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(54) **Basket style article carrier.**

(57) An article carrier of the basket type, includes opposed side walls (23,49) opposed end walls (29,45 : 31,47) a base (13, 13a), a medial partition structure (63,65,121,123) connecting together the opposed end walls and disposed substantially centrally of the carrier and a plurality of transverse partition panels (85,87 : 101,103) connecting said medial partition structure with each of said side walls and therby creating a number of article receiving cells within the carrier. An end wall (31,47) of the carrier is formed with a projection (P) to space the carrier from a like adjacent carrier disposed in an in-line relationship the projection being formed from integral portions (125,127) of the carrier blank taken from the end wall (31,47) of the carrier from which the projection extends.

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This invention relates to a cellular article carrier of the basket type preferably for accommodating a number of bottles. The carrier usually is formed from a single blank of e.g. paperboard and comprises a series of cells provided on opposite sides of a longitudinal medial partition which incorporates a handle structure by which the carrier can be grasped and carried. Each cell in each series is separated from an adjacent cell in the same cell series by means of a transverse partition structure which extends from the medial partition and is secured to an adjacent side wall of the carrier by means of an anchoring tab carried by the transverse partition structure. This form of article carrier for bottles is well known. In some applications however, article carriers of this general description are adapted for use with plastics bottle crates. In this connection the crates are utilized to accommodate several such article carriers filled with bottles or, alternatively, a multiplicity of single ie. unpackaged bottles.

It is known specifically to adapt article carriers to be received in plastics bottle crates and for this purpose the bottom wall panels of some such article carriers include apertures by which the carriers can be received on retaining posts upstanding from the bottom of a crate.

It has been found that difficulties are experienced in properly fitting and/or loading this type of article carrier into these crates because the article carriers are loaded into the crates in groups and the spacing between adjacent article carriers (if any) does not sufficiently allow for the partitions or posts within a crate which bound the spaces into which the bottle carriers are to be received. Thus, it is often necessary to increase the spacing between adjacent bottle carriers (disposed end to end) if this problem is to be met.

To this end, an article carrier according to the present invention is formed so that a projection is provided at one of its end walls to space the carrier apart from the end wall of a next preceding carrier. Bottle carriers of the type with which this invention is concerned, are filled by a drop-loading technique in which bottles are dropped into the carrier cells. During drop-loading the carriers are disposed and conveyed end to end in a line and it is from this loading line that carriers are taken for loading into crates. A carrier according to the present invention is specifically constructed so that the end wall projections are put into position as a result of the normal setting up procedure which converts the carrier from a flat collapsed condition into an erected condition in which it is able to be loaded.

One aspect of the present invention provides an article carrier of the basket type which includes opposed side walls, opposed end walls, a base, a medial partition structure connecting together the opposed end walls and disposed substantially centrally of the carrier and at least one transverse partition panel connecting said medial partition structure with each of said side walls and thereby creating article receiving cells within the carrier, wherein one end wall of the carrier is formed with an dutwardly extending projection to space the carrier from a preceding adjacent carrier disposed in an in-line relationship.

According to a feature of this aspect of the invention, said projection may be an integral part of the blank from which the carrier is formed.

According to another feature of this aspect of the invention, the projection may comprise portions of the carrier blank taken from the end wall of the carrier from which the projection extends.

According to yet another feature of this aspect of the invention, the projection may comprise a pair of superposed tabs each struck from a separate one of a pair of panels which panels together form said end wall of the carrier.

In constructions where tabs are provided, each of the tabs may constitute an integral extension of a medial partition structure of the carrier.

Another aspect of the invention provides a blank formed from paperboard for forming an article carrier acording to any of the five immediately preceding paragraphs.

An embodiment of the invention will now be described, by way of example, with reference to the accompanying drawings in which:-

Figure 1 is a plan view of a paperboard blank from which an article carrier according to the present invention is formed; and

Figure 2 is a perspective view from above and from one corner of the carrier in its set-up condition.

Referring to the drawings, there is shown in Figure 1 a unitary blank 11 formed from paperboard or similar foldable sheet material for producing a carrier C (Figure 2). The carrier C comprises a bottom wall 13 which includes a pair of openings 15, 17 respectively by which the carrier, when in its set-up condition, can be impaled upon a pair of posts upstanding from the bottom of a bottle crate (not shown). A side edge of the bottom wall is foldably joined along a fold line 19 to a bottom sloping panel 21 which in turn is foldably joined to one of the side walls 23 of the carrier along the fold line. The bottom wall 13 is formed with an interrupted central fold line 27. In order to complete the bottom of the carrier, a bottom glue flap 13a is hinged to a further bottom sloping panel 21a along fold line 19a, panel 21a in turn being hinged to side wall 49 along fold line 25a. The free edge of panel 13 remote from panel 21 is secured to bottom flap 13a in order to form the bottom of the carrier. The carrier further comprises end wall panels 29 and 31 each of which is foldably joined to the side wall 23 by means of corner "bevelled" panels 33 and 35 respectively. End wall panel 29 is foldably joined to corner panel 33 along fold line 37 and corner panel 33 is foldably

joined to side wall 23 along fold line 39. Likewise end wall panel 31 is foldably joined to corner panel 35 along fold line 41 and corner panel 35 is foldably joined to side wall 23 along fold line 43.

Similarly, at the opposite end of the carrier, end wall panels 45 and 47 are joined to side wall panel 49 by means of "bevelled" corner panels 51 and 53 respectively. Thus, end wall panel 45 is foldably joined to corner panel 51 along fold line 55 and corner panel 51 is foldably joined to the side wall panel 49 along fold line 57. End wall panel 47 is foldably joined to corner panel 53 along fold line 59 and corner panel 53 is foldably joined to side wall panel 49 along fold line 61.

A medial partition structure for the carrier is provided, in part, by medial panels 63 and 65 which are foldably joined to end wall panels 47 and 31 along interrupted fold lines 67 and 69 respectively. Medial panel 63 includes a handle panel portion from which is struck a handle opening 71. A like provision for a handle arrangement is made in medial panel 65 which includes a handle panel opening 73 being substantially a mirror image of the opening 71 on the opposite side of an interrupted linear gap 75 provided between the medial panels 63 and 65 which facilitates folding between panels 63 and 65. This gap is bridged in the vicinity of the handle openings by a bridging strip 77.

A handle reinforcing panel 79 is struck from the blank on the left hand side of the fold lines 67, 69 (as seen when viewing the blank in Figure 1) and comprises a main reinforcing panel 79a and a locking panel 79b. These panels 79a and 79b are symmetrical about a central fold line 81 which is coincidental with the linear gap 75 between handle openings 71 and 73. The handle reinforcing panel 79 includes a pair of aligned hand cushioning flaps 71a, 73a which are hinged in cutaway portions of the handle reinforcing flap and positioned so that when the medial panels 63 and 65 are folded through 180 degrees to the left hand side about fold lines 67, 69 the hand cushioning flaps 71a and 73a are disposed in register to cover a portion of the handle openings 71 and 73 respectively.

The locking flap 79b is hinged to the main part of the handle reinforcing panel 79a by means of a fold line 79c and a cut out portion 79d to facilitate folding is provided along the extension of fold line 81 which extends into the locking tab 79b.

Medial panel 63 is formed with a hinged extension to form a transverse partition structure generally designated reference numeral 83. Transverse partition structure 83 comprises adjoined transverse partition panels 85 and 87 each of which is hinged to the medial panel 63 along short hinge lines 89 and 91 respectively. These short hinge lines lie parallel to the fold line 67. On the opposite end of the transverse partition panel a common anchoring tab 93 is provided which completes a portion of the right hand side of the blank and is hinged to each of the transverse partition panels 85 and 87 along short hinge lines 95 and 97 disposed parallel to hinge lines 89 and 91 respectively. The common anchoring tab 93 is secured against the side wall 49 of the carrier when the blank is formed.

Likewise a hinged extension 99 of the medial partition panel 65 provides transverse partition panels 101 and 103 which are hinged to medial panel 65 along short hinge lines 105, 107 respectively. Hinge lines 105, 107 lie parallel to the fold line 69. On the opposite end of the transverse partition panels a common anchoring tab 109 is provided, which completes a further portion of the right hand side of the blank. Anchoring tab 109 is hinged at spaced locations 111, 113 to the transverse partition panels 101 and 103 respectively.

Further medial panels 121, 123 are hinged to end walls 29 and 45 about fold lines 115 and 117 respectively and are hinged to one another about a central fold line 81a. Fold line 81a is coincident with fold line 81 and the gap 75 between the medial petition panel 63 and 65. Medial panels 121 and 123 each have a hook formation 115a and 115b respectively which, when the carrier is formed are brought together into face to face relationship to provide a locking hook for engagement into a V-shaped notch 119 formed in the base panel of the carton. This engagement between the locking hook and the base panel is well known in the art and enables the carton to remain in a set-up condition while loading takes place.

In order to provide an integral projeciton "P" (see in particular Figure 2) at one end face of the carrier, a tab 125 is struck from end wall 47 substantially along fold line 67 and a complementary tab 127 is struck from end wall 31 substantially along fold line 69. During the course of forming the carrier these two complementary tabs are brought into register with one another in face to face relationship and together form the projection "P". This occurs when the lower parts of the blank (beneath lines 81a, 79c, 81 and 77, as seen in Figure 1) is folded through 180° into superposed relationship with the upper parts of the blank, the folding process being described below.

It is envisaged that in accordance with the spacing requirement between successive in-line carriers, the size and number of projections from the end wall can vary.

Because it is usual for bottle carriers of this type to be supplied to a user, ie. a bottling plant, in a flat collapsed condition (whereafter the carrier is erected filled and thereafter loaded into a crate), the blank is pre-glued by the carton convertor and put into the form of the completed carrier in flat collapsed condition. To do this, first an application of glue is made to both the anchoring tabs 93, 109 and to areas of the medial panels 63 and 65 adjacent the gap 75, and to the locking flap 79b. Thereafter, all those portions of the blank to the right hand side of the fold lines 67,

69 are folded through 180° towards the lefthand side of the blank as viewed in Figure 1 about fold lines 67, 69. This folding step secures the anchoring tabs 93 and 109 to the side walls 49 and 23 respectively. Those portions of the blank on either side of the linear gap 75 are adhered to portions of the blank on either side of fold line 81 when the anchoring tabs are secured to the side walls.

Locking tab 79b which is then folded 180° to the righthand side about fold line 79c and secured to the upwardly facing portions of the handling panels 83 and 99.

Thereafter exposed faces of the medial panel 63 and 65 have an application of glue made to them as does the exposed face of the locking panel 79b together with areas of the blank immediately adjacent to fold line 119 between medial panels 121, 123. A further fold is made to the blank about fold lines 37, 55 to bring end walls 29 and 45 and medial panels 121, 123 through 180° to the right so that the portions of the blank immediately adjacent to fold line 119 are secured to the exposed face of the locking panel 79b.

Thereafter the exposed faces of medial panels 121, 123 have an application of glue made to them as do the exposed faces of medial panels 63 and 65 together with areas of the blank immediately adjacent to linear gap 75. Base panel 13 is folded in two by bringing the lower part portion of the panel into face to face relationship with the upper portion about interrupted fold line 27 and thereafter an application of glue is made to the glue flap 13a.

Thereafter the whole of the lower portion of the part folded blank below the linear gap 75 and fold line 81 is folded upwardly to 180° so that medial panel 121 and medial panel 65 is brought into face to face contact with medial panels 123 and 63 respectively. This folding operation brings the free edge of the bottom panel 13 into face to face relationship with the bottom glue flap 13 and also brings the two tabs 125, 127 into register and in face to face contact to form projection "P". This completes the folding and gluing operations to convert the flat blank into the completed carton in its flat collapsed condition.

Claims

1. An article carrier of the basket type, includes opposed side walls, opposed end walls, a base, a medial partition structure connecting together the opposed end walls and disposed substantially centrally of the carrier and at least one transverse partition panel connecting said medial partition structure with each of said side walls and thereby creating article receiving cells within the carrier, wherein one end wall of the carrier is formed with an outwardly extending projection to space the carrier from a preceding carrier disposed in an in-line relationship.

2. An article carrier according to claim 1 wherein said projection is an integral part of the blank from which the carrier is formed.

3. An article carrier according to claim 1 or claim 2 wherein the projection comprises portions of the carrier blank taken from the end wall of the carrier from which the projection extends.

4. An article carrier according to any of the preceding claims wherein the projection comprises a pair of superposed tabs each struck from a separate one of a pair of panels which panels together form said end wall of the carrier.

5. An article carrier according to claim 4 wherein each of said tabs constitutes an integral extension of a medial partition structure of the carrier.

FIG. 1.

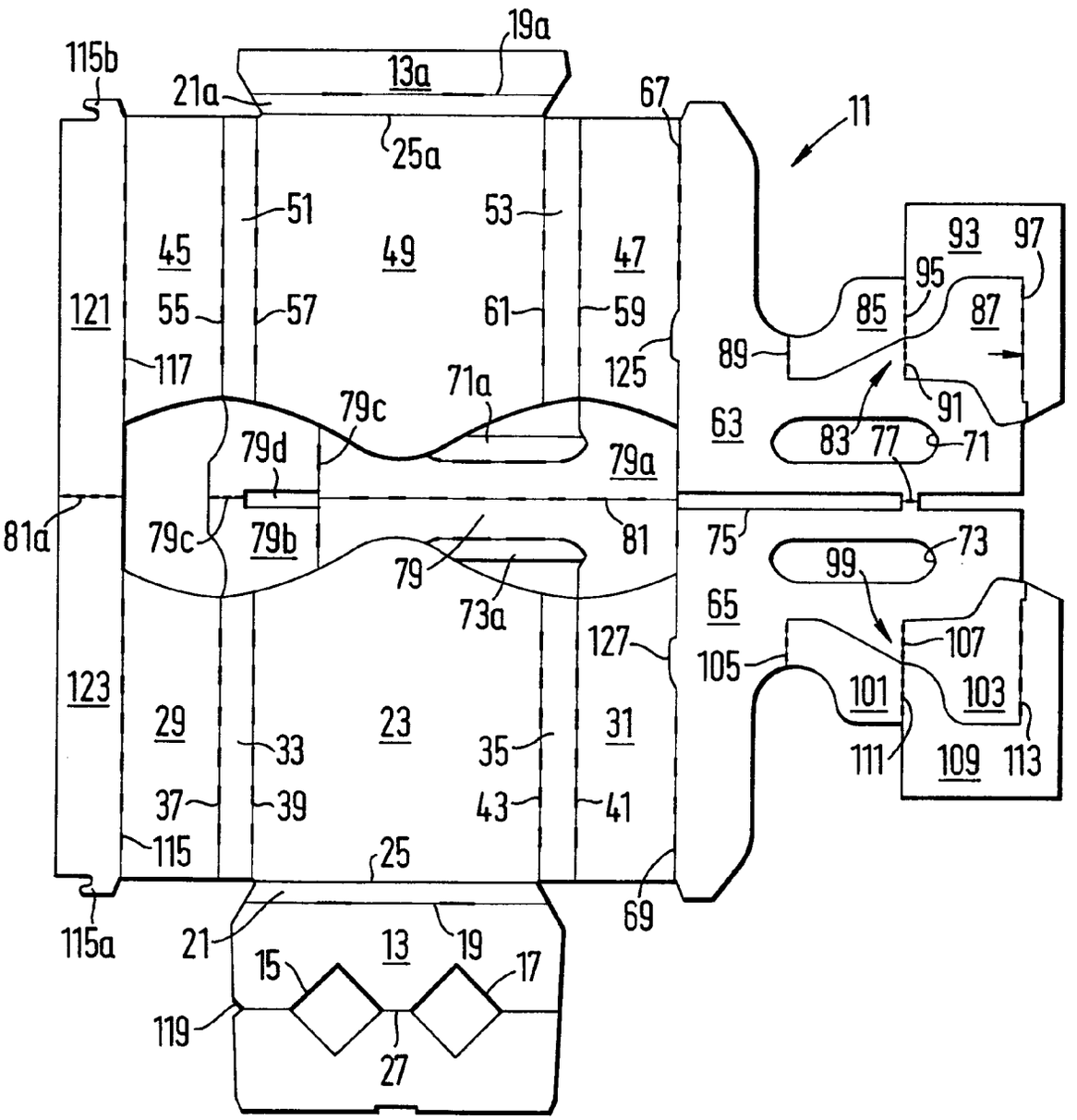
19a
115b
13a
21a
67
11
25a
51
53
45
49
47
93
97
95
121
55
57
61
59
85
87
89
117
125
71a
91
79c
63
83
77
71
79d
79a
81a
79c
79b
81
75
73
99
79
73a
65
127
107
105
123
29
33
23
35
31
101
103
37
39
43
41
111
109
113
115
25
69
115a
21
13
19
17
15
119
27

FIG. 2.