

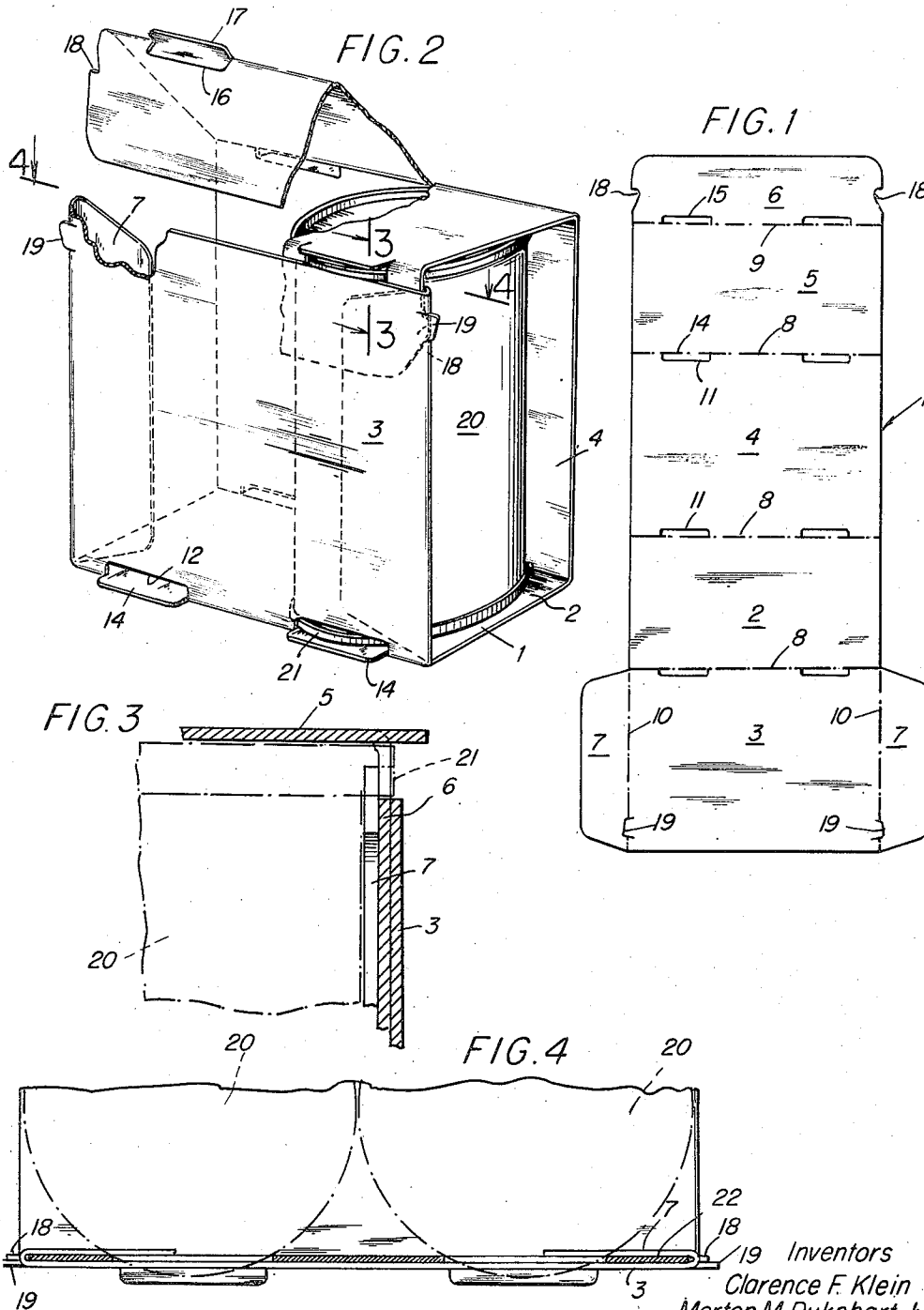
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CARTON

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CARTON

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The present invention relates to a container and more particularly to a carton for canned goods adaptable to be hand packed.

Many merchandising plans for various types of canned products are making increasing use of distribution packages in which two or more cans are packaged in relatively simple containers or cartons which serve to hold the cans together and to provide large, flat, carton surfaces suitable for descriptive or advertising media. With such packages, a typical packing operation may require only a relatively small number of packages in terms of the usual packaging run because these packages are used for sales leaders or samples where only a relatively small number of the products are distributed. The cartons used, therefore, are preferably of relatively simple form adaptable for hand packing operations, so that small numbers of cartons may be formed, printed, arranged, sorted, and packed as necessary for small shipments to specified merchandising areas.

Accordingly, an object of the present invention is to provide an improved carton for canned products.

Another object of the present invention is to provide an easily packed carton for a plurality of cans.

Another object of the present invention is to provide a carton for a plurality of cans adapted for hand-packing operations.

Another object of the present invention is to provide a carton having a simple fastening means.

Another object of the present invention is to provide a carton adapted to be packed without the use of adhesive or staples.

Another object of the present invention is to provide an easily opened carton.

Another object of the present invention is to provide a simple, inexpensive, and efficient carrier for a plurality of cans formed from a blank of minimum size.

Other and further objects of the invention will be obvious upon an understanding of the illustrative embodiment about to be described, or will be indicated in the appended claims, and various advantages not referred to herein will occur to one skilled in the art upon employment of the invention in practice.

A preferred embodiment of the invention has been chosen for purposes of illustration and description and is shown in the accompanying drawings, forming a part of the specification, wherein:

Fig. 1 is a top plan view of the blank from which the carton is formed showing the blank cut and scored and ready for packing;

Fig. 2 is a perspective view of the carton in its erected condition showing one can in place and having the top panel severed and partially opened with one can removed to show the details of the carton;

Fig. 3 is a sectional view of a corner of the closed carton taken along the line 3—3 of Fig. 2; and

Fig. 4 is a sectional view of the upper portion of the carton taken along line 4—4 of Fig. 2.

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Referring to the drawing, a finished blank 1 formed of suitable cardboard or similar material is shown cut and scored in such a manner as to provide a bottom panel 2 with interconnected side panels 3 and 4 and a top panel 5. A tuck flap 6 is provided at one edge of the top panel 5, and end flaps 7 are provided at opposite ends of the side panel 3. The intersections between the bottom, side, and top panels 2, 3, 4, and 5 are defined by scored fold lines 8. Tuck flap 6 is articulated to top panel 5 along the fold line 9 and end flaps 7 are articulated to opposite edges of the side panel 3 at scored fold lines 10. Cut lines 11 at spaced intervals on the score lines 8 form cutouts 12 and projections 14 (Fig. 2) and cut lines 15 on score line 9 form cutouts 16 and projection 17 to provide a rimlock and a top panel lock for cans packed in the cartons as will be more fully described below. A locking tab 18 is provided on opposite ends of the tuck flap 6 which co-operates with slots 19 in side panel 3 to provide a top panel lock in addition to the rimlock.

Fig. 2 shows the blank 1 of Fig. 1 in its erected condition with one can 20 in place therein. The blank 1 is erected and packed in a single operation by placing the bottom panel 2 on a suitable level surface. Thereafter, the cans 20 are placed on the bottom panel 2 with their rims 21 positioned on the projections 14 formed by the rimlock cut lines 11. End flaps 7 are folded inwardly against side panel 3, and the side panels 3 and 4 are folded to a generally vertical position against the sides of the container 20. The bottom panel 2 is shaped so that its width is approximately equal to the diameter of the body portion of the cans 20 to be packed so that the rims 21 of the cans will protrude into the cutouts 12. The length of the bottom panel is approximately equal to the combined diameters of the row of cans to be packed. Thus, in the embodiment shown in the drawing, bottom panel 2 will have a length approximately equal to two can diameters. As seen in Fig. 2, the height of the side panel 4 is made equal to the height of the cans 20, and the side panel 3 has a height equal to the height of the can 20 less the width of the can rim 21, so that as the side panel 3 is folded against the cans 20, its upper surface fits under the upper rim 21 of the can 20. After the side panels 3 and 4 have been folded against the cans 20, top panel 5 is folded down against the tops of the cans 20 and the tuck flap 6 is inserted into the slot 22 (Fig. 4) formed between the side panel 3 and the end flaps 7. The formation of slot 22 is best seen in Fig. 4. The width of end flap 7 is preferably slightly less than the radius of the cans 20 so that the can 20 holds flap 7 relatively close to side panel 3 to form a slot for tuck flap 6. When the side panel 3 is folded against the containers 20, the natural resiliency of the inwardly folded end flap 7 causes it to swing inwardly against the side walls 24 of the cans 20 to provide the slot opening. A slotlike space is thus provided between the end flap 7 and the side panel 3 into which the tuck flap 6 fits when the top panel is lowered. In the preferred embodiment, the end flaps 7 extend for the entire height of side panel 3; however, the flaps 7 may be cut off below the edge of tuck flap 6 to save material if desired.

When the top flap 5 has been folded all the way down against the tops of the cans 20, the cutout 16 formed by cut lines 15 slips over the protruding rim 21 of the can 20. This protuberance of the rim 21 into the rimlock cutout 16 locks the top panel 5 downwardly in its closed position. At the same time the lowering of the top panel 5 causes the tabs 18 to engage slots 19 to provide additional locking action. Tab 18 and slot 19

may be omitted, if desired, and cutouts 16 used for the entire top panel locking action.

In the preferred embodiment shown in the drawings, four rimlock cutouts are shown for each can. The cutout 16 adjacent the tuck flap 6 provides the top panel locking action described above. The other rimlock cutouts 12 help to position and hold the can 20 in place in the erected and packed carton. One or more of these additional rimlock cutouts 12 may be eliminated if desired. The cutouts are preferably spaced with their centers about one can radius from the carton end and about one can diameter from each other.

The preferred embodiment shows the carton adapted for use with two cans 20 to provide a dual pack, which is extremely popular in merchandising operations since it is easily handled by the purchaser and since it allows the inclusion of a new product with a single older product of proven reputation. It is clear, however, that the carton construction disclosed may be used for other numbers of cans; for example, three or more cans in a single line or four or more cans in double rows may be packed in suitably designed carriers.

In the preferred embodiment the blank 1 is shown with the projections 14 and 17, formed by the rimlock cut lines 11 and 15, left in place on the finished carton. Where desired, these projections may be eliminated by forming the cut lines 11 and 15 as closed cuts and by thereafter removing the included and completely severed portions of the blank 1.

It will be seen that a relatively simple and efficient carton has been provided for rimmed containers which is easily packed by hand operations with a minimum number of steps and without the use of adhesive, staples, or other fastening means. The carton, after being packed, is easily handled and is easily re-opened while at the same time being adapted to sustain rough handling without accidental opening. The minimum blank size of the carton together with its relatively simple packing operation make the carton especially suitable for hand packing operations, where relatively small numbers of a great variety of products require packaging in multiple units. The carton has a large proportion of its outer surface area available for advertising or instructional media relating to the packed cans. Where larger numbers of cans are required to be packed in a single packaging run, the carton can also be adapted for machine packing in addition to the simplified hand packing operation used for short packaging runs.

As various changes may be made in the form, construction and arrangement of the parts herein without departing from the spirit and scope of the invention and without sacrificing any of its advantages, it is to be understood that all matter herein is to be interpreted as illustrative and not in a limiting sense.

Having thus described our invention, we claim:

1. A blank for a can holding carton comprising a flat sheet of material having a bottom panel, first and second side panels connected along opposite edges of said bottom panel at scored fold lines, a top panel connected to the first of said side panels along one edge of the top panel at a scored fold line and having a tuck flap articulated at a scored fold line to its opposite edge, end flaps articulated to opposite ends of said second side panel, elongated apertures at the scored fold line between said top panel and said tuck flap and at said scored fold lines between said panels, said apertures having their center spaced from the edge of the side panels by approximately the radius of the cans and spaced from each other by approximately the diameter of the cans and being adapted to engage the rims of the cans held by the carton, projecting locking tabs on opposite ends of said tuck flap, and slots formed in the articulated connections between said second side panel and said end flaps positioned to engage said locking tabs when said carton is erected.

2. A blank for a can holding carton comprising a flat sheet of material having a bottom panel, first and second side panels connected along opposite edges of said bottom panel at scored fold lines, a top panel connected to the first of said side panels along one edge of the top panel at a scored fold line and having a tuck flap articulated at a scored fold line to its opposite edge, end flaps articulated to opposite ends of said second side panel, elongated apertures at the scored fold line between said top panel and said tuck flap, said apertures having their center spaced from the edge of the side panels by approximately the radius of the cans and spaced from each other by approximately the diameter of the cans and adapted to engage the rims of cans held by the carton.

3. A blank for a rimmed cylindrical container holding carton comprising a flat sheet of material having a bottom panel, first and second side panels connected along opposite edges of said bottom panel at scored fold lines, a top panel connected to the first of said side panels along one edge of the top panel at a scored fold line and having a tuck flap articulated at a scored fold line to its opposite edge, end flaps articulated to opposite ends of said second side panel, elongated apertures at the scored fold line between said top panel and said tuck flap, said apertures having their center spaced from the edge of the side panels by approximately the radius of the cans and spaced from each other by approximately the diameter of the cans, the height of said first side panel between the scored fold lines being equal to the height of the cans, and the height of said second side panel being less than the height of the cans by the height of a can rim.

4. In a carton for carrying a plurality of cans, a bottom panel, first and second side panels having their lower edges connected to opposite edges of said bottom panel, a top panel articulated to the upper edge of said first side panel and having a tuck flap articulated to the edge opposite its articulated connection with said first side panel, end flaps on said second side panel folded inwardly above said bottom panel and adapted to abut the side walls of cans within the carton at a point adjacent to said second side panel whereby a slot is provided between said second side wall and said end flaps to accommodate said tuck flap, spaced apertures at the articulated connection between said top panel and said tuck flap adapted to engage the rims of cans in said carton when said top panel is folded down against the can tops and said tuck flap is inserted in said slot, locking tabs on opposite ends of said tuck flap, and apertures in the articulated connection between the side flaps and the second side panel spaced from the upper edge thereof and adapted to engage said locking tabs when said tuck flap is inserted into said slot.

5. In a carton for carrying a row of rimmed cans, an elongated bottom panel, first and second side panels having their lower edges connected to opposite longer edges of said bottom panel, an elongated top panel articulated at one longer edge to the upper edge of said first side panel and having a tuck flap articulated to the edge opposite its articulated connection with said first side panel, end flaps on said second side panel folded inwardly above said bottom panel and adapted to abut the side walls of cans within the carton at a point adjacent to said second side panel whereby a slot is provided between said second side wall and said end flaps to accommodate said tuck flap, said bottom panel and said top panel having a width approximately equal to the diameter of the body of the cans and less than the diameter of the can rims, and spaced apertures at the articulated connection between said top panel and said tuck flap adapted to engage the rims of cans in said carton when said top panel is folded down against the can tops and said tuck flap is inserted in said slot.

6. In a carton for carrying a plurality of rimmed cans in one or more rows, a bottom panel, first and second

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side panels having their lower edges connected to opposite edges of said bottom panel, a top panel articulated to the upper edge of said first side panel and having a tuck flap articulated to the edge opposite its articulated connection with said first side panel, end flaps on said second side panel folded inwardly above said bottom panel and adapted to abut the side walls of cans within the carton at a point adjacent to said second side panel whereby a slot is provided between said second side wall and said end flaps to accommodate said tuck flap, first spaced apertures at the articulated connection between said top panel and said tuck flap adapted to engage the rims of cans in said carton when said top panel is folded down against the can tops and said tuck flap is inserted in said slot and second spaced apertures at the connections between said top panel and said side panels and said bottom panel and said side panels adapted to engage the can rims.

7. In a carton for carrying a plurality of cans a bottom panel, first and second side panels having their lower edges connected to opposite edges of said bottom panel,

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a top panel articulated to the upper edge of said first side panel and having a tuck flap articulated to the edge opposite its articulated connection with said first side panel, end flaps on said second side panel folded inwardly above said bottom panel and adapted to abut the side walls of cans within the carton at a point adjacent to said second side panel whereby a slot is provided between said second side wall and said end flaps to accommodate said tuck flap, and spaced apertures at the articulated connection between said top panel and said tuck flap adapted to engage the rims of cans in said carton when said top panel is folded down against the can tops and said tuck flap is inserted in said slot.

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