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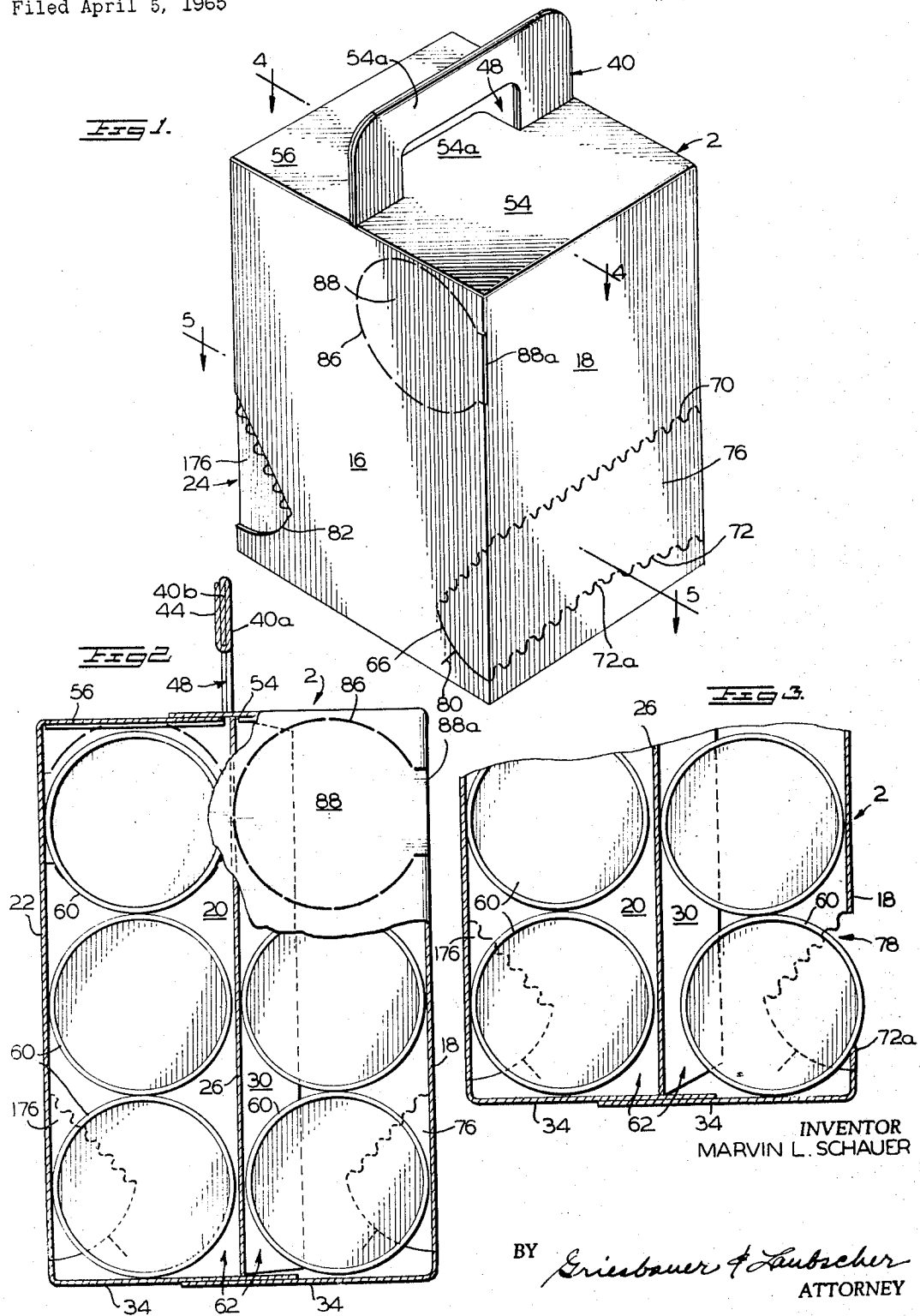
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COMPARTMENTED DISPENSING CARTON FORMED FROM A SINGLE BLANK

Filed April 5, 1965

2 Sheets-Sheet 1.



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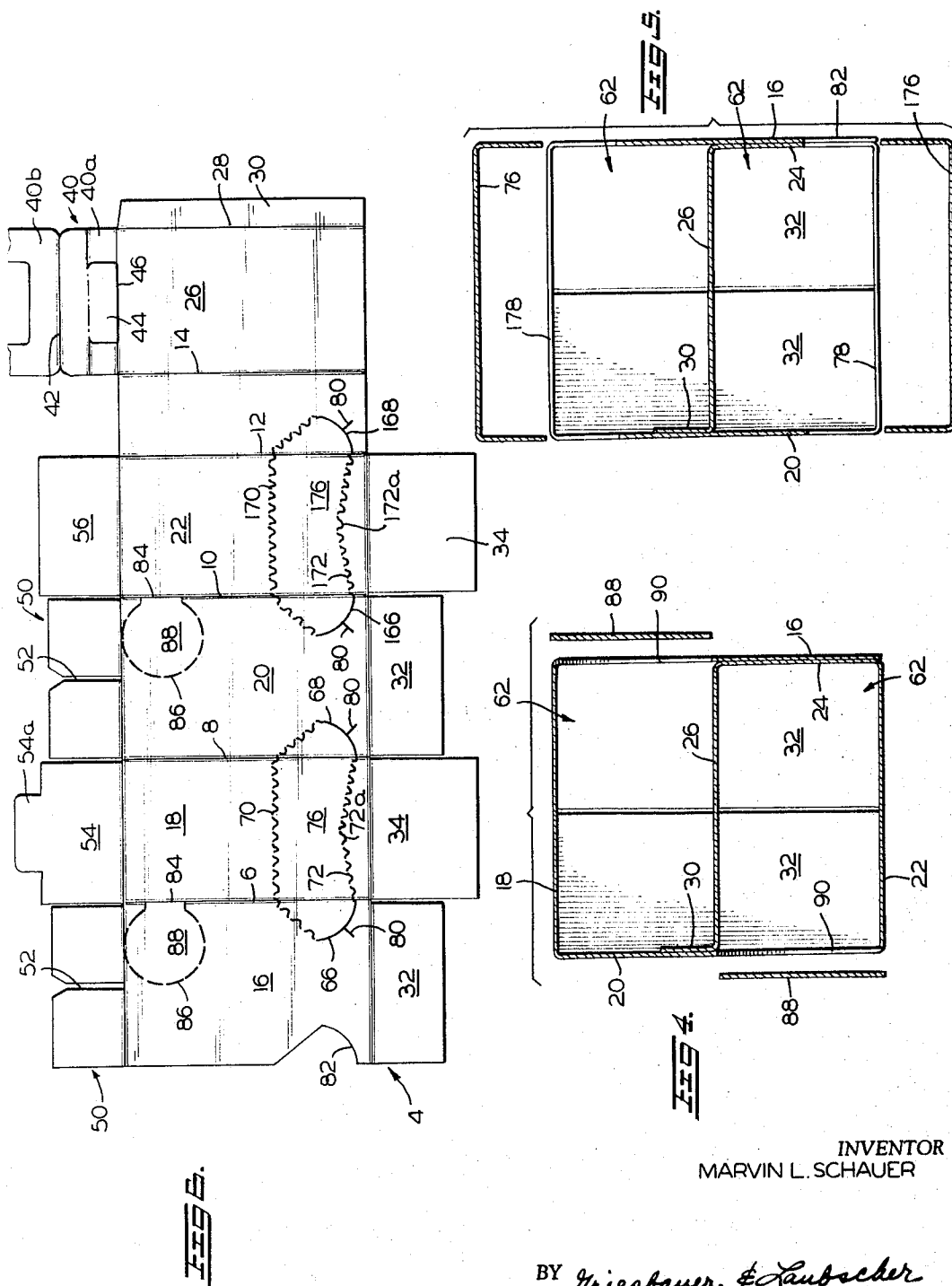
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2 Sheets-Sheet 2



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**COMPARTMENTED DISPENSING CARTON
FORMED FROM A SINGLE BLANK****Marvin L. Schauer, Spokane, Wash., assignor to Boise
Cascade Corporation, Boise, Idaho, a corporation of
Delaware****Filed Apr. 5, 1965, Ser. No. 445,399
5 Claims. (Cl. 229—27)**

This invention relates generally to dispensing cartons, and more particularly to a dispensing carton formed from a single paperboard blank and including a vertical divider panel arranged between and spaced from a pair of side panels to define a pair of compartments for receiving vertical stacks of sidewise-arranged cylindrical articles, respectively, and means defining removable sections in said side panels for providing discharge openings for the lateral removal of the lowermost article from each of the stacks, respectively.

Many types of dispensing cartons formed of paperboard blanks and the like have been disclosed in the patented prior art. In the patents to Chirchiglia No. 2,928,539 of March 15, 1960, Johnson No. 1,898,056 of February 21, 1933, and Gauld No. 3,002,651 of October 3, 1961, cardboard or paperboard cartons are disclosed for the storage and dispensing of cylindrical articles, such as cans, tubes, bottles, guaze pads, or other packages.

The present invention relates to an improved paperboard carton for storing and dispensing cylindrical articles arranged sidewise in a pair of separate vertical stacks, means being provided for the lateral removal of the lowermost article from either of the stacks. In the packaging and marketing of canned beverages and foods, it has been common practice in recent years to sell the goods in packages of six, ten, twelve or other number of articles, depending on such considerations as size, weight, and total price of the package. In most cases, each of the articles contains the same beverage or goods. However, in many instances it is desirable to market packages of articles of the same size but containing different commodities. In the latter case, it is desirable to afford means for selectively removing articles from either of two different stacks. Another consideration in the marketing of canned or bottled products is the problem of disposing of the empty receptacles. For example, when packages of the articles are to be taken to sporting events, picnics, on road trips and so forth, it is desirable that the empty articles be stored temporarily for proper disposal as a group, and not be indiscriminately discarded by the user at the time or place of consumption. Further factors that must be considered in packaging cylindrical articles are the complexity of the machines required for forming, filling and closing the cartons, the number of pieces and cost of the blanks from which the cartons are formed, and the structural rigidity and strength of the packages with regard not only to the storage of the same in stacks and displays, but also to their individual transport by handle or other carrying means.

Accordingly, the primary object of the invention is to provide a compartmented carton formed from a single folded paperboard blank and including removable closure means permitting selective lateral removal of the lowermost article from either of two vertical stacks of sidewise-arranged cylindrical articles. In accordance with the present invention, the carton blank includes a vertical divider panel that is foldable to a position parallel with and spaced between a pair of side walls to define a pair of separate compartments. The lower portion of each side wall contains a removable section for defining a discharge opening through which the lowermost article arranged in the stack in the adjacent compartment may be removed, respectively.

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Another object of the present invention is to provide a carton of the type described above including end walls containing removable pieces that afford access to the upper portions of the compartments, respectively. Upon removal, these pieces define circular openings through which the cylindrical articles may be inserted endwise into the compartments. Consequently, when a cylindrical article is removed from the bottom of one of the stacks and is emptied, the empty article may be reinserted into the carton upon the top of the stack from which it was initially removed.

According to a more specific feature of the invention, the carton includes slot means facilitating removal, by tearing, of the sections and pieces from the side and end walls, respectively. Moreover, according to another object of the invention, the removable sections provided in the side walls have such a configuration as to define yieldable protuberances carried by the side walls that extend into the discharge openings to resist removal of articles therefrom.

Another object of the invention is to provide a paperboard carton of the type described above including handle means carried by the aforementioned wall that divides the carton into two compartments. According to another feature of the invention, upper and lower flap means are provided for completely closing the carton to render the same dust-free. In the preferred embodiment the handle means comprises an opening contained in an upwardly extending portion of the divider wall, and at least one of the top flaps includes a tab that extends through the handle opening when the top flaps are in their horizontal closed positions.

Other objects and advantages of the invention will become apparent from a study of the following specification when considered in conjunction with the accompanying drawing, in which:

FIGURE 1 is a perspective view of the dispensing carton of the subject invention;

FIGURE 2 is a partially sectioned end view of the carton of FIGURE 1, said carton being broken away to show the cylindrical articles contained therein;

FIGURE 3 is a detailed sectional view of the carton with one side wall section removed to define a discharge opening;

FIGURES 4 and 5 are exploded sectional views taken along lines 4—4 and 5—5, respectively, the removable end wall pieces and side wall sections being illustrated removed from the carton; and

FIGURE 6 is an elevational view of the single foldable blank from which the carton is formed.

Referring to the drawing the dispensing carton 2 shown in FIGURE 1 is formed from the single unitary paperboard blank 4 of FIGURE 6. As shown in FIGURE 6, the paperboard blank, which preferably has a gauge on the order of .020 inch, includes a rectangular body portion provided with five parallel fold lines 6, 8, 10, 12, 14 that define, successively, a first end panel 16, a first side panel 18, a second end panel 20, a second side panel 22, an intermediate panel 24, and a divider panel 26. Hingedly connected by fold line 28 with the free edge of divider panel 26 is a securing flap 30.

As shown in FIGURES 4 and 5, the panels of the blank of FIGURE 6 may be folded to positions in which the side and end panels are parallel and opposite one another to define therebetween a rectangular space. The intermediate panel 24 is folded to a position contiguous with the inner surface of the first end panel 16, and the divider panel is folded to a position parallel with and spaced between the side panels 18 and 22. Securing flap 30 is foldable to a position in contiguous engagement with a portion of the inner surface of end panel 20 between panels 26 and 18. It will be apparent that panels 18, 22

and 26 have substantially the same widths (equal to the length of the cylindrical articles to be packaged in and dispensed from the container), and that end panels 16 and 20 have the same width. Furthermore, intermediate panel 24 has a width approximately equal to one-half of the width of the end panels, whereby divider panel 26 is equally spaced between the side panels.

Hingedly connected with the lower edges of the end and side panels are bottom flaps 32 and 34, respectively, that are foldable to close the bottom of the aforementioned rectangular space.

Extending upwardly from divider panel 26 is an integral handle section 40 consisting of portions 40a and 40b connected by fold line 42. A flap 44 is defined in section 40a by score line 46. When section 40b is folded backwardly about fold line 42 against the rear surface of section 40a, and flap 44 is folded upwardly against section 40b as shown in FIGURE 2, an opening 48 is defined in section 48 by means of which the package may be carried. Hingedly connected with the upper edges of end sections 16 and 20 are top flaps 50 containing slots 52 that receive the handle section 40 when the flaps 50 are folded to horizontal positions closing the upper portion of the aforementioned rectangular space. Similarly, side walls 18 and 22 are provided with hingedly connected top flaps 54 and 56, respectively, that are foldable to horizontal positions upon flaps 50. The uppermost flap (54) is provided with a tab portion 54a that extends through handle opening 48 as shown in FIGURE 1. Consequently, the upper end of the carton is completely sealed in a dust-free manner.

The contiguous panel, flap and tab surfaces are preferably secured to each other in a conventional manner (for example, by glueing or stapling). The carton thus far described is completely enclosed to define a dust-free compartmented container having sealed top, bottom, side, end and divider walls.

While the aforementioned closed carton may be formed without articles therein, preferably prior to folding of the top flaps 50, 54 and 56 to their horizontal closed positions, a plurality of cylindrical articles 60 are stacked vertically upon their sides in the compartments 62 defined on opposite sides of divider panel 26 as shown in FIGURES 2 and 3. While these articles are normally cans of food or beverages, in certain instances the articles might be bottles, tubes or the like.

Referring again to FIGURE 6, the end panels 16 and 20 contain, adjacent their lower edges, first and second slots 66, 68, respectively the upper and lower edges of which are connected by first and second vertically spaced scalloped score lines 70 and 72, respectively, that extend completely across side panel 18. The slots and score lines define in the side panel 18 a removable section 76 that is such a size and configuration as to define, upon removal, a discharge opening 78 (FIGURE 3) through which the lowermost stacked article may be laterally removed from the lower end of a compartment 62. As shown in FIGURES 1, 3 and 6, the central portion of scalloped score line 72a is spaced a greater distance from the lower edge of panel 18 than the portions of line 72 adjacent fold lines 6 and 8, respectively, whereby a yieldable upwardly-extending protuberance is defined on the side wall for resisting removal of an article. Similarly, another removable section 176 is formed in the lower portion of side panel 22 by slots 166, 168 and scalloped score lines 170, 172. In order to facilitate removal of the sections 76 and 176, panels 16, 20 and 24 are provided with additional third slots 80 that are arranged normal to and communicate at one end with slots 66, 68, 166, 168, respectively. These slots 80 permit a user to insert a finger beneath the tab portions of sections 76 and 176 to initiate outward removal of the same from the carton. Adjacent the lower portion of its free edge, the first end panel 16 contains a notch 82 for exposing the underly-

ing tab portion of removable section 176 when the panels are folded to define the carton of FIGURES 1, 5 and 6.

Adjacent their upper ends, the fold lines 6 and 10 contain fourth slots 84 the upper and lower ends of which communicate with opposite ends of generally circular weakened lines 86 contained in end panels 16 and 20. The lines 84 and 86 define in the end walls generally circular pieces 88 that are removable to form circular openings 90 permitting endwise insertion of the articles 60 into the compartments 62 on opposite sides of divider panel 26, respectively. Preferably the configuration and arrangement of lines 86 relative to slots 84 are such as to define tab portions 88a (FIGURE 1) on the pieces 88 that extend slightly from the diagonally opposite corners of the carton to facilitate initial outward removal, by tearing, of the pieces from the carton.

It is apparent that when the bottom flaps are secured to each other, that when intermediate panel 24 and securing flap 30 are secured to the inside surfaces of panels 16 and 20, respectively, that when the top flaps are secured to each other, and that when a plurality of cylindrical articles are stacked vertically in an edgewise manner in compartments 62, a structurally rigid package is formed that may be readily carried by the handle 40. If desired, the handle may be folded to a horizontal position to permit vertical stacking of a plurality of the packages upon each other.

To remove a can 60 from the package, a finger is inserted in the opening defined by a slot 80 and the slot communicating therewith and the tab portion is pulled outwardly to effect removal by tearing of a section (76, 176) from the corresponding side panel. The ends of the can are grasped to withdraw the can laterally through the corresponding opening 78, 178, this removal being accompanied by slight deformation or yielding of the protuberance extending upwardly in the opening. The superimposed cans of the stack in the compartment drop by gravity, whereupon the next successive can is adjacent the discharge opening. Upon removal of the beverage or other product from the can, the tab portion 88a of piece 88 (corresponding with the compartment from which the article was initially removed) is grasped and the piece 88 is removed, by tearing, from its side wall. The empty can is then inserted endwise in the opening 90 thus formed upon the uppermost can in the compartment. The process is then repeated until all of the cans have been successively removed, emptied, and reinserted in the package. The carton (with the empty cans therein) may then be disposed of as a unit.

Although the carton of the present invention is particularly designed for storing, transporting and dispensing cylindrical articles, it is apparent that the carton may be modified for use with articles of non-cylindrical configuration.

If desired, the fold lines 14 and 28 at each side of panel 26 may be perforated to permit easy setting up of the carton without first pre-breaking the score lines. It should also be mentioned that the scalloped score lines (70, 170, 72, 172) not only add to the design of the carton but also allow for easy removal of the tear strip.

While in accordance with the provisions of the Patent Statutes the preferred form and embodiment of the invention has been illustrated and described, it will be apparent to those skilled in the art that other changes may be made in the apparatus described without deviating from the invention defined by the following claims.

What is claimed is:

1. A unitary paperboard blank for forming a compartmented dispensing carton, comprising
 - a vertical rectangular body portion containing five horizontally spaced vertical fold lines defining, successively, a first end panel, a first side panel, a second end panel, a second side panel, an intermediate

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panel, and a divider panel, said side panels having equal widths and said divider panel having a width no greater than that of said side panels, said end panels also having equal widths, said intermediate panel having a width equal to approximately one half the width of said end panels;

said panels being foldable about said vertical fold lines to positions in which the side and end panels are parallel with each other, respectively, to define therebetween a rectangular space, in which said intermediate panel is parallel with and in contiguous engagement with substantially one half of the inner surface of said first end panel adjacent the free edge thereof, and in which said divider panel is between, parallel with said spaced from said side panels;

said blank including also top and bottom flaps connected with the upper and lower horizontal edges of at least some of said panels and foldable to horizontal positions closing the upper and lower ends of said rectangular space, respectively;

said blank containing means defining a removable discharge section in the lower portion of at least one of said side panels, comprising first and second slots contained in the lower portions of those companion panels connected with the vertical edges of said one side panel, respectively, and a pair of vertically-spaced generally horizontal weakened lines extending completely across said one side panel and partially across said companion panels, said weakened lines communicating at opposite ends with the opposite ends of said first and second slots, respectively.

2. A blank as defined in claim 1, and further including a pair of third slots contained in said pair of companion panels, respectively, and extending normal to, intermediate the ends of, and in communication at one end with, said first and second slots, respectively.

3. A blank as defined in claim 1, wherein said blank further contains means defining a removable circular piece in the upper portion of at least one of said end walls, comprising a vertical linear fourth slot contained in the upper portion of the common fold line between said one side panel and said one end panel, and a generally circular weakened line contained in said one end

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wall and communicating with opposite ends with said fourth slot, said fourth slot and said generally circular line cooperating to define on said circular piece a finger tab portion accessible from said common fold line.

4. A blank as defined in claim 3 wherein said carton is adapted for storing and dispensing two vertical stacks of horizontally arranged cylindrical articles in said rectangular space on opposite sides of said divider panel, respectively, and further wherein each of said side panels contains one of said removable discharge sections and each of said end panels contains one of said removable circular pieces at diagonally opposite corners of the carton, respectively, the diameters of said circular weakened lines being no greater than half the width of said end panels, whereby upon removal of said sections and pieces, a cylindrical article may be laterally removed through the discharge opening in the bottom of a side wall and a cylindrical article may be subsequently inserted in the companion opening contained in the corresponding end wall.

5. A blank as defined in claim 1 wherein the lowermost one of the weakened lines includes a central portion that is spaced a greater distance from the lower edge of said one side panel than those portions thereof that are adjacent the vertical fold lines of said side panel, respectively.

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