

[54] **BLANK FOR CONTAINER COVER**

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[58] Field of Search.... **229/43, 51 TS, 51 TC, 51 D, 229/51 SC, 52 B, 52 BC, 15**

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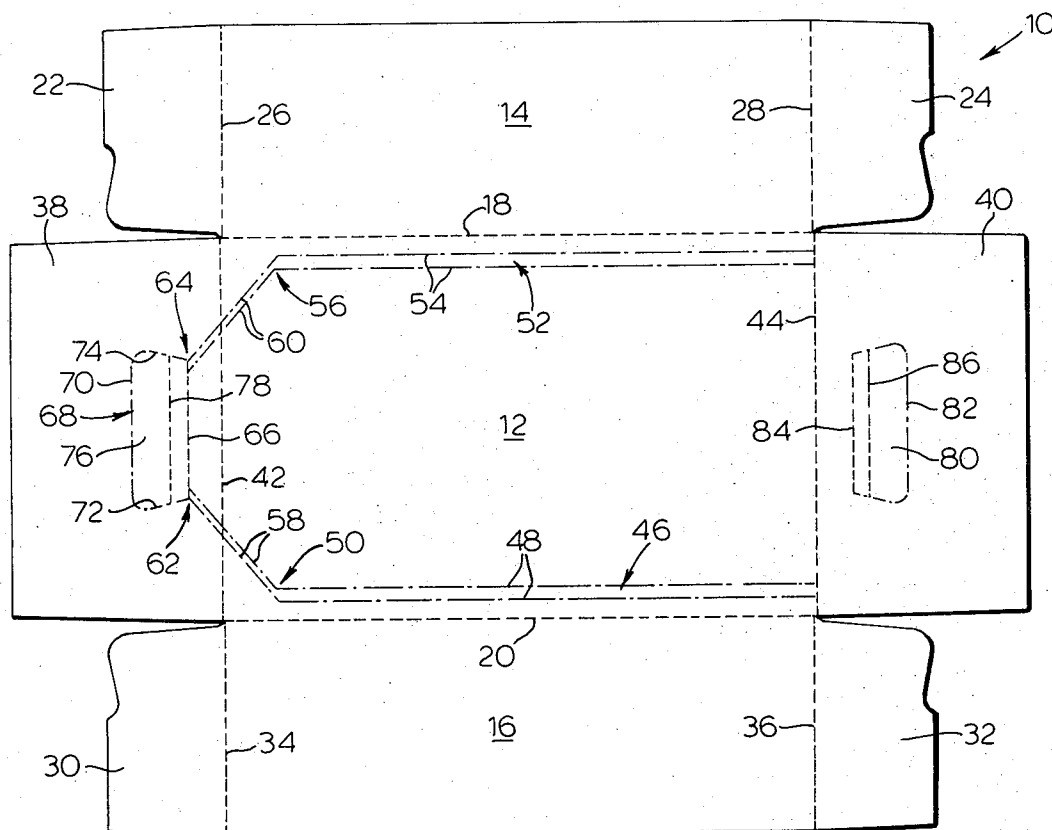
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[57] **ABSTRACT**

A blank for a disposable sleeve for a beer case packaging structure having a reusable tray includes scoring outlining an openable closure for the packaging structure. The scoring may be provided by two closely spaced score lines, one formed through part of the thickness of the blank from one side and the other formed through the remainder of the thickness from the other side. The openable closure in the sleeve configuration is hinged about one lateral side edge of the top panel thereof and includes a tab at its free end positioned to coincide with a handhole in the tray so that the packaging structure may be temporarily reclosed.

7 Claims, 4 Drawing Figures



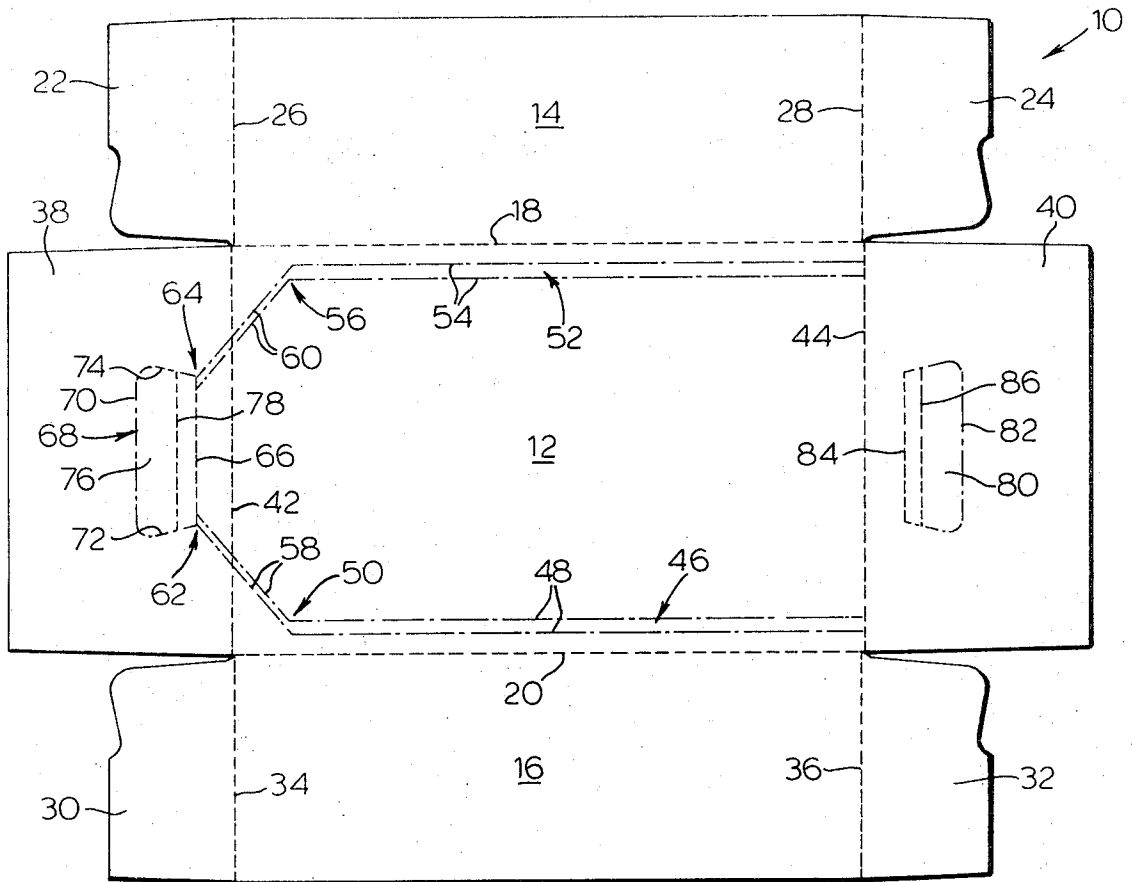


FIG. 1

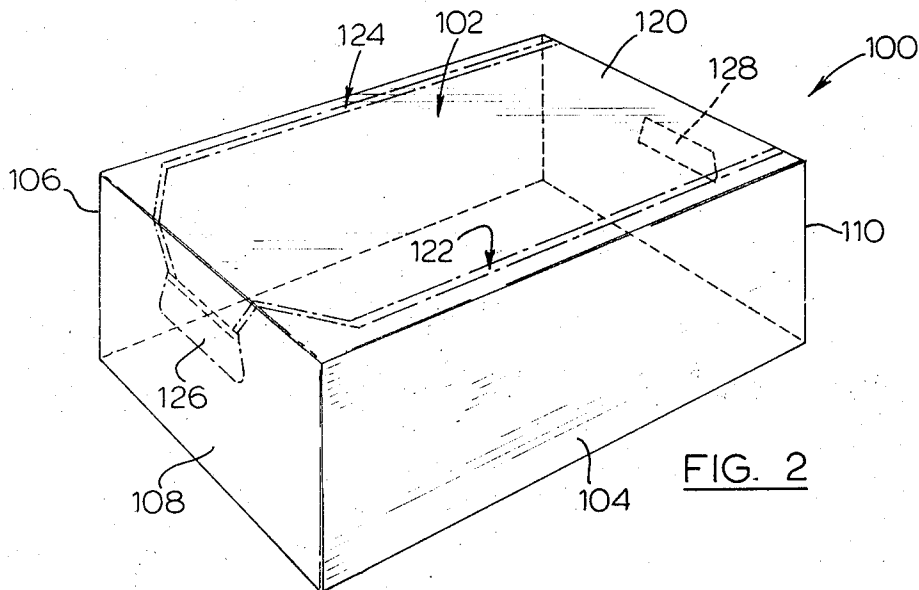


FIG. 2

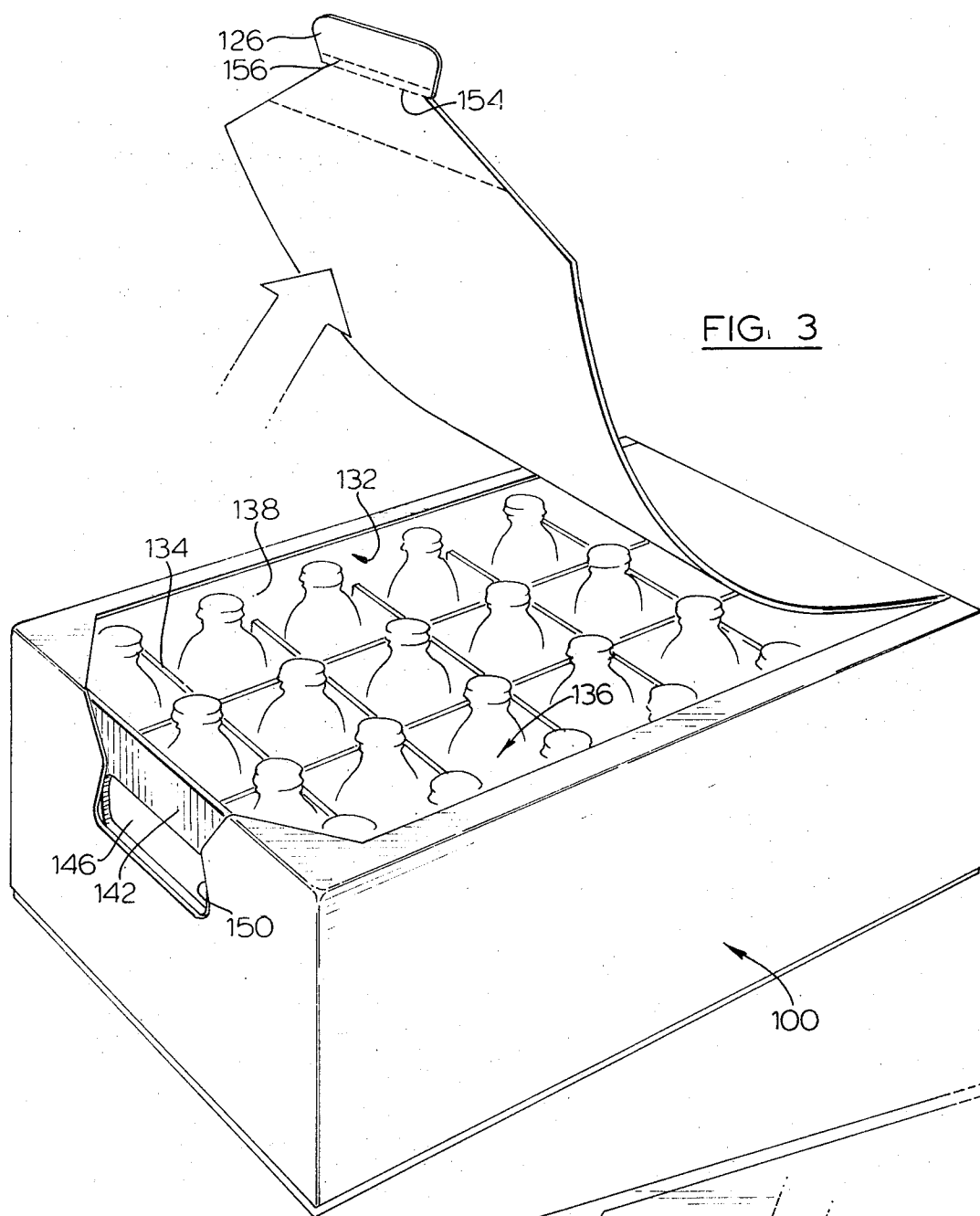
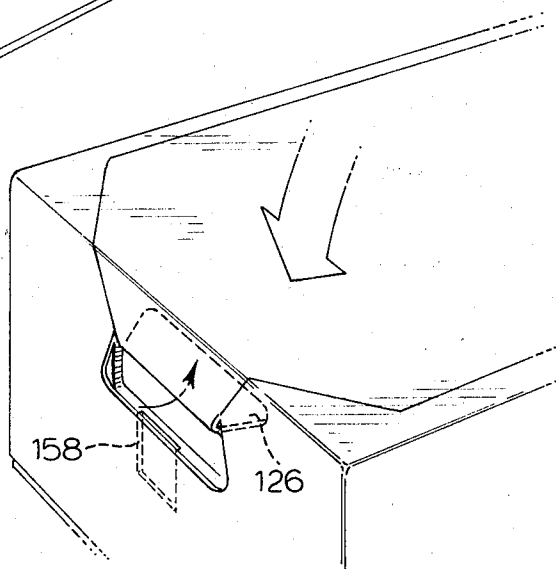


FIG. 4



BLANK FOR CONTAINER COVER

FIELD OF INVENTION

This invention relates to a blank and to a container cover assembled therefrom.

RELATED APPLICATION AND BACKGROUND OF INVENTION

In U.S. copending application Ser. No. 261,075 filed June 8, 1972, now U.S. Pat. No. 3,815,808, there is described a packaging structure for beer bottles including a substantially rigid, reusable tray and a disposable sleeve constructed of light cardboard, closing the open top of the tray.

SUMMARY OF INVENTION

The present invention is directed to a sleeve structure suitable for use in the packaging structure of the earlier invention.

Beer is packaged for sale to the consumer in many ways, usually in cases containing 6, 12 or 24 bottles. The present invention provides a sleeve which may be used for any of these case sizes.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a plan view of a blank for forming a sleeve, in accordance with one embodiment of the present invention;

FIG. 2 is a perspective view of a sleeve formed from the blank of FIG. 1;

FIG. 3 is a perspective view of a packaging structure utilizing the sleeve of FIG. 2, with the top opened; and

FIG. 4 is a perspective view of the packaging structure of FIG. 3, with the top in temporarily locked position.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring first to FIG. 1, an integral blank 10 includes a rectangular center panel 12. Two rectangular side panels 14 and 16 are joined to the longitudinal side edges of the center panel at crease lines 18 and 20 respectively.

To the lateral side edges of the side panel 14 are joined flaps 22 and 24 at crease lines 26 and 28 respectively. Similarly flaps 30 and 32 are joined to the lateral side edges of the side panel 16 at crease lines 34 and 36 respectively.

Two substantially rectangular end panels 38 and 40 are joined to the lateral side edges of the center panel 12 at crease lines 42 and 44 respectively.

The flaps 22, 24, 30 and 32 may be rectangular and generally extend away from the lateral edges of the appropriate side panel a distance up to about half the longitudinal width of the end panels 38 and 40. Depending on the extension of the flaps 22, 24, 30 and 32, the periphery of the flap may be shaped to correspond to any score outline on the end panels 38 and 40.

A first pair of closely spaced-apart score lines 46 is provided in the center panel 12. The score lines 46 include a first part 48 in which they extend from one lateral side edge of the center panel 12, that is, from the crease line 44 parallel and adjacent to one longitudinal side edge of the center panel 12, that is, parallel to the crease line 20, towards the other lateral side edge of the

center panel 12, that is, towards the crease line 42. The first part 48 of the score lines 46 terminates at a position 50 longitudinally spaced from the crease line 44.

A similar second pair of closely spaced-apart score lines 52 is provided in the center panel 12. The score lines 52 include a first part 54 in which they extend from the one lateral side edge of the center panel 12, that is, from the crease line 44 parallel and adjacent to the other longitudinal side edge of the center panel 12, that is, parallel to the crease line 18, towards the other lateral side edge of the center panel 12, that is, towards the crease line 42. The first part 54 terminates at a position 56 longitudinally spaced from the crease line 44.

The terminal positions 50 and 56 are longitudinally spaced from the crease line 44 substantially the same distance. Each of the score lines 46 and 52 include a second part 58 and 60, respectively.

The pair of score lines 46 in the second part 58 continues in substantially parallel relation from the terminal position 50 angularly away from the crease line 18. The second part 58 extends from the terminal position 50 across the crease line 42 and terminates at a position 62 located in the end panel 38.

Similarly, the pair of score lines 52 in the part 60 continues in substantially parallel relation from the terminal position 56 angularly away from the crease line 20. The second part 60 extends from the terminal position 56 across the crease line 42 and terminates at a position 64 located in the end panel 38.

The terminal positions 62 and 64 are longitudinally spaced from the crease line 42 substantially the same distance on the opposite side of the crease line 42 from the positions 50 and 56.

In each pair of score lines 46 and 52, one member of the pair is scored from one side of the panels 12 and 40 with a substantially continuous cut being formed through approximately half the thickness of the material forming the blank 10 from one side thereof. The other member of the pair is scored from the other side of the panels 12 and 40 with a substantially continuous cut being formed through approximately half the thickness of the material forming the blank 10 from the other side thereof. It is not essential to form the score lines through half the thickness of the blank 10. The score lines may be formed to any convenient manner commensurate with the ability of the material readily to tear along those lines. In some instances the score lines 46 and 52 in the region of terminal positions 62 and 64 are cut completely through the blank 10 to assist in commencing the tear.

It is immaterial which member of the pair is formed from above and which is formed from below the blank 10. Typically, the member of the pair 46 or 52 nearest the adjacent longitudinal side edge of the center panel 12 is formed from above the blank 10 while the member remote from the adjacent longitudinal side edge is formed from below the blank 10, as viewed in FIG. 1.

The pairs of score lines 46 and 52 preferably are provided in this manner to ease and assist in tearing therealong. In some instances it may be unnecessary to use a pair of score lines, a single score line, of any convenient construction, being utilized instead.

The material forming the blank 10 generally is thin flexible cardboard. Preferably, the cardboard is formed

of two or more layers joined together, and the pairs of score lines 46 and 52 are cut through, from opposite sides, to the approximate join of two adjacent layers. This construction assists in the tearing along the score lines.

The spacing apart of the members in the pairs of score lines 46 and 52 may vary widely. The particular values chosen depend on the thickness and nature of the material of construction of the blank and the depth of the score lines. It is intended that the material tear along the score lines 46 and 52. Typically, a lateral spacing of about 1/8 to 5/8 inch may be used, with a spacing of about 3/8 inch being found to be satisfactory for No. 25 paperboard consisting of two layers of material.

The spacing apart of the second pairs 58 and 60 of the pairs of score lines 46 and 52 generally is less than the spacing apart of the first parts 48 and 54 in order to ensure precise tearing along the divergent score lines in the second parts. Typically, the spacing apart of the score lines in the second parts 58 and 60 is approximately one-half of the spacing of the first part 48 and 54. Thus, for a spacing of about 3/8 inch for the first parts 48 and 54, the second parts may be spaced about 3/16 inch.

The terminal positions 62 and 64 correspond to the ends of a straight crease line 66 extending parallel to the crease line 42. The terminal positions 62 and 64 also correspond to the ends of a score line 68. The score line 68 includes a straight line portion 70 which extends parallel to the crease line 66 and is positioned on the end panel 38 spaced from the crease line 42 a further distance than crease line 66. The distance between the score line portion 70 and the crease line 66 depends on the dimension of the handhole of the tray with which the sleeve formed from the blank 10 is associated.

Further score line portions 72 and 74 complete the score line 68. The latter score line portions join the ends of the straight-line portion 70 and the ends of the crease line 66. While in the illustrated embodiment, the score line portions 72 and 74 diverge from each other from the crease line 66 to the straight line portion 70, this construction is preferred as will become more apparent hereinafter, and it is possible to utilize other configurations of the score line 68.

The score line 68 and the crease line 66 thus define an enclosed area 76 of the end panel 38 of substantially trapezoid form. A further crease line 78, spaced apart from and parallel to the crease line 66 is provided in the enclosed area 76. The spacing apart of the crease lines 76 and 78 depends on the thickness of the material of the tray in the region off its handhole, as will become more apparent below.

A similar enclosed area 80 is provided on the other end panel 40, being defined by a score line 82, of the same form and shape as the score line 68, and a crease line 84, parallel to the crease line 44 within the enclosed area 80 is a further crease line 86, in the same manner as crease line 78.

The score lines 68 and 82 may be of any desired form. Typically, they comprise relatively long cuts formed through the thickness of the board and relatively short uncut areas between the cuts. The relative dimensions of the cut and uncut areas depend on the strength of the material from which the blank 10 is formed. Typically, cut areas may range from about 3/8

to 1 1/2 inches, with 3/32 inch uncut areas, for No. 25 paperboard.

The end panels 38 and 40 generally are substantially rectangular, as mentioned above. The end panels 38 and 40 may have a very slight taper from the crease lines 42 and 44 to the free longitudinal edge of the end panel. Similarly, the longitudinal edge of each of the flaps 22, 24, 30 and 32 remote from the longitudinal side edges of the center panel may be provided with a slight taper towards its free lateral side. These tapers assist in ensuring that the sleeve formed from the blank 10 has a snug fit with the tray in the packaging structure.

Turning now to consideration of FIGS. 2 to 4, there is shown in FIG. 2 a sleeve 100 formed from the blank 10 and suitable for use in a packaging structure. The sleeve 100 includes a top panel 102, constituted by the center panel 12 of the blank 10 downwardly depending side panels 104 and 106, constituted by the side panels 14 and 16 of the blank 10, and downwardly depending end panels 108 and 110, constituted by the end panels 38 and 40 of the blank 10.

The side panels 104 and 106 are joined to the end panels 108 and 110 by flaps (not shown) which are adhesively affixed to the inner faces of the end panels 108 and 110, the flaps corresponding to the flaps 22, 24, 30 and 32.

An openable top 120 is provided in the top panel 102 whereby access may be gained to items packaged in the packaging structure utilizing a tray and the sleeve 100. This aspect of the present invention is described in more detail below with reference to FIGS. 3 and 4.

Score lines 122 and 124 define the lateral extension of the openable top 120, equivalent to the pairs of score lines 46 and 52 of the blank 10. The score lines 122 and 124 terminate in a handhole outline 126 in the end panel 108, equivalent to the enclosed area 76 of the blank 10. A similar handhole outline 128, equivalent to the enclosed area 80 of the blank 10, is provided in the end panel 110.

The flaps adhesively connected to the inside of the end panels 108, 110 may be dimensioned and the periphery thereof may be shaped so that no part thereof overlaps the handhole outlines 126 and 128.

The sleeve 100 therefore constitutes a disposable sleeve for a packaging structure including a substantially rigid reusable tray and a disposable cover, especially for use in packaging beer bottles, as disclosed in copending U.S. Pat. application Ser. No. 261,075 mentioned above. Such a structure is shown particularly in FIGS. 3 and 4.

The packaging structure 130 includes the sleeve 100 and a substantially rigid reusable tray 132. The tray 132 may be constructed of any convenient durable material, for example, heavy-duty cardboard, wood, metal or synthetic polymeric materials.

Since synthetic polymeric materials have an excellent combination of useful properties, such as, strength and wear resistance and hence have long life, washability and lightness, it is preferred to employ such materials in the construction of the trays 132.

As used herein, the term "synthetic polymeric material" is utilized to refer to those synthetic polymeric materials which are capable of extrusion or molding to a formed article and does not include those polymeric substances which are incapable or otherwise unsuitable for the production of formed articles, such as cellulose

nitrate. Synthetic polymeric materials are commonly referred to as "plastics" and the latter term will be used in this specification in that sense.

The tray 132 has a plurality of partitions 134 dividing up the tray into a plurality of individual compartments 136. Typically for packaging beer, the tray may have 24, 12 or six bottles. In each case, the openable top 120 extends longitudinal of the top panel 102.

Generally the tray 132 and sleeve 100 are dimensioned so that the top panel 102 is the same dimension as the exterior of the open top of the tray 132. Further, the tray 132 has upstanding side walls, only one of which, 138, is illustrated and upstanding end walls, only one of which, 142, is illustrated upstanding from a base. The side panels 104 and 106 and the end panels 108 and 110 of the sleeve 100 are coextensive with and in engagement with the outermost portions of the side walls and the end walls respectively, of the tray 132.

In each of the end walls of the tray 132 is situated a handhole for lifting of the packaging structure 130. The handhole 146 formed in the end wall 142 is repeated at the opposite end of the tray 132. The handholes correspond generally in dimension to the handhole outlines 126 and 128 of the sleeve 100.

When the packaging structure 130 is desired to be carried, the handhole area outlines 126 and 128 are pushed inwardly, the area becoming detached on three sides from the appropriate end panel along score lines 150 and 152 equivalent to score lines 68 and 82 of the blank 10 and are folded back around the upper portion off the adjacent handholes in the end panels of the tray. This procedure is facilitated by the provision of a crease line 154 equivalent to crease line 66 of the blank 10, thereby allowing the handhole area or tab 126 to bend readily inwardly of the appropriate end panel 108. A further crease line 156 equivalent to crease line 78 is provided to allow the tab 126 to fold back inside the tray 132. An equivalent construction for tab 128 is provided in the end panel 110 with crease lines corresponding to crease lines 84 and 86, so that the tab 128 may be folded inwardly of the handhole (not shown) in the other end wall of the tray 132. It will be apparent, therefore, that the lateral spacing of the crease lines 154 and 156 depends on the thickness of the end walls of the tray 132 in the region of the handholes.

The positioning of the tabs 126 and 128 is chosen so that the depth of the tabs does not exceed the distance from the top of the handhole to the top panel 102. Further, the depth of the tabs is chosen so that they may engage bottles in the case 132 and hence assist in providing a temporary locking of the top 120 and a permanent opening in the other end panel.

As may be seen, the end wall 142 is provided with a shallow depression 158 extending downwardly from the handhole 146. A similar depression (not shown) is provided in the other end wall of the tray 132. The presence of these depressions results in the end panels 108 and 110 of the sleeve 100 being spaced from the end walls in this region. In this way, the insertion of fingers of stripping devices under the surface of the material of the sleeve is facilitated and hence the later operation of stripping the sleeve 100 from the tray is improved.

The top 120 is openable by lifting the tab 126 and tearing along the score lines 122 and 124. Once the top 120 has been opened, it may be hinged about the join of the top panel 102 and the end panel 110 (see FIG.

3). When the items have been removed from the tray, the package may be reclosed in temporarily locked position (see FIG. 4), with the tab 126 being inserted through the handhole 146 of the tray 132.

Since the side edges of the tab 126 diverge from the crease line 154, and the crease line 154 has approximately the same length as the lateral dimension of the handhole 146, the tab 126 achieves a temporary interlock with the handhole 146. It will be seen that the tab need not be folded back about crease line 156 to achieve this temporary interlock.

While the tab 128 is of substantially the same dimensional form as tab 126, such an arrangement is not necessary, but is utilized for ease of scoring and creasing of the blank 10.

By providing an openable-reclosable top 120 which hinges about one lateral side edge of the top panel 102, there is provided a sleeve construction which is of particular utility. Access to all of the contents of the tray 132 is available immediately, the top is of such a dimension that its weight naturally tends to close the top without the necessity of using the temporary interlock in the handhole 146, and, similarly, its weight tends to maintain the top open when it is moved beyond the upright position and away from the other lateral edge of the top panel 102. The top may be curled underneath the structure, if desired.

Modifications are possible within the scope of the invention.

What we claim is:

1. An integrally formed blank for a disposable cardboard sleeve comprising a rectangular center panel having first and second longitudinal side edges and first and second lateral side edges, a first rectangular side panel having a longitudinal side edge coextensive with one of said longitudinal side edges of said center panel and joined thereto by a first crease line, a second rectangular side panel having a longitudinal side edge coextensive with the other of said longitudinal side edges of said center panel and joined thereto by a second crease line, said first and second rectangular side panels each having first and second lateral side edges and a free longitudinal side edge, a first rectangular end panel having a longitudinal side edge coextensive with one of said lateral side edges of said center panel and joined thereto by a third crease line, a second rectangular end panel having a longitudinal side edge coextensive with the other of said lateral side edges of said center panel and joined thereto by a fourth crease line, each of said rectangular end panels having a free longitudinal side edge and free lateral side edges, a first pair of flaps each of which has a side edge coextensive with one lateral side edge of said first rectangular side panel and joined thereto through a fifth crease line, a second pair of flaps each of which has a side edge coextensive with one lateral side edge of said second rectangular side panel and joined thereto through a sixth crease line, the lateral width of said side panels and the lateral width of said end panels being substantially equal, and first and second laterally spaced apart scorings in said center panel and one of said end panels, each of said scorings extending from one lateral side edge of said center panel to the other, at least a substantial length of one of said scorings extending adjacent and substantially parallel to one longitudinal side edge of said center panel and at least a substantial length of the other of said scorings extending adjacent and substantially par-

allel to the other longitudinal side edge of said center panel, the scorings terminating in said one of said end panels and being joined together by a third scoring in said one of said end panels.

2. The blank of claim 1 wherein said first scoring is constituted by a first pair of score lines in said center panel extending in closely spaced-apart relation from said one lateral side edge of said center panel substantially parallel and adjacent to but spaced from one of said longitudinal side edges of said center panel to a first position spaced longitudinally inwardly from said other lateral side edge of said center panel, and said second scoring is constituted by a second pair of score lines in said center panel extending in closely spaced-apart relation from said one lateral side edge of said center panel substantially parallel and adjacent to but spaced from the other of said longitudinal side edges of said center panel to a second position spaced longitudinally inwardly from said other lateral side edge of said center panel, said first and second longitudinally inwardly spaced positions being substantially the same longitudinal distance from said other lateral side edge,

said first pair of score lines continuing from said first position in spaced-apart parallel relation angularly away from said one longitudinal side edge, of said center panel, across the crease at the join of said center panel and said one end panel at said other lateral side edge of said center panel, and terminating in one end of a third score line constituting said third scoring,

said second pair of score lines continuing from said second position in spaced-apart parallel relation angularly away from said other longitudinal side edge of said center panel, across the crease at the join of said center panel and said one end panel at said other lateral side edge of said center panel, and terminating in the other end of said third score line,

each of said first and second pairs of score lines being provided with one score line of the pair being formed from above said center panel and the other score line of the pair being formed from below said center panel.

3. The blank of claim 2 wherein said third score line includes a portion substantially parallel to said one longitudinal edge of said one end panel spaced from the ends of said first and second pair of score lines towards the free longitudinal edge of said one end panel and portions joining the ends of said parallel portion thereof and the ends of said first and second pairs of score lines.

4. The blank of claim 2 formed of a laminate of at least two layers of thin cardboard and wherein each of said first and second pairs of score lines is provided with one score line of the pair being formed from above said center panel through the thickness of at least one but not all of said layers and the other score line of the pair is formed from below said center panel through the thickness of the remainder of said layers, whereby the score lines terminate at the interface of two adjacent layers.

5. The blank of claim 2 wherein the members of said pairs of score lines in the portion extending angularly away from said longitudinal side edges are spaced apart a distance less than the distance between the remainder of the length of each pair of score lines.

6. The blank of claim 3 wherein said pairs of score lines adjacent the ends of said third score line are cut completely through the thickness of the blank.

7. A disposable sleeve formed from the blank of claim 1 including a top panel constituted by said center panel, downwardly depending side panels constituted by said side panels and downwardly depending end panels constituted by said end panels, said downwardly depending end and side panels being joined together through said flaps.

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