PACKAGING TRAYS FOR CONFECTIONS

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10 Claims. (Cl. 229—28)

This invention relates to a receptacle tray for holding fragile confections or the like and in particular to one in which individual compartments are provided for the packaging of chocolate covered cherries.

An object of the invention is to provide a cardboard blank which can be cut and shaped to provide dividing means between the compartments in which the articles are deposited so that they will be protected from damage, smearing or other action that would detract from the appearance thereof when they are on display.

A further object of the invention is to provide a die-cut and folded blank that will eliminate waste and reduce laborious cutting operations, and at the same time provide a receptacle having a minimum number of gluing and shaping operations.

A still further object of the invention is to provide a tray made from a single sheet of cardboard that will provide compartment separating means that will withstand bending and, tab means for confining the confections in the openings of the receptacles so that, if any, movement thereof can occur during shipment and handling that would result in breakage or damage.

Other objects include the provision of blank means that can be die-cut, scored for folding, and otherwise formed for convenient shaping into receptacle form; to provide a receptacle tray structure that can be wrapped individually in cellophane for sales display or can be stacked in containers without damage to the fragile contents; to provide a receptacle blank that does not require expensive cutting and scoring dies and one which can be produced for flat shipping in stacked form to the user; and to provide a structure in which the compartmental dividers are reduced to a minimum to reduce the cost of production and increase the productivity thereof.

The available art including Patent No. 3,092,297 does not disclose a series of openings divided by separator strips having reinforced ends which are scored cut to define folding means; does not disclose three tabs used to provide support means for two compartments, and does not disclose the convenient and efficient use of adhesive zones that assist in the easy formation of a blank as set forth by applicant.

Patent No. 1,959,619 shows step-like structures formed by various cuts and folds not pertinent to applicant's structure.

Patent No. 2,358,664 shows single right angle folded configurations which do not anticipate applicant's structure.

Patent No. 2,410,591 shows spaced apart right angled projections none of which are contemplated by applicant.

Patents 2,663,417 and 2,645,333 show straps 18 and 49 and legs 6 and 8 formed by tabbing and none of which is used by applicant.

Patent No. 2,748,927 shows a single panel 18 with longitudinal score line 30 intermediate end scores 28 and 29 and Patent No. 2,887,265 discloses an egg carton having an incision 11.

Patent No. 2,009,622 discloses partition walls 34 of V-shape. Other Patents 2,154,195 and 2,431,535 show compartmental cartons but do not disclose the features now claimed by applicant.

With the foregoing and other objects in view, the invention comprises certain constructions hereinafter described and then particularly pointed out in the claims and a preferred embodiment of the invention is illustrated in the accompanying drawings, in which:

FIGURE 1 is a bottom plan view of a blank that has been die-cut and scored to provide a tray divided into compartments for holding individual confections;

FIGURE 2 is a fragmentary view of one end of the blank shown in FIGURE 1 with a first fold depicted and showing the mating relation of the securing or shaping tongues and lip portions;

FIGURE 3 is a view similar to FIGURE 2 but showing a second folding operation that folds the opposite side edges of the blank into position;

FIGURE 4 is a view similar to FIGURE 3 but showing the structure reversed or top-side up preparatory to moving the compartments to open position;

FIGURE 5 is a plan view of the structure after the compartments have been moved to open position and illustrating the relative positions of the confection receiving compartments;

FIGURE 6 is a fragmentary view in perspective of one end of the tray shown in FIGURE 5 illustrating the positioning of the parts necessary to form the completed structure;

FIGURE 7 is a top plan view of a further form of the tray in which tab members are so arranged that support is provided for the contents of two compartments by the use of three tab sections instead of four;

FIGURE 8 is a fragmentary view similar to FIGURE 7 showing a first fold operation of the blank;

FIGURE 9 is a view similar to FIGURE 8 showing a second fold operation to disclose the adhesive zones on the underside of the blank;

FIGURE 10 is a view similar to FIGURE 9 showing a second fold of the left hand section of the blank to bring the two inner walls to contacting and gluing position and the shaping strip to gluing position at the bottom of the tray blank;

FIGURE 11 is a top plan view of one end of the tray after the tabs and associated parts have been moved to vertical position which prepares the structure for receiving articles; and

FIGURE 12 is a fragmentary view in perspective of one end of the tray which shows the locations of the inner walls and the means for holding the tray in shape for receiving articles.

Referring to the drawings in detail and in particular to FIGURES 1 to 6 inclusive, 10 indicates a blank of glazed cardboard of the kind ordinarily used in candy boxes, the under-side of which is shown in FIGURE 1, illustrating the adhesive sections employed to hold the folded blank in shape, as further shown in FIGURES 5 and 6. The blank 10, along its opposite side edges 11 and 12 is die-cut to provide longitudinally spaced tongues 13, along edge 11, having adhesive zones 14 and longitudinally spaced tongues 16, along edge 12, having adhesive zones 17.
The blank 10 is fold-scored longitudinally as at 18, 19 and 20 to define panels, two outer panels 21 and 22 of which constitute bottom walls for the tray, while two inner panels form outside walls 23 and 24 and inside walls 26 and 27. The inside wall 27 is die-cut as at 28 to form spaced hinge lips 29, coated with an adhesive 30 to which the adhesive faces of the contacting tongues 13 adhere as the lips 29 are brought together, as will be further explained. The material of inside wall 27, between the uncut or inner ends of the die-cuts 28 is fold-scored as at 31 to provide, along with score line 19, for the upward folding of the inside walls 26 and 27 to parallel vertical position, they being spaced apart a distance the width of a longitudinal shaping or anchor strip 32 that forms an integral part of the inside wall panel 27.

The panels defined by the score lines 18 and 19, and 19 and 20 are each die-cut identically and for this reason the same numbers will be used to designate the cut parts. Each panel is die-cut as at 33 to provide receptacle openings 34, oppositely and laterally disposed barrier tabs 36 and separator strips 37 disposed between said tabs 36. These strips have flared or scupolated ends 38 providing a reinforcing feature at a point where the ends of the strips are cut off. The slightly overhanging shaping fold at the meeting ends of the strips with the outside walls and the inside walls that make up each panel section. This folding, as will be later explained, causes the barrier tabs to assume a vertical position which, along with the strips 37, confine the confections in the receptacle openings 34. The height of the tabs also provides for the locking of the trays, without damaging or rubbing the chocolate coating of the confections therein.

In the erection of the blank into tray form, the material of the blank is folded on the score lines 39 of the strips 37 to the positioning shown in FIGURE 2 which causes the tongues 13 to adhere to the hinge lips 29 as seen in FIGURE 2. The subsequent operation (FIGURE 3), comprises folding over of the bottom 22 and outside wall 24 along the score lines 39 of the strips at the right side of the blank with the result that the tongues 16 having adhesive faces 17 will be secured to bottom 21 at points intermediate and in overlapping relation to the spaces between the tongues 13, which have been secured to the lips 29, as seen in FIGURE 2. FIGURE 4 shows the tray of FIGURE 3 reversed or right side up and awaiting the final step of formation which includes folding the material along 19, 18, 19, 20, 31 and the latter defining one edge of the material between each hinge lip 29 which is secured as above noted.

When the final fold has been accomplished, the tray is completed as shown in FIGURES 5 and 6, the latter of which shows the upward arrangement of the tabs 36 that serve as supports for superposed trays which may be arranged within a box in tiers or cellophone wrapped and sold individually.

Referring to FIGURES 7 to 12 inclusive, and in particular to FIGURE 7, a blank 40 is fold-scored as at 41 and 42 to define shaping or anchor strips 43 and 44 which are coated on the reverse side or bottom with adhesive 46. The strip 44 constitutes an inside wall, when the receptacle is shaped, and the blank 40 is further scored longitudinally as at 47 and 48 to define an outside wall strip 49. That portion of the blank 40 which includes the strips 49, 47, 48 and 44 constituting an inside wall and an outside wall, respectively, is die-cut as at 50 to provide receptacle openings 51 longitudinally spaced and separated by separator strips 52 having flared or scupolated ends 53 which furnish a reinforcement at the point where said ends meet with the strips 44 and 49 and where the scores 42 and 47 provide the connection or hinge connection. Intermediate the strips 52 at one side of the openings 51 there are formed barrier tabs 54, one in each opening, which provide a restraining support at one side of the folded tray for a confection resting in the opening. Reference is made to longitudinal fold score lines 47 and 48 and while they are actually scored only at the ends of the flared ends 53 of the strips 52 they extend longitudinally of the blank and are parallel to the score lines 41 and 42 of the blank 40. The opposite edge area of the blank 40 is defined at one side by a longitudinal fold-score 56 which, with fold-score line 48 defines the bottom section 57 of the tray. This edge area is die-cut to provide receptacle openings 58 each of which has opposed tabs 59 and 60 and each opening of which is defined by separator strips 61 having flared or scupolated ends 62. Score lines 63 and 64 at opposite ends of the strips 61 constitute longitudinally extending score lines parallel to score line 56 as above noted. The area defined by the score lines 56 and 63 and 64 would be necessary in providing this article supports by having two tabs for each opening.

In the formation of the blank into receptacle form, the material of the blank is folded as shown in FIGURE 8 along the score lines 63 to expose the adhesive zone 67 on the reverse side 68 of the inside wall 65 of the blank, defined by the shaping strip 43 and inside wall 44, is folded along the score lines 42. Then, as seen in FIGURE 10, the blank is further folded on score line 48 to bring the adhesive faces 46 and 67, of the inside wall 44 and inside wall 66 respectively, together in bonded relation and at the same time cause the adhesive face 46 of the anchor or shaping strip 43 to be bonded to the bottom 57 of the tray. In this form of the invention three tabs 54, 59 and 60 provide support for the contents of two receptacle openings or pockets thus reducing die-cutting operations and added material that would be necessary in providing this article supports by having two tabs for each opening.

The invention is not to be restricted to the precise details of construction shown since various changes and modifications may be made therein without departing from the scope of the invention or sacrificing the advantages to be derived from its use.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A tray for fragile confections or the like comprising a unitary blank die-cut to provide receptacle openings, separator strip means bounding said openings at opposite sides thereof, barrier tab means at the other side of said openings from said separator strip means; said blank being scored to provide fold lines delineating bottom means, inside wall means, inside wall means, anchor strip means, and separator strip hinge means; and adhesive zone means on the anchor strip means and on said inside wall means for bonding the latter together and for bonding the anchor strip means to said bottom means to hold the blank in folded tray form.

2. A tray as set forth in claim 1, wherein some of said tab means serve to provide individual barriers between the laterally disposed receptacle openings of a pair of said openings.

3. A tray as set forth in claim 1, wherein the separator strip means at the ends thereof are flared to provide reinforcement means at the score line therein providing said separator strip hinge means.

4. A tray as set forth in claim 1, wherein all of the tab means extend above the tray to provide supporting means for holding an upper adjoining tray in spaced relation to a lower tray to protect the contents of the latter.

5. A tray for fragile confections or the like comprising a unitary blank die-cut to provide receptacle openings, separator strip means bounding said openings at opposite sides thereof, tongue means at opposite outer edges of said blank, lip means intermediate said openings, tab
means at the other side of said openings from said separator strip means; said blank being scored to provide fold lines delineating plural bottom means, outside wall means, inside wall means, shaping strip means, separator strip hinge means and lip hinge means; and adhesive zone means on said tongue and lip means for bonding the parts for subsequent folding to compartmental tray-forming shape.

6. A tray as set forth in claim 5, wherein said blank is folded on score lines delineating the separator strip hinge means to bring the adhesive zones of the tongue means at one side of the blank and said lip hinge means together and to bring the adhesive zones of the tongue means at the opposite side of the blank into contact with one of the bottom means to complete a bottom for all of said receptacles.

7. A tray as set forth in claim 5, wherein said tabs provide barriers at one side of said receptacles against lateral movement of the contents of the receptacles and said separator strip means constitutes confining means for the contents of the receptacles against free longitudinal movement of the tray.

8. A tray as set forth in claim 5 wherein said receptacle openings are arranged in longitudinal parallel rows and said shaping strip means constitutes spacing means between the rows of openings for allowing relative lateral movement between the rows of openings without crushing the contents thereof.

9. A tray as set forth in claim 5, wherein the separator strip means at opposite ends thereof are flared to provide reinforcing means at the score line therein thus providing said separator strip hinge means.

10. A tray as set forth in claim 5, wherein all of said tab means extend above the receptacle to provide spacing and support means for an upper tray receptacle when the same are vertically stacked and to protect the fragile contents of the receptacles from crushing or damage.

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