same as those of said display area of the container such that the display area is substantially exposed by said central opening, at least one cross-piece defined by said sidewall between said openings, said cross-piece including graphics to complement said display area.

2. The combination of claim **1** wherein another of said openings is located centrally below the upper rim of said side wall and is of a width and breath sufficient to permit the fingers of an adult hand to comfortably extend therethrough.

3. The combination of claim **1** wherein said openings are located in a recessed surface of said side wall.

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