June 28, 1955 S. I. BATKIN 2,711,922

CARRIER FOR MILK CONTAINERS

Filed March 29, 1952

Fig. 1.

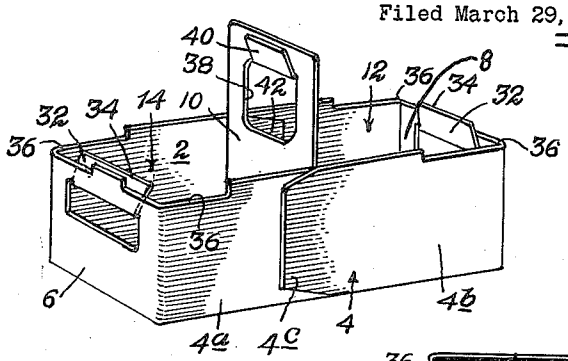


Fig. 2.

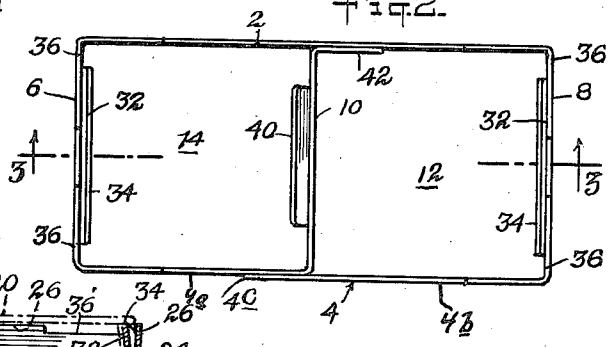


Fig. 3.

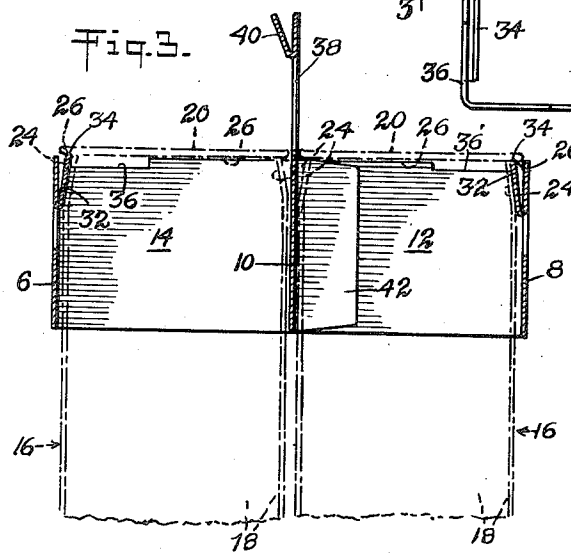


Fig. 4.

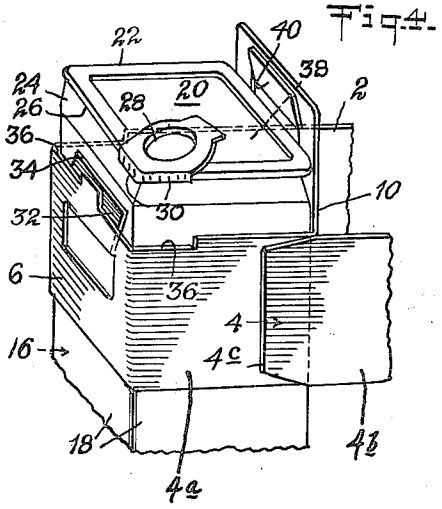
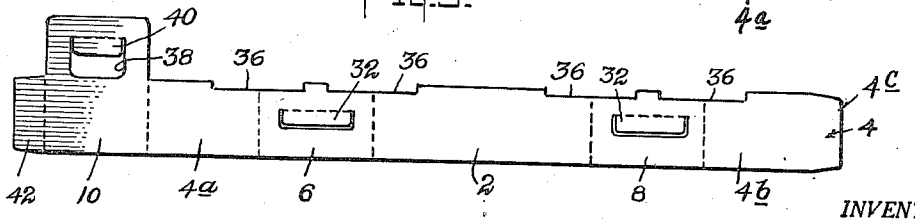


Fig. 5.



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CARRIER FOR MILK CONTAINERS

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21 Claims. (Cl. 294—87.2)

The present invention relates to a carrier specifically designed for holding and carrying a pair of cardboard milk containers, and to the blank from which such a carrier may be formed.

For many years, and presently to an increasing extent, milk and other liquids have been sold in suitably treated paper containers as well as in the more conventional glass bottles. While these containers may assume a large variety of forms, they are most usually in the form of a tube of rectangular cross section having top and bottom panels flangedly secured thereto. One corner of the top container is provided with a pouring aperture normally closed by a foldable flap having lips which snugly fit over one corner of the top flange of the container. The container walls adjacent and immediately below that top flange are tapered somewhat inwardly. The sale of milk in containers of this type is particularly advantageous because no bottle deposit is required.

While such containers have an appreciable degree of rigidity, they are by no means as secure, nor as resistant to crushing, as glass bottles. Accordingly the carrying of such containers from the store to the home often presents a problem, since improper handling of the containers might well cause them to leak. It is to solve this problem, and more particularly to provide a convenient means for carrying a pair of these containers in a convenient and crush-proof manner, that the present invention is directed.

To that end an inexpensive carrier is formed from a single blank of light cardboard or other similar disposable and inexpensive structural material, the blank when erected defining, in a unitary structure, a pair of compartments each adapted to receive and hold a milk container, an integral handle being provided between those compartments so that the carrier, with a pair of milk containers supported therein, can be readily carried in a balanced condition.

Each of the compartments is provided with a flap on the inside thereof secured to one of the walls, and preferably formed integrally therewith, that flap being bendable upwardly so that its free edge may engage beneath a portion of the upper flange of the container, gaining firm access to that flange by reason of the inwardly tapered container walls immediately below the flange, the container being supported by the flap. By reason of this construction, which presupposes that the inner dimensions of each of the carrier compartments is slightly greater than the cross section of the body of the milk container, insertion of containers into the carrier and removal of containers from the carrier is greatly facilitated. Insertion may be made either from above or below, as may be most convenient, and withdrawal is facilitated because portions of the top container flange not engaged by the flap are rendered readily accessible so that they can be grasped. Moreover, this mode of suspension of the container within the carrier ensures that no contact is made with the lips of the container closing flap, thus eliminating any tendency toward a breaking of the seal between the closing flap and the container while the container is being carried.

In order to further ensure against any breaking of that seal, the top edges of the carrier at their corners are cut away or recessed, so that even if portions of the top flange of the container should engage with the top edges of the carrier, clearance will be provided for the lips of the container sealing flaps.

To the accomplishment of the above, and to such other objects as may hereinafter appear, the present invention relates to a milk container carrier construction, and to the blank from which that carrier may be formed, as defined in the appended claims and as described in this specification, taken together with the accompanying drawings in which:

Fig. 1 is a three-quarter perspective view of the carrier of the present invention;

Fig. 2 is a top plan view thereof;

Fig. 3 is a side cross sectional view taken along the line 3—3 of Fig. 2 and showing, in phantom, a pair of milk containers in supported condition;

Fig. 4 is a partial perspective view showing a milk container being inserted into one of the carrier compartments from above; and

Fig. 5 is a top plan view of the blank from which the carrier is formed.

The carrier comprises side walls 2 and 4 and end walls 6 and 8 which define a substantially rectangular framework open at the top and bottom. A partition 10 extends between the side walls 2 and 4 substantially at the center thereof so as to define therein a pair of open ended tubular compartments 12 and 14 each of rectangular, and preferably of square, cross section, each of the compartments 12 and 14 having a shape similar to the cross section of the body of a milk container 16 of the type under discussion.

The container 16 comprises side walls 18 defining a body portion, usually of square cross section, having a bottom wall (not shown) and a top wall 20, the top wall being secured in place by means of flanges 22. The side walls 18 of the container, adjacent to the top wall 20 and the flanges 22, is inwardly tapered as at 24, thus defining a marked ledge or abutment 26 at the top of the container extending all the way therearound. The top container wall 20 is provided with a bendable closing flap 28 the lips 30 of which extend around the flange 22 at one corner of the container, the flap 28 being ordinarily sealed in closed condition, so as to prevent escape of the milk and to maintain the purity thereof, but being foldable upwardly to open condition when it is desired to pour milk from the container.

The size of each of the carrier compartments 12 and 14 is somewhat larger than the size of the cross section of the container body 18, thus permitting the containers to be slid into and out of the compartments as desired. In order to support each container in its individual compartment, each of the compartments 12 and 14 is provided with a flap 32 on the inside thereof, secured to one of its walls and adapted to be bent upwardly in a direction substantially parallel to that wall, but diverging upwardly and inwardly therefrom to some extent, the free edge 34 of the flap 32 then being substantially at the same level as the upper edges of the walls 2, 4, 6, and 8. The free flap edge 34 may be a small fraction of an inch either above or below that level within the spirit of the present invention, but it is not contemplated that it will depart from that level to any truly appreciable degree. As here disclosed, the flaps 32 are secured to the end walls 6 and 8 of the carrier, and are preferably formed integral therewith, being secured at their upper edges to those walls but being cut away from those walls at their

side and bottom edges so as to be foldable inwardly and upwardly as shown.

The flaps 32 are adapted to engage beneath a portion of the top flange 22 of the milk container 16, gaining ready access to the ledge or abutment 26 on the underside of that flange by conforming to a greater or lesser degree to the inward inclination of the container side walls at 24. In this way, each container is actually supported in the compartment 12 or 14 along a line spaced inwardly from the lips 30 of the container closing flap 28, and indeed, along a portion of the ledge or abutment 26 remote from the lips 30. Hence the weight of the container 16 acting downwardly does not in any way tend to force the closing flap 28 upwardly.

The container 16 may be inserted into a compartment 12 or 14 either from above or below, as seems most convenient. When inserted from above the flap 32 is folded upwardly substantially against the wall to which it is connected so as to permit the lower portion of the container body 18 to pass between it and the partition 10. The flap 32, because of the inherent resiliency of the fold-line which joins it to its associated wall, will tend to swing inwardly into the compartment, but that tendency will be substantially prevented by the container body 18. However, as the container body 18 moves downwardly into the compartment an inwardly tapered side wall portion 24 will come opposite the flap 32, that flap will swing inwardly as permitted by the inwardly tapered wall 24, and will engage under the ledge or abutment 26. The container will then be supported, the rear wall of the container and the rear portion of its upper flange 22 resting against the partition 10.

When the container is inserted from below, the flap 32 need only be bent to a position substantially perpendicular to its associated wall. As the container moves upwardly the top flange 22 thereof will engage the flap 32 and cause it to pivot upwardly, the flap snapping back under the flange 22 and engaging the abutment 26, as permitted by the inwardly tapering container wall portion 24, as soon as the flange 24 has cleared the upper and free edge of the edge 34 of the flap 32. The container may then be released and will move by its own weight to its supported position as illustrated in Fig. 3.

The purpose of having the free edge 34 of the flap 32 substantially on the same level as the upper edges of the container walls is to ensure that the container will be supported in its compartment substantially free from and out of contact with the upper edges of the carrier walls themselves, in this way preventing any possible dislocation of the container closing flaps 28. It may be that, through weakening of the flap 32 if the containers are carried a long distance, or because of a possible oversize of the flange 22, some portions of the flange 22 might engage the upper edges of the carrier walls and be partially supported thereby. This mode of support is not essential insofar as the present invention is concerned, and the design of this carrier is specifically directed to its minimization, but it is not actually undesirable (so long as it does constitute the sole means of support of the container) and may often occur. In order to take this possibility into account, the upper edge of at least one outer corner of each compartment is cut away or recessed, as at 36, that cut-away or recess extending to both sides of the corner a distance substantially greater than the length of the lips 30 on the container closing flap 28, thus providing clearance for those lips even if the container should make engagement at some points between its upper flange 22 and the upper edges of the carrier walls. As here disclosed, these cut-away portions 36 are provided at each of the outer corners of the container, thus providing a greater degree of latitude in the orientation of the container 16 within its compartment.

In order to facilitate carrying the containers 16, the central partition 10 extends above the other carrier walls, and is provided with an aperture 38 to define a handhole, the upper portion of the partition 10 thus acting as a handle for the carrier, that handle being disposed centrally of the carrier so that when the carrier is loaded with a pair of containers 16 it can be carried in a balanced condition. In order to provide for greater comfort to the hand, and also in order to give greater strength to the handle while the container is being carried, a flap 40 may be provided at the upper portion of the handle aperture 38, that flap being foldable upwardly so as to lie alongside the handle proper and thus define an area of double thickness where the handle is grasped.

The carrier of the present invention may conveniently and inexpensively be manufactured from a blank of the type shown in Fig. 5, that blank being defined, reading from left to right, by a securing flap panel 42, a panel defining the central partition 10 with an aperture 38 formed in the upper portion thereof and with the flap 40 made an integral part thereof, a panel 4*a* constituting a section of the side wall 4, a panel defining the end wall 6 and having the flap 32 formed integrally therewith, a panel defining the side wall 2, a panel defining the other end wall 8 and with a flap 32 formed integrally therewith, and another panel 4*b* defining another section of the side wall 4 and having an end portion 4*c*, each of these panels being separated by foldlines indicated by broken lines in the drawing. When the carrier is set up, the securing flap 42 is caused to lie against a portion of the inner surface of the side wall 2, while the end portion 4*c* is adapted to overlap that portion of the side wall section panel 4*a* adjacent the partition panel 10. The securing flap panel 42 and end portion 4*c* are secured to the walls against which they lie by means of adhesive, by staples or by any other suitable securing means. It will be noted that the upper edges of all of the panels are on a line, except for the cut-out portions 36 which extend to either side of the foldlines at both ends of the end wall panels 6 and 8, and except for the upwardly extending portion of the central partition panel 10 which ultimately defines the handle for the carrier.

The carrier of the present invention is easily and inexpensively manufactured and assembled. It may be retained in flat condition until it is ready for use by being collapsed at a diagonally opposite pair of corners. When it is assembled and erected, milk containers of the type with which it is adapted to be used are readily insertable thereinto, either from the top or the bottom, and are held in place securely against accidental dislodgement and without any tendency toward displacement of the container closing flap 28 from its sealed position. This is accomplished primarily by not relying upon the upper edges of the compartment walls for support, but by instead relying upon flaps extending upwardly and inwardly from those walls for support, the flaps engaging under the innermost portions of the ledges or abutments 26 at the underside of the top container flange 22, and secondarily by providing cut-out portions in the upper edges of the carrier walls which define a clearance into which the lips of the container closing flaps 28 are received.

While but a single embodiment of the present invention has been here disclosed it will be apparent that many variations may be made therein, for example, as to the location, mounting and specific shape of the flaps 32, the particular configuration of the blank from which the carrier is formed, and the number of compartments provided in the carrier, all without departing from the spirit of the invention as defined in the following claims.

I claim:

1. A carrier for a pair of milk containers comprising side and end walls defining a substantially rectangular frame, a partition extending centrally between said side walls so as to define a pair of open-bottomed tubular compartments each of a shape similar to but slightly larger

than the cross sectional shape of the body of a milk container, said partition projecting above said side walls and having an aperture therethrough so as to define a handle for the carrier, flaps, one in each compartment, on the inside of walls of said carrier and each foldable inwardly and upwardly along a foldline at the upper surface thereof so that its free edge engages under the peripheral top flange of a milk container and supports said container in a compartment, said flaps being of a height to extend substantially to the upper edges of the walls on which they are mounted when folded up substantially parallel to said walls.

2. A carrier for a pair of milk containers comprising side and end walls defining a substantially rectangular frame, a partition extending centrally between said side walls so as to define a pair of open-bottomed tubular compartments each of a shape similar to but slightly larger than the cross sectional shape of the body of a milk container, said partition projecting above said side walls and having an aperture therethrough so as to define a handle for the carrier, flaps, one in each compartment, formed from the walls of said carrier and each foldable inwardly and upwardly along a foldline at the upper surface thereof so that its free edge engages under the peripheral top flange of a milk container and supports said container in a compartment, said flaps being of a height to extend substantially to the upper edges of the walls from which they are formed when folded up substantially parallel to said walls.

3. A carrier for a pair of milk containers comprising side and end walls defining a substantially rectangular frame, a partition extending centrally between said side walls so as to define a pair of open-bottomed tubular compartments each of a shape similar to but slightly larger than the cross sectional shape of the body of a milk container, said partition projecting above said side walls and having an aperture therethrough so as to define a handle for the carrier, flaps, one in each compartment, on the inside of the end walls of said carrier and each foldable inwardly and upwardly along a foldline at the upper surface thereof so that its free edge engages under the peripheral top flange of a milk container and supports said container in a compartment, said flaps being of a height to extend substantially to the upper edges of the end walls on which they are mounted when folded up substantially parallel to said walls.

4. A carrier for a pair of milk containers comprising side and end walls defining a substantially rectangular frame, a partition extending centrally between said side walls so as to define a pair of open-bottomed tubular compartments each of a shape similar to but slightly larger than the cross sectional shape of the body of a milk container, said partition projecting above said side walls and having an aperture therethrough so as to define a handle for the carrier, flaps, one in each compartment, formed from the end walls of said carrier and each foldable inwardly and upwardly along a foldline at the upper surface thereof so that its free edge engages under the peripheral top flange of a milk container and supports said container in a compartment, said flaps being of a height to extend substantially to the upper edges of the end walls from which they are formed when folded up substantially parallel to said walls.

5. A carrier for a pair of milk containers comprising side and end walls defining a substantially rectangular frame, a partition extending centrally between said side walls so as to define a pair of open-bottomed tubular compartments each of a shape similar to but slightly larger than the cross sectional shape of the body of a milk container, said partition projecting above said side walls and having an aperture therethrough so as to define a handle for the carrier, flaps, one in each compartment, on the inside of the walls of said carrier and each foldable inwardly and upwardly along a foldline at the upper surface thereof so that its free edge engages under the peripheral top flange of a milk container and supports said container in a compartment, said flaps being of a height to extend substantially to the upper edges of the walls on which they are mounted when folded up substantially parallel to said walls, the upper edges of the said side and end walls being cut away at an outside corner of each compartment to provide clearance for the closing flap of a milk container.

6. A carrier for a pair of milk containers comprising side and end walls defining a substantially rectangular frame, a partition extending centrally between said side walls so as to define a pair of open-bottomed tubular compartments each of a shape similar to but slightly larger than the cross sectional shape of the body of a milk container, said partition projecting above said side walls and having an aperture therethrough so as to define a handle for the carrier, flaps, one in each compartment, formed from the walls of said carrier and each foldable inwardly and upwardly along a foldline at the upper surface thereof so that its free edge engages under the peripheral top flange of a milk container and supports said container in a compartment, said flaps being of a height to extend substantially to the upper edges of the walls from which they are formed when folded up substantially parallel to said walls, the upper edges of said side and end walls being cut away at an outside corner of each compartment to provide clearance for the closing flap of a milk container.

7. A carrier for a pair of milk containers comprising side and end walls defining a substantially rectangular frame, a partition extending centrally between said side walls so as to define a pair of open-bottomed tubular compartments each of a shape similar to but slightly larger than the cross sectional shape of the body of a milk container, said partition projecting above said side walls and having an aperture therethrough so as to define a handle for the carrier, flaps, one in each compartment, on the inside of the end walls of said carrier and foldable inwardly and upwardly along a foldline at the upper surface thereof so that its free edge engages under the peripheral top flange of a milk container and supports said container in a compartment, said flaps being of a height to extend substantially to the upper edges of the end walls on which they are mounted when folded up substantially parallel to said walls, the upper edges of said side and end walls being cut away at an outside corner of each compartment to provide clearance for the closing flap of a milk container.

8. A carrier for a pair of milk containers comprising side and end walls defining a substantially rectangular frame, a partition extending centrally between said side walls so as to define a pair of open-bottomed tubular compartments each of a shape similar to but slightly larger than the cross sectional shape of the body of a milk container, said partition projecting above said side walls and having an aperture therethrough so as to define a handle for the carrier, flaps, one in each compartment, formed from the end walls of said carrier and each foldable inwardly and upwardly along a foldline at the upper surface thereof so that its free edge engages under the peripheral top flange of a milk container and supports said container in a compartment, said flaps being of a height to extend substantially to the upper edges of the end walls from which they are formed when folded up substantially parallel to said walls, the upper edges of said side and end walls being cut away at an outside corner of each compartment to provide clearance for the closing flap of a milk container.

9. A carrier for a pair of milk containers comprising side and end walls defining a rectangular frame, a partition extending centrally between said side walls so as to define a pair of tubular compartments each of a shape similar to the cross sectional shape of the body of a milk container, means on said carrier for supporting a pair of milk containers, one in each of said compartments, the

upper edges of said side and end walls being cut away at an outside corner of each compartment to provide clearance for the closing flap of a milk container.

10. A blank for forming a carrier for a pair of milk containers comprising a strip of paperboard or other structural material defining, from end to end, a plurality of panels separated by fold lines, said panels comprising a securing flap panel, a central partition panel, a first side wall section panel, an end wall panel, an opposite complete side wall panel, an opposite end wall panel, and a second side wall section panel having an end portion overlappable, when said strip is folded to erected condition, with respect to said first side wall section panel, all of said panels being of substantially the same height except for said central partition panel, which has a greater height.

11. A blank for forming a carrier for a pair of milk containers comprising a strip of paperboard or other structural material defining, from end to end, a plurality of panels separated by fold lines, said panels comprising a securing flap panel, a central partition panel, a first side wall section panel, an end wall panel, an opposite complete side wall panel, an opposite end wall panel, and a second side wall section panel having an end portion overlappable, when said strip is folded to erected condition, with respect to said first side wall section panel, all of said panels being of substantially the same height except for said central partition panel, which has a greater height, said end wall panels are provided with flaps cut out along their sides and bottom and of a height such that, when folded upwardly substantially parallel to said end wall panels, they extend substantially to the top edge of said end wall panels.

12. The blank of claim 10, in which the top edge of said blank is cut away to either side of a fold-line between an end wall panel and an adjacent side wall panel so as to provide clearance, when the blank is erected, for the closing flap of a milk container.

13. The blank of claim 10, in which the end wall panels are provided with flaps cut out along their sides and bottom and of a height such that, when folded upwardly substantially parallel to said end wall panels, they extend substantially to the top edge of said end wall panels, and in which the top edge of said blank is cut away to either side of a fold-line between an end wall panel and an adjacent side wall panel so as to provide clearance, when the blank is erected, for the closing flap of a milk container.

14. A carrier for elongated, substantially rectangular containers having a peripheral lip adjacent an end, said carrier comprising a continuous band having side and end panels adapted to slidably engage the outer side walls of a container, and means integral with said band engageable with portions of the container lip for suspendably mounting the container therefrom.

15. A carrier for a pair of similar, elongate, substantially rectangular containers having peripheral lips around their top portions, said carrier comprising a continuous band adapted to snugly and slidably engage the outer sides of a pair of said containers for securing them in side-by-side relationship, and means integral with said band engageable with portions of the container lips for suspendably mounting said containers to said band.

16. A bottomless carrier for a pair of similar, elongate, substantially rectangular containers having peripheral lips around their top portions, said carrier comprising a continuous band including side and end panels adapted to slidably engage the outer sides of a pair of said containers disposed in side-by-side relationship, means integral with each side panel spanning adjacent sides of said containers and engaging portions of the lips of both containers for suspendably mounting said containers from said carrier.

17. A carrier for cartons or the like of the type having projecting rim portions, comprising a collar open at the top and the bottom to provide a cell for receiving and embracing a carton, and a flap cut out from a side of said collar and hingedly connected thereto along a score line so as to be swingable inwardly and upwardly adjacent the inside face of the collar to provide an abutment edge for engaging a carton rim portion to support the carton.

18. A carrier for cartons or the like of the type having projecting rim portions, comprising a collar open at the top and the bottom to provide a cell for receiving and embracing a carton, a flap cut out from a side of said collar and hingedly connected thereto along a score line so as to be swingable inwardly and upwardly adjacent the inside face of the collar to provide an abutment edge for engaging a carton rim portion to support the collar, and a handle on said carton.

19. A carrier for cartons or the like of the type having projecting rim portions, comprising a collar open at the top and the bottom to proivde a cell for receiving and embracing a carton, a flat cut out from the side of said collar and hingedly connected thereto along a score line so as to be swingable inwardly and upwardly adjacent the inside face of the collar to provide an abutment edge for engaging a carton rim portion to support the carton, the length of said flap being such that said abutment edge thereof is positioned above the top end of the collar in the inwardly folded position of the flap.

20. A carrier for a pair of cartons or the like, of the type having projecting rim portions, comprising a collar formed of paperboard scored to provide hingedly connected panels for embracing adjacent cartons positioned in side by side relationship, at least one of such panels being positioned to extend between said pair of cartons and projecting above the upper end of the collar to provide a handle portion, said panels forming a carton cell at each side of the handle portion, and a flap cut out from each of opposite sides of each cell and hingedly connected thereto along a score line so as to be swingable inwardly and upwardly adjacent the inside face of the cell to provide an abutment edge for engaging a carton rim portion to support the carton.

21. A carrier for a plurality of cartons or the like of the type having projecting rim portions, comprising a collar formed of paperboard scored to provide hingedly connected panels for embracing adjacent cartons positioned in side by side relationship, at least one of such panels being positioned to extend between adjacent cartons and projecting above the upper end of the collar to provide a handle portion, said panels forming a carton cell at each side of the handle portion, and a flap cut out from each of opposite sides of each cell and hingedly connected thereto along a score line so as to be swingable inwardly and upwardly adjacent the inside face of the cell to provide an abutment edge for engaging a carton rim portion to support the carton, the length of each flap being such that said abutment edge thereof is positioned above the top end of the collar in the inwardly folded position of the flap.

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