

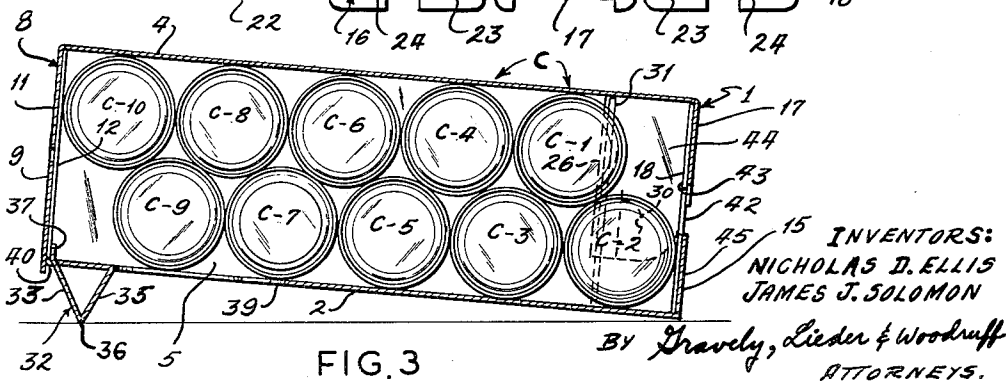
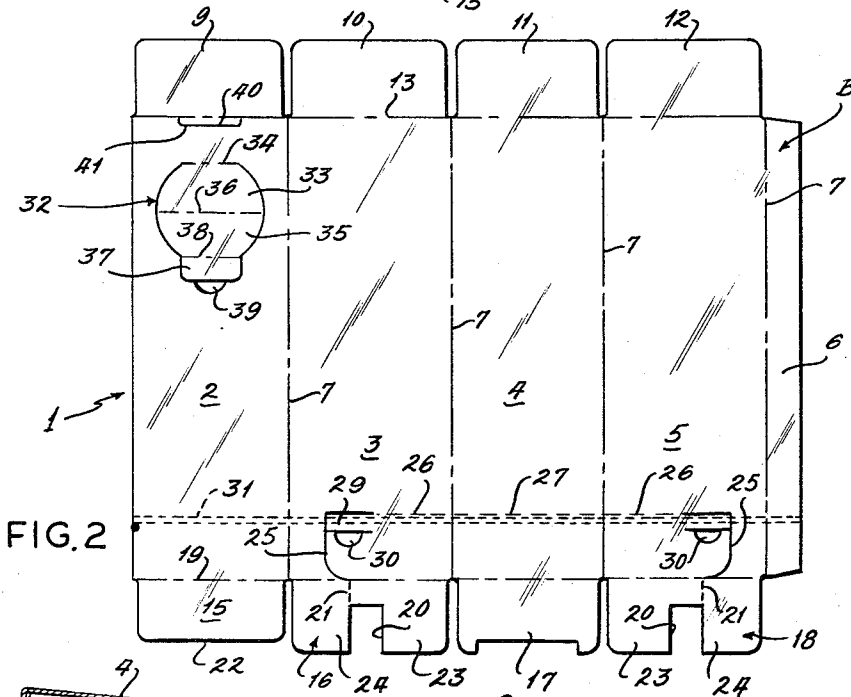
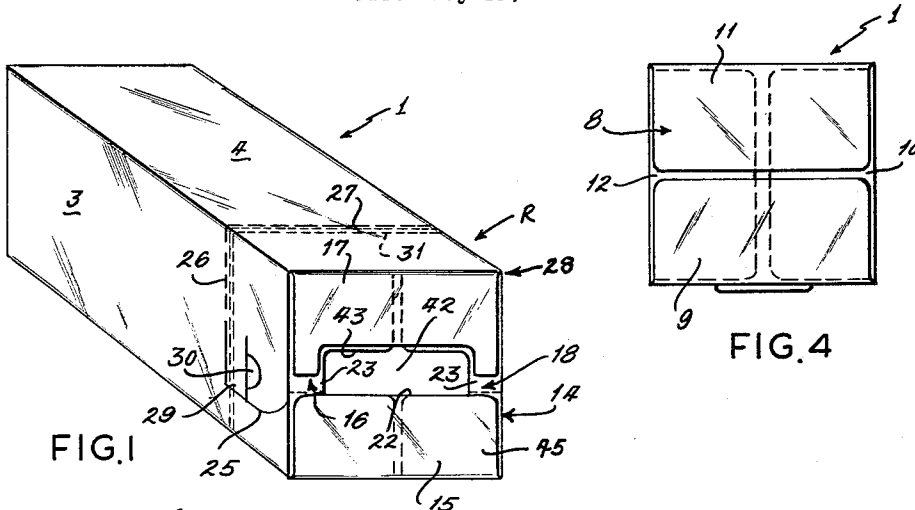
April 13, 1965

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3,178,242

ONE-PIECE DISPENSING CARTON FOR CYLINDRICAL OBJECTS

Filed May 13, 1963



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ONE-PIECE DISPENSING CARTON FOR CYLINDRICAL OBJECTS

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Filed May 13, 1963, Ser. No. 279,815
3 Claims. (Cl. 312-45)

This invention relates to an improved carton, and more particularly, to a self-dispensing carton from which each cylindrical object or can therein is removed in predetermined order from the front portion of said carton which is adapted to be placed in a home refrigerator.

The principal object of the present invention is to provide a self-dispensing carton in which the cans therein are removed from a small front opening in predetermined order, with a can within the carton taking the place of the previous can after it is removed. Another object is to provide such a self-dispensing carton which can be loaded automatically by existing high speed automatic equipment. Another object is to provide a one-piece end loading self-dispensing carton having a removable upper front portion for removing cans one at a time in predetermined order, so that a predetermined individual can may contain a reminder for "re-ordering" the product. Another object is to provide a novel package which when opened and partially used reminds the user to re-order another package. A further object of this invention is to provide a novel method of removing cylindrical cans from a carton in predetermined order.

These and other objects will become apparent hereinafter.

The present invention is embodied in a carton for containing cans, said carton having bottom, top, and side walls with end flaps, the bottom of said carton sloping downwardly toward the front, the upper portion of said carton being removable to allow the removal of one can at a time, the bottom front portion of said carton forming a stop for said cans which tend to roll or move toward said stop, said cans being arranged to be removed in a predetermined order. The invention is also embodied in the blank for said carton and in the package and in the method of removing cans in order to insure a predetermined order for removing so that one can may contain a "re-order" reminder thereon.

The invention also consists in the parts and in the arrangements and combination of parts hereinafter described and claimed. In the accompanying drawings which form part of this specification and wherein like numerals and symbols refer to like parts wherever they occur:

FIG. 1 is a top front perspective view of a carton embodying the present invention,

FIG. 2 is a top plan view of the outside surface of the blank for the carton shown in FIG. 1,

FIG. 3 is a side elevational view of the carton with the back stand elevating the bottom and the upper front section removed, and

FIG. 4 is a rear view of said carton.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a one-piece end loading self-dispensing carton 1 formed from a blank B. This carton is designed to hold a multiplicity of cylindrical objects or cans C in staggered relation in two rows.

The carton 1 comprises a bottom wall 2, a left side wall 3, a top wall 4, a right side wall 5 and a connecting flap 6 with longitudinal fold lines 7 therebetween. The connecting flap 6 is adapted to be secured to the inner face of the bottom wall 2 to form an open ended tube

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into which the cans C, such as beer cans or other cans, can be loaded from an open end. The rear 8 of said carton 1 is closed by a bottom rear flap 9, a side rear flap 10, a top rear flap 11, and another side rear flap 12, all of which are hingedly secured to their respective walls by means of a rear fold line 13. The front 14 of the carton 1 is provided with a bottom front flap 15, a side front flap 16, a top front flap 17, and another side front flap 18, all of said front flaps being hingedly connected to their respective walls along a front fold line 19.

Assuming that the carton 1 is to hold conventional twelve ounce beer cans having a height of about $4\frac{13}{16}$ inches and a diameter of about $2\frac{11}{16}$ inches, the top wall 4 and bottom wall 2 will be of narrower width than the walls 3 and 5, since the cans C are designed to be positioned therein in staggered relation in two rows. Obviously, if shorter or taller cans are used, the dimensions of the top and bottom walls with respect to the side walls will be changed. With conventional beer cans, the bottom and top walls are about $4\frac{13}{16}$ inches wide and the side walls are about $5\frac{5}{16}$ inches wide.

The side front flaps 16 and 18 are provided with cut-out portions 20 and scores 21 which are conterminous with the lower edge of the cut-out portions 20 and which are adjacent to the top edge 22 of the bottom front flap 15 when assembled. These scores 21 divide each of the side front flaps 16 and 18 into a removable upper portion 23 and a permanent lower portion 24, which remain adhesively secured to the bottom front flap 15 at all times. The side walls 3 and 5 have cuts 25 extending rearwardly from said scores 21 for a distance more than one-half diameter and less than one diameter of one can, preferably about three-fourths of a diameter, and then upwardly in each side wall 3 and 5 from the cuts 25 to a top score 27 in the top wall 4, thereby providing the carton 1 with a removable section R in its upper front portion 28.

To assist in removing the removable section R, a side tab 29 adjacent to a finger opening or hole 30 is provided on one or both side walls 3 and 5, there being a tear strip 31, such as nylon tape, on the inner surface of the carton 1 immediately forward of the side and top scores 26 and 27. Thus, the removable section R is formed from the forward portions of the top wall 4 and the upper side walls 3 and 5, the top front flap 17 and the upper portions of the side front flaps 16 and 18. The removable section R is defined by the scores 21, 26 and 27 and the cuts 25, all of which are readily severable.

The bottom wall 2 is provided with a back stand 32 in the rear portion thereof to elevate the rear of the carton 1 an inch or more vertically so that the bottom wall 2 tilts or slopes downwardly toward the front when in use within a home refrigerator. The back stand or prop 32 is struck from the bottom wall 2 and comprises a rear portion 33 having a rear hinge 34, a forward portion 35 with a bottom hinge 36 therebetween, and a tab 37 connected to said forward portion 35 along a fold line 38, said tab 37 being adjacent to an opening 39 through which a finger can be inserted. The back stand 32 is positioned a predetermined distance from a back slot 40 formed by a U-shaped cut 41 adjacent to the rear fold line 13 when said bottom rear flap 9 is folded at right angles to said bottom wall 2.

The side end flaps and the top and bottom flaps are so dimensioned that an opening or handhole 42 remains in the front end of said carton 1. This opening 42 forms a handhole or the carrying means 43 since the fingers of the person carrying the carton can be inserted there-through and placed conveniently in the space 44 formed by the staggered cans C adjacent to the front wall 14 of the carton 1. The opening 42 is formed by the shortened

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bottom and top front flaps 15 and 17 and the cut-out portions 20 of the side front flaps 16 and 18.

It is believed that the folding of the carton shown in FIG. 2 into its fully loaded position shown in FIG. 1 is readily apparent. This is done by folding the walls 2-5 along the fold lines 7 and attaching the connecting flap 6 to the bottom wall 2, adhesively or by stitching, to form a tube. The carton is loaded by placing it on one of its sides 3 or 5 so that the cans C are in vertical position with their ends adjacent to the side walls 3 and 5. The same expensive high speed automatic equipment which loads sleeve or band type cartons from their ends with two rows of aligned cans can be used to load the present carton, except that the pusher plate which pushes the cans into the open ended carton is placed angularly so that one row of cans is pushed ahead of the other row by a distance of one-half the diameter of a can. After the carton has been loaded from an end, the open ends are then closed by folding in the side flaps then folding in the top and bottom flaps and adhesively securing them together. The carton is transported resting on a side wall 3 or 5 with the cans in a vertical position, and it is also stored in this position. When purchased by the ultimate user, the user can carry the carton by the handle 43.

To open the carton, a person simply inserts a finger partially into the hole 30 and pulls up on the side tab 29 and rips the scores 26, 27, and 28 in the side and top walls 3, 4, 5. The scores 21 in the side front flaps 16 and 18 are then severed to remove the entire removable section R as a unit. The back stand 32 is then placed in operative position inserting a finger partially in the opening 39 and pulling the tab 37 and other sections 35 and 33 free from the plane of the bottom wall 2 and rebending the back stand 32 along the scores 34, 36 and 38 to insert the tab 37 within the slot 40, thereby forming the back stand 32 shown in FIG. 3.

The carton is now ready to be inserted into a home refrigerator with the rear end 8 first, so that the front end 14 is forward and freely accessible after the refrigerator door is opened. In this position, the bottom front flap 15 and the lower portions 24 of the side front flaps 16 and 18 form a front stop 45 for the rollable cans C, which tend to move forwardly. To make certain that the cans C are removed in predetermined order, the first top can C-1 is removed, then the first lower can C-2 is removed. This then allows all of the other cans to spread out thereby causing the top row C-4, C-6, C-8, and C-10 to drop slightly within the slight spaces formed between the lower row of cans C-3, C-5, C-7, and C-9 caused when the front lower can C-2 was removed. After the first two cans C-1 and C-2 have been removed, then cans from the lower, upper, lower, upper, etc. rows are removed in alternate predetermined order. This allows a "re-order" reminder to be placed on a certain can near the middle of the carton, such as on can C-6 or C-7, to remind the user to order another carton.

Since more than six cans are carried, it is preferable to use stronger carton material, such as 96 flute double-faced corrugated paperboard. The back stand 32 is so dimensioned as to elevate the rear sufficiently to cause the cans C to roll downwardly by gravity toward the front stop 45, even in instances where the beaded ends or rims of conventional beer cans tend to form a depression in the soft paperboard material. The carton is provided with a marking to mark the top thereof and with instructions how to remove the removable section R and how to form the back stand 32. The instructions also instruct the user to remove the upper can C-1 first. Removing the first forward lower can C-2 is difficult and if removed, it causes the remaining cans to tend to jam up with resulting difficulty of removal. The length of the carton 1 may be so dimensioned as to carry any

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number of cans or cylindrical objects, odd or even in number. The handhole 42 may be placed at one or at both ends of the carton as desired.

This invention is intended to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

What is claimed is:

1. A one-piece end loading, self-dispensing carton for cylindrical objects having connected side, bottom, and top walls arranged in tubular form, said walls having front flaps and rear flaps connected thereto for closing the ends of said carton, said bottom wall having means therein adapted to form a prop for elevating the rear of said carton slightly above the front thereof so that cylindrical objects therein will tend to roll forwardly by gravity, said carton having a removable upper front section formed by severable portions of said side front flaps, the front upper portions of said side walls, and the front portion of said top wall; said top wall and said side front flaps having scores parallel to the upper front corner of said carton, said side walls having a cut extending rearwardly from the front corner and connecting with the scores in said side front flaps, said side walls each having a score parallel to the vertical front corner of said carton and connecting the rear of said cut with the ends of said score in said top wall, the lower portions of the front of said side walls and said side front flaps remaining in place with said bottom front flap after said removable section has been removed thereby forming a front stop for said rollable cylindrical objects in said carton, one of said side walls having a pull tab thereon adapted to be pulled in order to remove said removable section.

2. A one-piece end loading, self-dispensing carton for cylindrical objects having connected side, bottom, and top walls arranged in tubular form, said walls having front flaps and rear flaps connected thereto for closing the ends of said carton, said top and bottom front flaps being adhesively secured to said side front flaps, said top and bottom rear flaps being adhesively secured to said side rear flaps, said front top, bottom, and side flaps when secured forming an opening therebetween which acts as carrying means for said carton, said bottom wall having means struck from the rear portion thereof adapted to be folded to form a prop for elevating the rear of said carton slightly above the front thereof so that cylindrical objects therein will tend to roll forwardly by gravity, said carton having a removable upper front section formed by severable portions of said side front flaps, the front upper portions of said side walls, and the front portion of said top wall, said top wall and said side front flaps having scores parallel to the upper front corner of said carton, said side walls having a cut extending rearwardly from the front corner and connecting with the scores in said side front flaps, said side walls each having a score parallel to the vertical front corner of said carton and connecting the rear of said cut with the ends of said score in said top wall, the lower portions of the front of said side walls and said side front flaps remaining in place with said bottom front flap after said removable section has been removed thereby forming a front stop for said rollable cylindrical objects in said carton, one of said side walls having a pull tab thereon adapted to be pulled in order to remove said removable section.

3. A blank for a one-piece carton, said blank having connected bottom, side, and top, wall forming sections with a connecting flap thereon so that said four sections can be folded into tubular form, said walls each having an end flap thereon, said end flaps being of such size as to close the rear end when the carton is folded, said sections each having a front flap, said front flaps

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being of such size as to form a central handhole therein when folded to close the front end, said top front flap and the adjacent portions of said side front flaps and the front portion of the top wall forming section being provided with scoreline and cut portions to form a removable section, said bottom wall forming section having a prop in the rear portion thereof adapted to elevate the rear of said carton upwardly so that said bottom wall forming section tilts downwardly from the rear to the front.

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