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**EUROPEAN PATENT APPLICATION**

21 Application number: **89304604.5**

51 Int. Cl.4: **B 65 D 5/46**

22 Date of filing: **08.05.89**

30 Priority: **06.05.88 GB 8810780**

43 Date of publication of application:  
**08.11.89 Bulletin 89/45**

84 Designated Contracting States:  
**BE DE ES FR GB IT NL**

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54 **Multi-unit carton with extensible handle.**

57 A carton (C) for accommodating a plurality of articles such as bottles, a group (G) in which the articles are arranged so as to form end spaces (S1, S2) in the article group at opposed ends of the carton. The carton has a handle structure (16) overlying a top wall (14) of the carton and has end portions (30a, 30b) overlying displaceable parts (14a, 14b) of the carton which are displaceable inwardly into the end spaces. The handle structure can be manipulated from a flat stowed condition in which it closely overlies the carton top wall, to a raised condition in which the end portions of the handle are displaced inwardly of the carton together with the displaceable parts whereby the distance between opposite ends of a central handle strip of the handle is shortened so that it is upwardly extended.

## Description

## MULTI-UNIT CARTON WITH EXTENSIBLE HANDLE

This invention relates to a carton having a reinforced handle structure which can be manipulated from a flat stowed condition into a raised condition in which it is extended upwardly above the top wall of the carton. The carton is particularly suitable for accommodating articles e.g. bottles in a group in which the articles are arranged so as to form end spaces in the article group at opposed ends of the carton. End portions of the handle structure are displaceable into such end spaces when the carton is lifted by the handle so as to shorten the distance between the opposite ends of a central handle strip of the handle so that it can be upwardly moved away from the carton top wall.

The present invention provides a carton for accommodating a plurality of articles, such as bottles, in a group in which the articles are arranged so as to form end spaces in the article group at opposed ends of the carton, said carton comprising a handle structure overlying a top wall of the carton and having end portions overlying displaceable parts of the carton which are displaceable inwardly into said end spaces, characterised in that said handle structure is manipulative from a flat stowed condition in which it closely overlies said carton top wall, to a raised condition in which said end portions of the handle are displaced inwardly of the carton together with said displaceable parts thereof whereby the distance between opposite ends of a central handle strip of the handle structure as measured across said top wall is shortened so that it is upwardly extended.

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 perspective view of a carton blank for forming a carton according to the invention;

FIGURE 2 is a perspective view of the carton in which the handle structure is shown in a flat stowed condition;

FIGURE 3 is a perspective view similar to that of Figure 2 and in which the handle structure is shown in its raised condition;

FIGURE 4 is a side view of the carton in which the handle construction is shown in flat stowed condition, and

FIGURE 5 is a side view similar to Figure 4 but showing the handle structure in its raised condition.

Referring first to Figure 2 of the drawings, a group of bottles (not shown) arranged in six rows in a 4-5-4-4-5-4 row arrangement creates a group which conveniently can be accommodated in a generally hexagonal carton 'C' and in which end spaces S1 and S2 (Figure 3) are formed adjacent opposite end walls of the carton by virtue of the grouping arrangement. The carton 'C' is formed from a blank 10 (Figure 1) of paperboard or like foldable sheet material. The carton includes a top 12 comprising top panel 14 and top panel part 14' together with

handle panel 16. Top panel 14 includes an end parts 14a, 14b at each of its ends which form part of an upper sloping wall 18 of the carton, each end part having foldably attached thereto a lower end closure panel 20, 22 respectively.

A displaceable panel 24, 24' (Figure 1) is struck partially from each of the top panel end parts respectively and partially from adjacent portions of the top panel 14 each displaceable panel being hinged thereto at opposite ends along fold lines 26, 28 and 26', 28', respectively. The side edges of the displaceable panels are attached along frangible joins J1, J2 to adjacent parts of the top panel panels 14a and 14b. Panels 24, 24' each have intermediate transverse fold lines 25, 27; 25', 27' by which, it can be displaced about fold lines 26, 28; 26', 28' inwardly of the carton when the frangible joins J1, J2 are broken.

The handle panel 16 is integral with top panel part 14' and includes a central handle strip 30 which is reinforced by folded over reinforcing strip 32 hinged thereto to form a two ply handle. Handle strip 30 has foldably joined end parts 30a, 30b at each of its ends, each end part having foldably attached thereto a lower end closure panel 34, 36 respectively.

When the blank 10 shown in Figure 1 is formed into the carton 'C' the handle panel 16 is secured to top panel 14 in overlapping relationship so that end part 30a and lower end closure panel 34 are superposed upon end part 14a and end closure panel 20 respectively and, similarly, end part 30b and end closure panel 36 are superposed upon end part 14b and end closure panel 22 respectively. Thus the opposite end parts 30a and 30b of the handle panel overlap the displaceable panels 24, 24'

As best seen in Figures 3 and 5, when the handle panel 16 is grasped and the carton lifted, the handle is able to upwardly extend from its flat condition because its end parts are displaced inwardly of the carton into the end spaces present together with the top panel end parts when the frangible joins J1, J2 are broken as the carton is lifted by its handle. Thus, the distance between the opposite ends of the central handle strip is decreased as measured in a straight line across the top panel of the carton.

Referring again to Figure 1, blank 10 further comprises a bottom wall panel 40 which is hinged to top panel 14 by means of a side wall panel assembly comprising upper side wall panel 42 which provides a part of the upper sloping wall 18 of the carton and is hinged to top panel 14 along fold line 44; an intermediate side wall panel 46 hinged to upper side wall panel 42 along fold line 48, and a lower side wall panel 50 hinged to the intermediate side wall panel 46 along fold line 52 and to the bottom wall panel 40 along a fold line 54.

Likewise, bottom wall panel 40 is hinged to top panel part 14' by means of another side wall panel assembly comprising upper side wall panel 56, which provides a part of the upper sloping wall 18 of the carton, and is hinged to top panel part 14' along a

fold line 58, an intermediate side wall panel 60 hinged to upper side wall panel along a fold line 62 and a lower side wall panel 64 hinged to the intermediate side wall panel 60 along a fold line 66 and to bottom wall panel 40 along a fold line 68.

Bottom wall panel 40 carries two series of lower wall panels, one of which comprises lower corner panels 70 and 72 hinged to panel 40 along fold lines 74 and 76, respectively, and a lower end panel 78 hinged to panel 40 along fold line 80 and the other panel series comprises lower corner panels 82 and 84 hinged to panel 40 along fold lines 86 and 88, respectively, and a lower end panel 90 hinged to panel 40 along fold line 92.

Panel 14 carries corner panel structures 44 and 96 which cooperate with corner panels 70 and 82 respectively to form corners C1 and C2 of the carton and likewise panel 14' carries corner panel structures 98 and 100 which cooperate with corner panels 72 and 84 respectively to form corners C3 and C4 of the carton.

### Claims

1. A carton for accommodating a plurality of articles such as bottles, in a group in which the articles are arranged so as to form end spaces in the article group at opposed ends of the carton, said carton comprising a handle structure overlying a top wall of the carton and having end portions overlying displaceable parts

of the carton which are displaceable inwardly into said end spaces, characterised in that said handle structure is manipulative from a flat stowed condition in which it closely overlies said carton top wall, to a raised condition in which said end portions of the handle are displaced inwardly of the carton together with said displaceable parts thereof whereby the distance between opposite ends of a central handle strip of the handle structure as measured across said top wall is shortened so that it is upwardly extended.

2. A carton according to claim 1, further characterised in that said displaceable parts comprise hinged panels provided at opposed ends of the carton.

3. A carton according to claim 2, further characterised in that said displaceable hinged panels are each struck partially from said top wall and partially from the carton ends.

4. A carton according to claim 2 or claim 3, further characterised in that said displaceable hinged panels each have opposed edges which are frangibly joined to adjacent parts of the carton when the handle is in its initial stowed position said frangible joins being broken when the carton is lifted to allow the hinged panels to be displaced inwardly.

5. A carton according to any of the preceding claims, further characterised in that said handle panel is integral with a part of said top panel.

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FIG. 1.

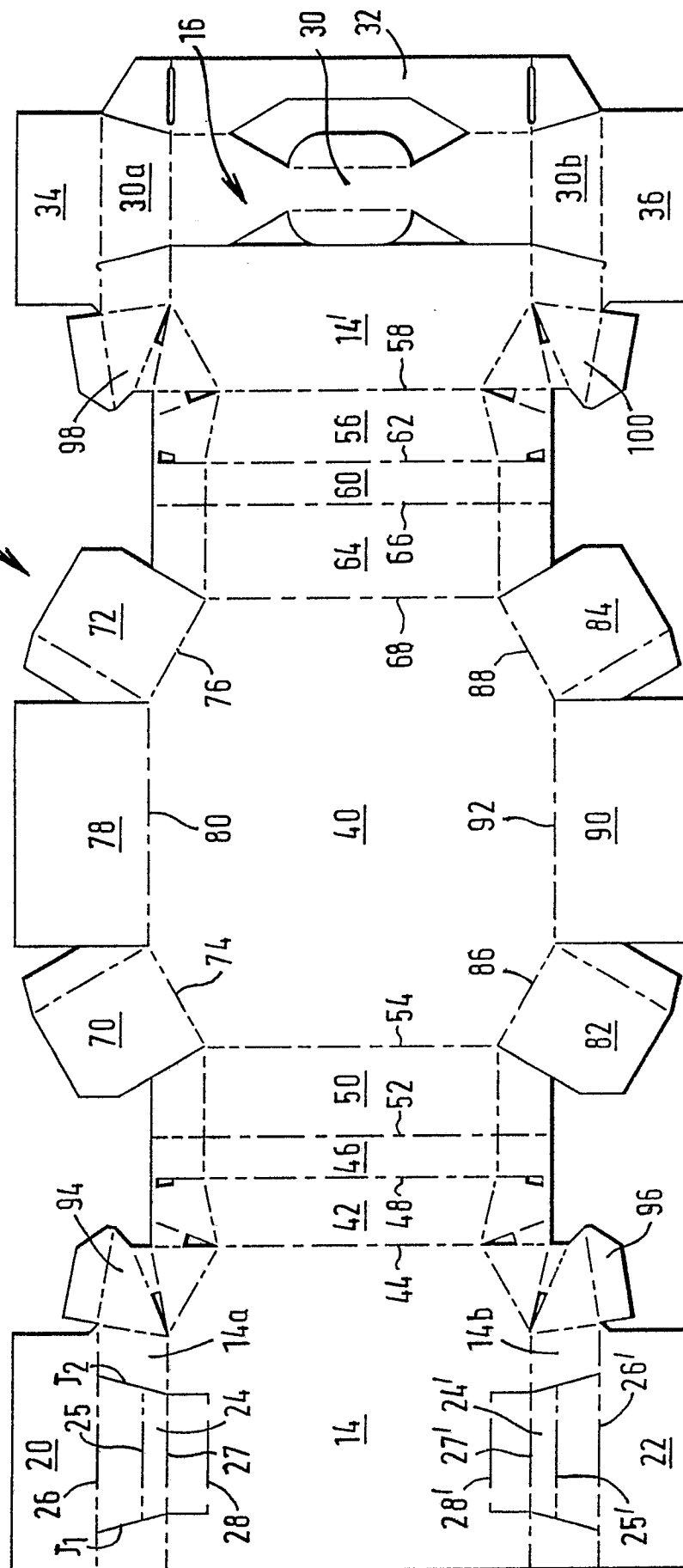
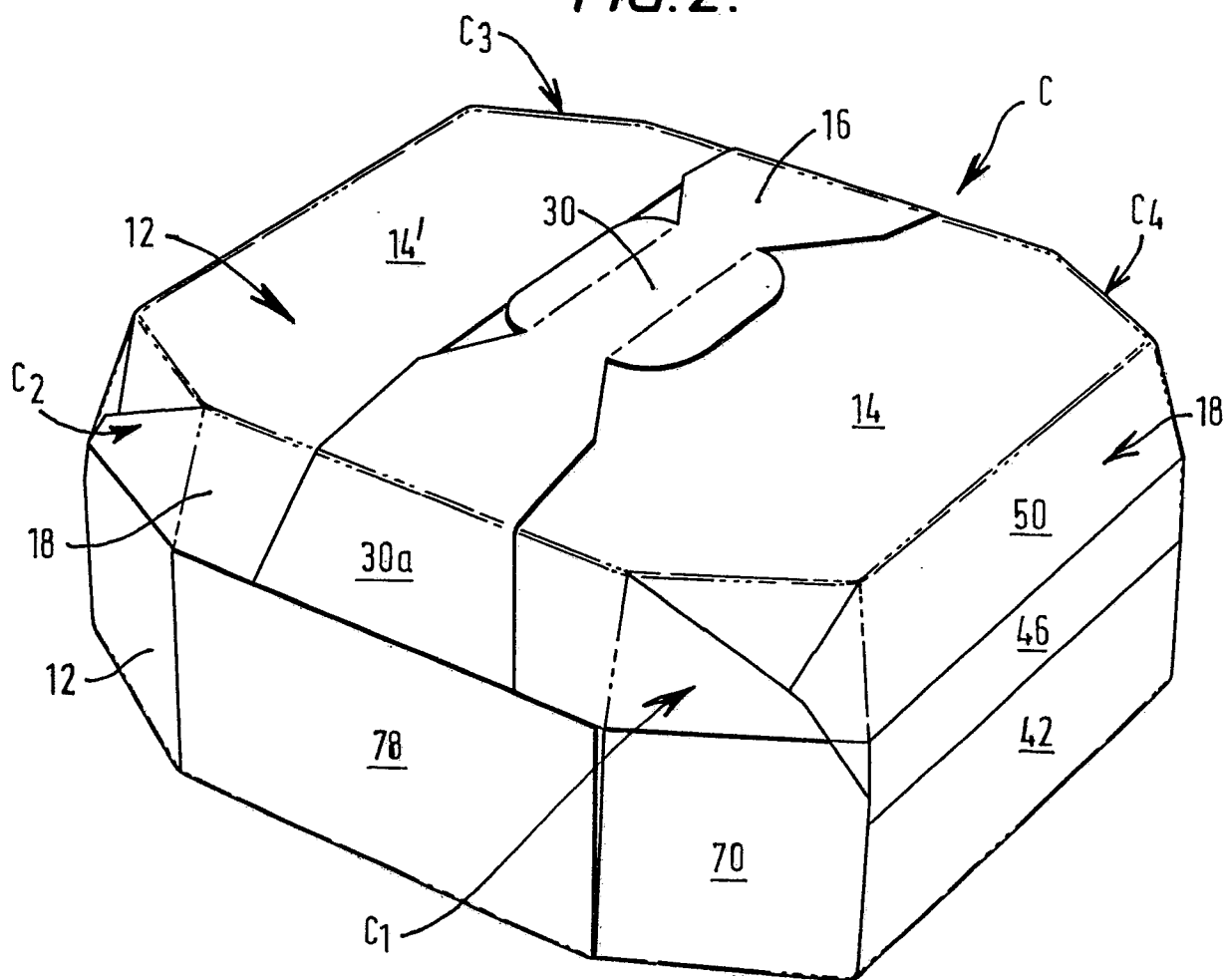


FIG. 2.



**FIG. 3.**

