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3,189,215

ARTICLE CARRIER AND PACKAGE

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Fig. 1.

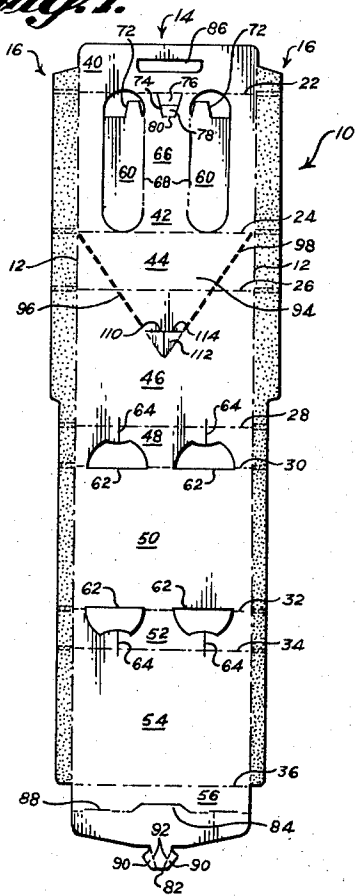


Fig. 2.

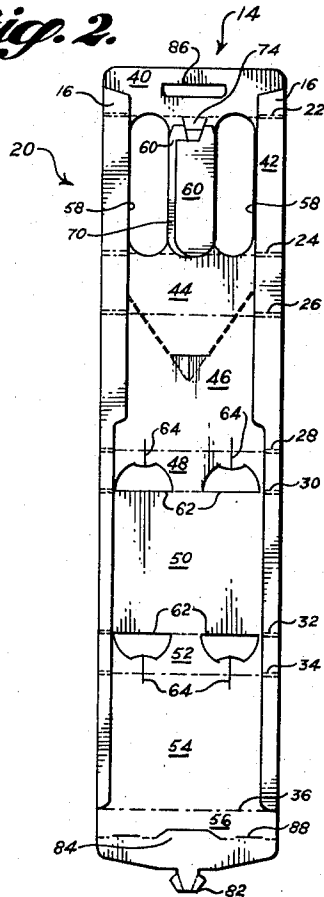


Fig. 3.

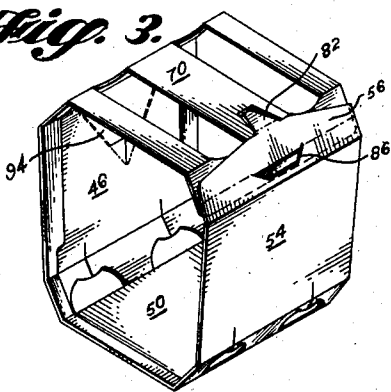
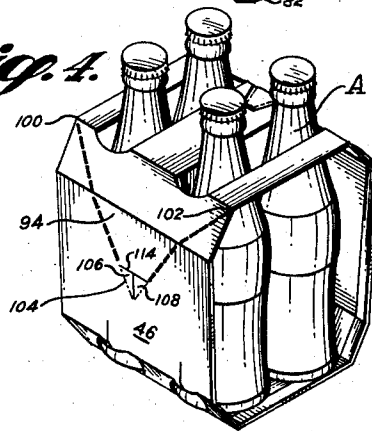


Fig. 4.



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ARTICLE CARRIER AND PACKAGE

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This invention relates to an article carrier and an article package, and specifically relates to a wrap-around article carrier and package, and an improved handle construction therefor, and an improved locking and support structure therefor.

The trend to the multiple packaging of large-sized articles, such as one-pint bottles, has created a need for an economical and easily assembled wrap-around carton that will support a group of such articles, and a need for an improved locking and support structure, and an improved handle structure that will allow the carton to support the weight of a group of large-sized articles.

Therefore, it is an object of this invention to provide an article carrier that will support a number of heavy articles; and a further object of this invention to provide an economical and easily assembled package containing a number of heavy articles.

It is also an object of this invention to provide a handle construction for an article carrier that will allow the article carrier to support a number of heavy articles; and an additional object of this invention to provide an article carrier having an improved handle construction that will allow it to carry a number of heavy articles. Another object of this invention is the provision of an article package containing a number of heavy articles which has an improved handle construction that allows the articles to be supported within the package.

It is still another object of this invention to provide a locking and support structure for an article carrier that will allow the article carrier to support a number of heavy articles; and a further object of this invention to provide an article carrier having an improved locking and support structure that will allow the article carrier to support a number of heavy articles. An additional object of this invention is the provision of an article package containing a number of heavy articles in which the package has an improved locking and article supporting structure that allows the article to be supported within the package.

It is also an object of this invention to provide a carton having an improved construction which will allow the easy opening of the carton. An additional object of this invention is the provision of an easily openable package.

These and other objects of this invention will become readily apparent upon a reading of the following specification in conjunction with the attached drawings.

FIGURE 1 is a top plan view of a blank for a preferred form of article carrier.

FIGURE 2 is a top plan view of the carton preform formed from the blank of FIGURE 1.

FIGURE 3 is an isometric view of the article carrier formed by the preform of FIGURE 2, and shows details of the locking and support structure of the carton.

FIGURE 4 is an isometric view of the article package formed from the carrier of FIGURE 3, and shows details of the tear-out section of the carton.

In FIGURE 1, the numeral 10 refers to the blank for a preferred form of carton. The blank 10 is divided by a pair of longitudinal score lines 12 into a central section 14 and a pair of side reinforcing strips 16. The reinforcing strips 16 are folded around the score lines 12 and adhered to the inner face of the central section 14 during the preform manufacturing operation.

The blank 10, and the preform 20, are divided by a number of transverse score lines which define a number of panels, and which facilitate the bending and wrapping of the preform 20 around the articles to be contained therein. These transverse score lines—22, 24, 26, 28, 30, 32, 34, and 36—are single scores in the central section 14 and double scores in the reinforcing strips 16 to allow the double thickness section of the preform to bend easily.

The transverse score lines divide the preform into a number of panels—a first upper bevel panel 40, an upper panel 42, a second upper bevel panel 44, a first side panel 46, a first lower bevel panel 48, a base panel 50, a second lower bevel panel 52, a second side panel 54, and a third upper bevel panel 56. These panels wrap around the contained articles, and the first and third bevel panels lock together to hold the articles within the carrier.

The articles may protrude through a number of apertures formed in the panels, and may be held against movement within the carrier by the edges of these apertures. Thus, the tops of the contained articles may protrude through the apertures 58 formed by the flaps 60 in the upper panel 42, and the lower portions of the articles may protrude through the apertures 62 in the lower bevel panels 48 and 52. The lower apertures 62 may also have a number of upwardly extending slits, such as slits 64, that allow the sides of the carton to conform to the shape of the contained articles.

The exact shape and size of the upper and lower apertures 58 and 62 will determine the width of the reinforcing strips 16 because the strips will extend into the central panels and abut the adjacent aperture, and will depend in part on the shape and size of the contained articles. However, the width of the upper apertures 58 will be equal approximately to the width of the central web 66 between the pair of upper apertures. This allows the aperture forming flaps 60 to be folded around their score lines 68 and to be adhered to the central web 66 and to each other during the formation of the preform 20, forming the reinforced handle structure 70.

Each of the flaps 60 has a relief 72 in its outer edge that is aligned with the locking aperture 74 in the central web 66 after the formation of the handle 70. The locking aperture 74 is formed by a pair of flaps 76 and 78 that join centrally of the aperture and bend inwardly around their respective score lines 22 and 30 in the locking operation. The reliefs 72 in the flaps 60 assure that the handle 70 will not interfere with the inward rotation of the flaps 76 and 78 in the locking operation.

The locking of the carton ends is afforded by the placement of the third upper bevel panel 56 over the first upper bevel panel 40, which aligns the locking tab 82 on the outer edge of panel 56 with the locking aperture 74. This action also places the downwardly extending supporting tab 84 in panel 56 in alignment with the supporting aperture 86 in panel 40, and allows the tab 84 to be cammed into the aperture 86 by bending panel 56 inwardly along score and slit line 88, aligned with the base of supporting tab 84. Following this, the locking tab 82 is inserted through the locking aperture 74. The outer ears 90 of the locking tab 82 bend upwardly around score lines 92 during the insertion of the tab, and spring back and lock behind the inner face of handle 70 following the release of the tab.

As shown in FIGURE 3, this locking and supporting structure allows the base panel 50 to hold the contained articles A by transferring the downward weight of the articles A to the reinforced handle 70 through the interengagement of the supporting tab 84 and the supporting aperture 86. This interengagement also removes the article supporting strain from the locking tab 82 and the locking

aperture 74, and insures the continued engagement of these locking elements while carrying the carton.

The carton is opened by pulling upwardly on the tear-out section 94 on the side of the carton opposite the locking elements. The tear-out section 94 is triangular, and is formed by a pair of lines 96 and 98 that extend from the upper corners 100 and 102 of the carton and intersect at approximately the center of the side panel 46. The lines 96 and 98, which define a distinct V pattern in the side of the carton, may be formed in any well-known manner that will allow the tear-out panel 94 to be easily removed and will normally be alternating slits, or alternating slits and scores, or scarifications.

An aperture 104 is formed at the apex of the triangle by a pair of flaps 106 and 108. These flaps are defined by a T-shaped slit 110 having a leg 112 that extends upwardly from the intersection of lines 96 and 98 and a horizontal top section 114 that extends between the lines 96 and 98. The two flaps 106 and 108 bend inwardly around the score line section of lines 96 and 98 forming the aperture 104 which allows the lower edge 114 of the tear-out panel 94 to be grasped and pulled upwardly to open the carton.

For some purposes it may be preferable to eliminate the central handle structure in the upper panel and to wrap the upper panels of the carton over the caps of the contained articles A. In this construction the upper panel would extend across the tops of the caps and the outer side edges of the caps would protrude through apertures in the upper panel. Carrying tabs providing finger grip holes in the upper panel between the adjacent pairs of articles would also be provided.

Although specific details of a preferred embodiment and a modification have been set forth above, it will be apparent that many changes and modifications may be made therein without departing from the spirit of the invention. It will therefore be understood that what has been described herein is intended to be illustrative only, and is not intended to limit the scope of the invention.

What is claimed is:

1. Means for interlocking the sides of a carton blank to form a carton for enclosing articles and for supporting the articles within the carton, said carton having a plurality of article positions, comprising
 - a first side of said blank,
 - a second side of said blank opposite said first side;
 - said first side having a first aperture therein, said first aperture being spaced inwardly of the outer edge of said first side and being off-set from any article positions,
 - said first side having a second aperture therein, between said first aperture and said outer edge of said first side;
 - said second side having a first outwardly extending tab thereon adjacent its outer edge, said tab being aligned with said first aperture, and having a central portion and projections, and being at least semi-resilient,
 - said central portion and projections being of a size that allows said tab to be inserted through said first aperture and said projections to contact the other face of said first side,
 - said second side having a second inwardly extending tab formed therein, said second tab being aligned with said second aperture and being spaced inwardly of said first tab a distance that allows said first and second tabs to be inserted through said first and second apertures.
2. Means for interlocking the sides of a carton blank to form a carton for enclosing articles and for supporting the articles within the carton, said carton having a plurality of article positions, comprising
 - a first side of said blank,
 - a second side of said blank opposite said first side;
 - said first side having a first aperture therein, said first aperture being spaced inwardly of the outer edge

- of said first side and being off-set from any article positions,
 - said first side having a second aperture therein between said first aperture and said outer edge of said first side;
 - a said second side having a first outwardly extending tab thereon adjacent its outer edge, said tab being aligned with said first aperture, and having a central portion and projections, and being at least semi-resilient,
 - said central portion and projections being of a size that allows said tab to be inserted through said first aperture and said projections to contact the other face of said first side,
 - said second side having a second inwardly extending tab formed therein, said second tab being aligned with said second aperture and being spaced inwardly of said first tab a distance that allows said first and second tabs to be inserted through said first and second apertures,
 - said second side having a transverse score line aligned with the base of said second tab whereby said second tab may be bent inwardly along said score line and inserted into said second aperture.
3. Means for interlocking the sides of a carton blank to form a carton for enclosing articles and for supporting the articles within the carton, said carton having a plurality of article positions, comprising
 - a first side of said blank,
 - a second side of said blank opposite said first side;
 - said first side having a first aperture therein, said first aperture being spaced inwardly of the outer edge of said first side and being off-set from any article positions,
 - said first side having a second aperture therein between said first aperture and said outer edge of said first side;
 - said second side having a first outwardly extending tab thereon adjacent its outer edge, said tab being aligned with said first aperture, and having a central portion and projections, and being at least semi-resilient,
 - said central portion and projections being of a size that allows said tab to be inserted through said first aperture and said projections to contact the other face of said first side,
 - said second side having a second inwardly extending tab formed therein, said second tab being aligned with said second aperture and being spaced inwardly of said first tab a distance that allows said first and second tabs to be inserted through said first and second apertures; and
 - carrying means adjacent said first side.
 4. Means for interlocking the sides of a carton blank to form a carton for enclosing articles and for supporting the articles within the carton and means for carrying said carton, said carton having a plurality of article positions, comprising
 - a first side of said blank,
 - a second side of said blank opposite said first side;
 - said first side having a first aperture therein, said first aperture being spaced inwardly of the outer edge of said first side and being off-set from any article positions,
 - said first side having a second aperture therein between said first aperture and said outer edge of said first side;
 - said second side having a first outwardly extending tab thereon adjacent its outer edge, said tab being aligned with said first aperture, and having a central portion and projections, and being at least semi-resilient, said central portion and projections being of a size that allows said tab to be inserted through said first aperture and said projections to contact the other face of said first side,
 - said second side having a second inwardly extending

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tab formed therein, said second tab being aligned with said second aperture and being spaced inwardly of said first tab a distance that allows said first and second tabs to be inserted through said first and second apertures;

carrying means adjacent said first side, said carrying means comprising a reinforced handle structure having

a web in alignment with said first aperture, a first flap connected to said web along one edge and overlaying said web, and a second flap connected to said web along an opposite edge of said web and overlaying said first flap.

5. Means for interlocking the sides of a carton blank to form a carton for enclosing articles and for supporting the articles within the carton and means for carrying said carton, said carton having a plurality of article positions, comprising

a first side of said blank,

a second side of said blank opposite said first side; said first side having a first aperture therein, said first aperture being spaced inwardly of the outer edge of said first side and being off-set from any article positions,

said first side having a second aperture therein between said first aperture and said outer edge of said first side;

said second side having a first outwardly extending tab thereon adjacent its outer edge, said tab being aligned with said first aperture, and having a central portion and projections, and being at least semi-resilient,

said central portion and projections being of a size that allows said tab to be inserted through said first aperture and said projections to contact the other face of said first side,

said second side having a second inwardly extending tab formed therein, said second tab being aligned with said second aperture and being spaced inwardly of said first tab a distance that allows said first and second tabs to be inserted through said first and second apertures;

carrying means adjacent said first side, said means comprising a reinforced handle structure having

a first outer web in alignment with said first aperture, a first flap connected to said first web along one edge and overlaying said first web, and a second flap connected to said first web along the opposite edge of said first web and overlaying said first flap,

the outer edge of said flaps having a relief in alignment with said first aperture.

6. Means for interlocking the sides of a carton blank to form a carton for enclosing articles and for supporting the articles within the carton, said carton having a plurality of article positions, comprising

an upper section of said blank,

a side section of said blank opposite said upper section; said upper section having a first aperture therein, said first aperture being spaced inwardly of the outer edge of said upper section and being off-set from any article positions,

said upper section having a second aperture therein between said first aperture and said outer edge of said upper section;

said side section having a first outwardly extending tab thereon adjacent its outer edge, said tab being aligned with said first aperture, and having a central portion and projections, and being at least semi-resilient, said central portion and projections being of a size that allows said tab to be inserted through said first aperture and said projections to contact the other face of said first side,

said side section having a second inwardly extending tab formed therein, said second tab being aligned with

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said second aperture and being spaced inwardly of said first tab a distance that allows said first and second tabs to be inserted through said first and second apertures.

7. Means for interlocking the sides of a carton blank to form a carton for enclosing articles and for supporting the articles within the carton, said carton having a plurality of article positions, comprising

an upper section of said blank,

a side section of said blank opposite said upper section; said upper section having a first aperture therein, said first aperture being spaced inwardly of the outer edge of said upper section and being off-set from any article positions,

said upper section having a second aperture therein between said first aperture and said outer edge of said upper section;

said side section having a first outwardly extending tab thereon adjacent its outer edge, said tab being aligned with said first aperture, and having a central portion and projections, and being at least semi-resilient, said central portion and projections being of a size that allows said tab to be inserted through said first aperture and said projections to contact the other face of said first side,

said side section having a second inwardly extending tab formed therein, said second tab being aligned with said second aperture and being spaced inwardly of said first tab a distance that allows said first and second tabs to be inserted through said first and second apertures,

said side section having a transverse score line aligned with the base of said second tab whereby said second tab may be bent inwardly along said score line and inserted into said second aperture.

8. Means for interlocking the sides of a carton blank to form a carton for enclosing articles and for supporting the articles within the carton, said carton having a plurality of article positions, comprising

an upper section of said blank,

a side section of said blank opposite said upper section; said upper section having a first aperture therein, said first aperture being spaced inwardly of the outer edge of said upper section and being off-set from any article positions,

said upper section having a second aperture therein between said first aperture and said outer edge of said upper section;

said side section having a first outwardly extending tab thereon adjacent its outer edge, said tab being aligned with said first aperture, and having a central portion and projections, and being at least semi-resilient, said central portion and projections being of a size that allows said tab to be inserted through said first aperture and said projections to contact the other face of said first side,

said side section having a second inwardly extending tab formed therein, said second tab being aligned with said second aperture and being spaced inwardly of said first tab a distance that allows said first and second tabs to be inserted through said first and second apertures; and

carrying means in said upper section.

9. Means for interlocking the sides of a carton blank to form a carton for enclosing articles and for supporting the articles within the carton and means for carrying said carton, said carton having a plurality of article positions, comprising

an upper section of said blank,

a side section of said blank opposite said upper section; said upper section having a first aperture therein, said first aperture being spaced inwardly of the outer edge of said upper section and being off-set from any article positions,

said upper section having a second aperture therein be-

tween said first aperture and said outer edge of said upper section;
 said side section having a first outwardly extending tab thereon adjacent its outer edge, said tab being aligned with said first aperture, and having a central portion and projections, and being at least semi-resilient, said central portion and projections being of a size that allows said tab to be inserted through said first aperture and said projections to contact the other face of said first side. 5
 said side section having a second inwardly extending tab formed therein, said second tab being aligned with said second aperture and being spaced inwardly of said first tab a distance that allows said first and second tabs to be inserted through said first and second apertures; 10
 carrying means in said upper section, said carrying means comprising a reinforced handle structure having a web in alignment with said first aperture, a first flap connected to said web along one edge and overlaying said web, and a second flap connected to said web along an opposite edge of said web and overlaying said first flap. 15
 10. Means for interlocking the sides of a carton blank to form a carton for enclosing articles and for supporting the articles within the carton and means for carrying said carton, said carton having a plurality of article positions, comprising 25
 an upper section of said blank, 30
 a side section of said blank opposite said upper section; said upper section having a first aperture therein, said first aperture being spaced inwardly of the outer edge of said upper section and being off-set from any article positions, 35
 said upper section having a second aperture therein between said first aperture and said outer edge of said first side;
 said side section having a first outwardly extending tab

thereon adjacent its outer edge, said tab being aligned with said first aperture, and having a central portion and projections, and being at least semi-resilient, said central portion and projections being of a size that allows said tab to be inserted through said first aperture and said projections to contact the other face of said first side,
 said side section having a second inwardly extending tab formed therein, said second tab being aligned with said second aperture and being spaced inwardly of said first tab a distance that allows said first and second tabs to be inserted through said first and second apertures;
 carrying means in said upper section, said means comprising a reinforced handle structure having a first outer web in alignment with said first aperture, a first flap connected to said first web along one edge and overlaying said first web, and a second flap connected to said first web along the opposite edge of said first web and overlaying said first flap, the outer edge of said flaps having a relief in alignment with said first aperture.

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