

May 12, 1970

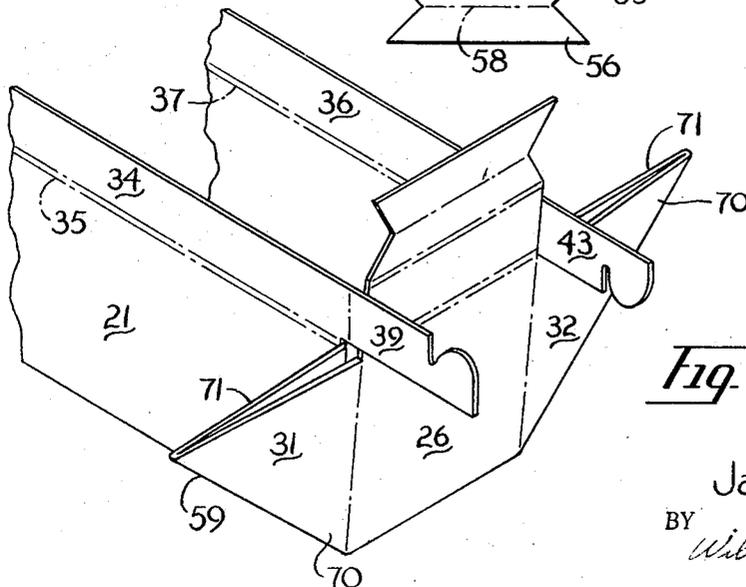
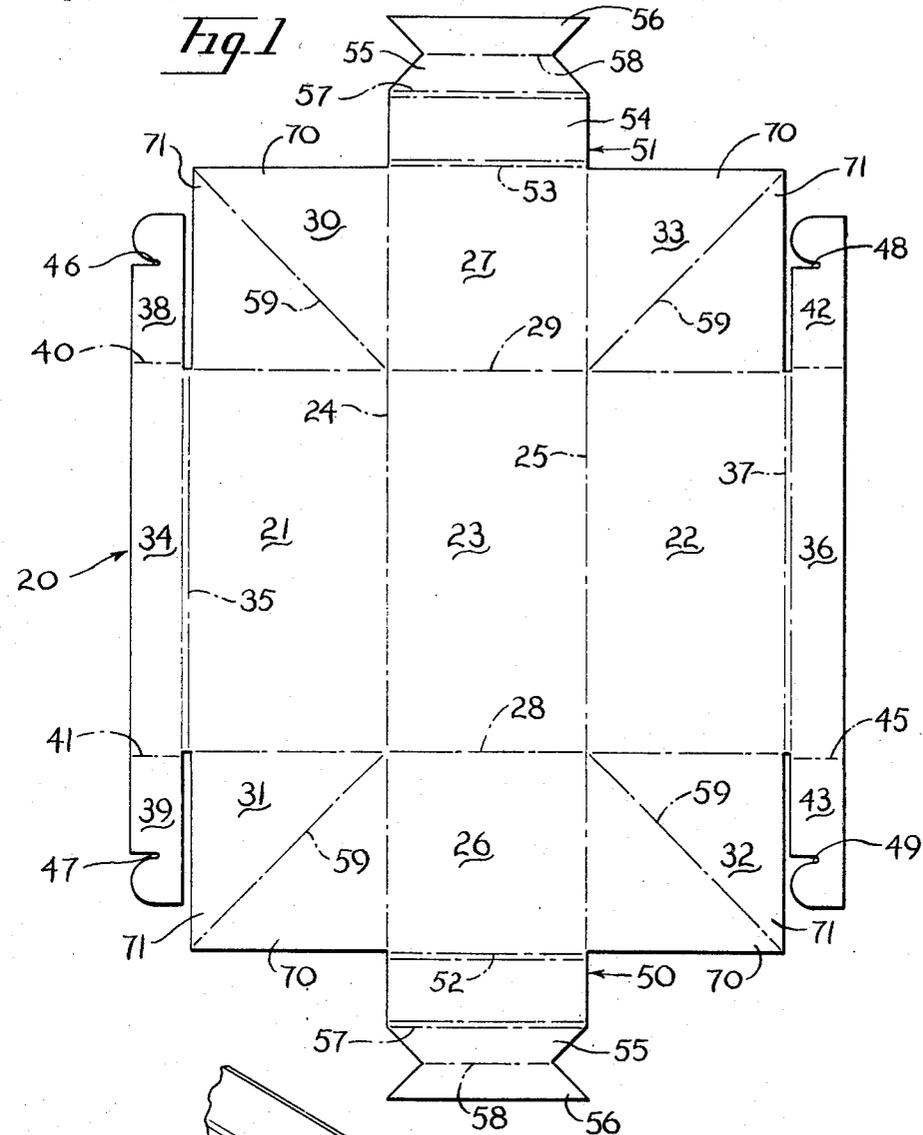
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3,511,429

PORTABLE BEVERAGE COOLER

Filed April 23, 1968

2 Sheets-Sheet 1



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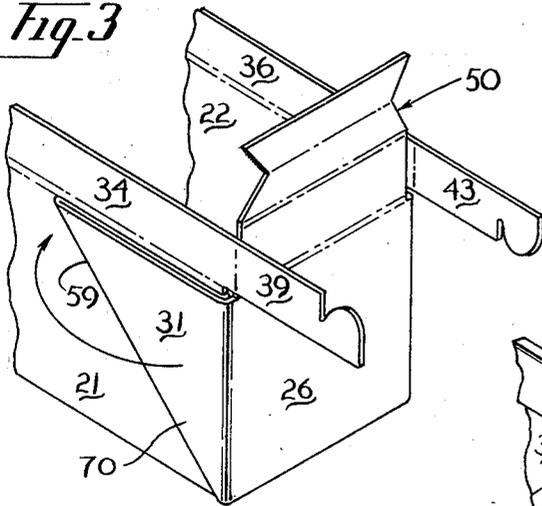
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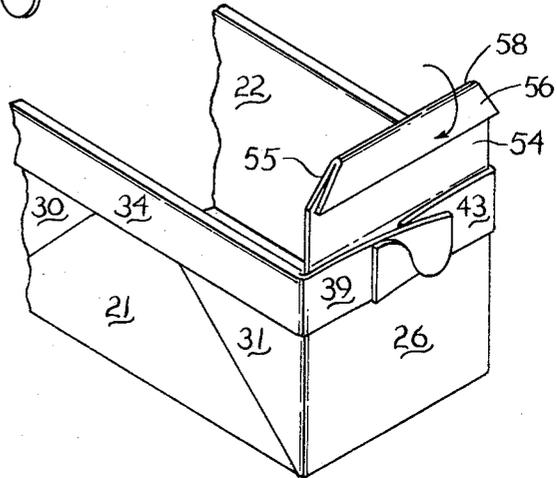
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2 Sheets-Sheet 2

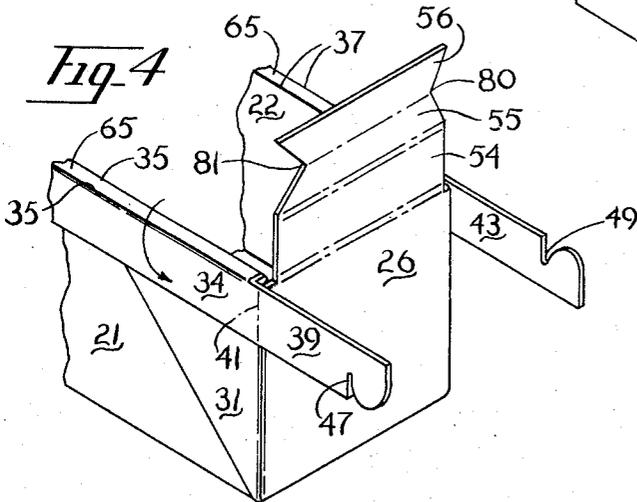
*Fig. 3*



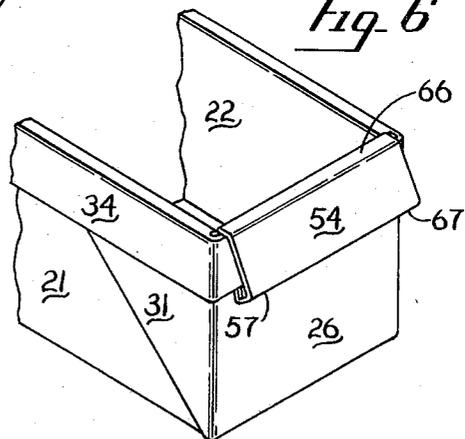
*Fig. 5*



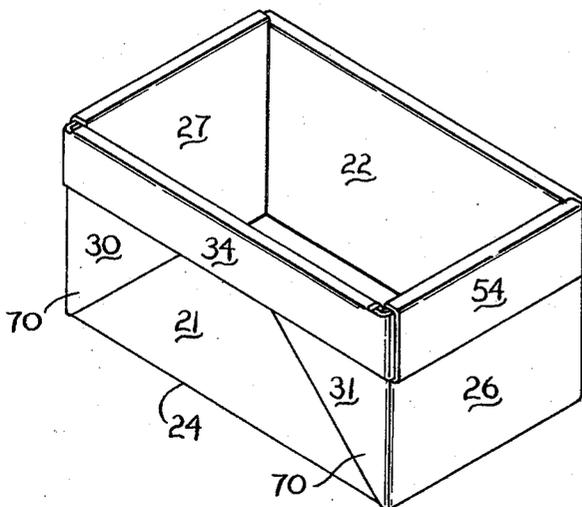
*Fig. 4*



*Fig. 6*



*Fig. 7*



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**PORTABLE BEVERAGE COOLER**

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2 Claims

**ABSTRACT OF THE DISCLOSURE**

A portable beverage cooler constructed from a one-piece, water-resistant paperboard blank. The cooler includes opposed end and side wall panels foldably connected to a bottom wall panel. Bellows panels are provided at each corner of the cooler, foldably connected to both a side and end wall. The bellows panels are secured adjacent a side wall of the cooler by bellows panel locking flaps which are foldably connected along the top edge of each side wall panel. Locking tabs foldably connected to the ends of the bellows panel locking flaps are secured together around the ends of the cooler and locked in that position by locking flaps foldably connected to the top edge of the end wall panels.

**BACKGROUND OF THE INVENTION**

This invention relates to the field of portable beverage coolers.

The practice of catering of social functions by beer and soft drink bottling companies is becoming increasingly more popular. When a social function is scheduled, a beer or soft drink bottling company will be commissioned to supply liquid refreshment. Prior to my invention, the beverage company would deliver the liquid refreshment to the social function at the scheduled time in conventional coolers constructed of metal, plastic and the like. The beverage would then be packed in ice and left at the function site to cool.

Since the conventional coolers are relatively expensive, the beverage company is compelled from a practical standpoint to return and reclaim the coolers at the termination of the social function so that they may be re-used. Obviously, this requires the expenditure of considerable time and effort for the return trip.

Accordingly, it is an object of my invention to provide an inexpensive beverage cooler, which may be discarded after the first use.

It is a further object of my invention to provide an inexpensive beverage cooler which may be assembled by one person without the need for construction or erection components.

**BRIEF SUMMARY OF THE INVENTION**

My invention provides a throw-away, paperboard, beverage cooler erected from a die-cut blank of such configuration that no additional components such as stitching or adhesive are required for its erection. The cooler is erected from a water-resistant, one-piece blank comprising side wall panels and end wall panels foldably connected to a bottom wall panel. Bellows panels are provided at each corner of the cooler to provide for material continuity, each bellows panel being foldably connected to an end and side wall panel. Upon erection, the bellows panels are folded along the side walls of the container and secured in that position by a bellows locking flap foldably connected to the top of each side wall. Locking tabs foldably connected to each end of each bellows locking flap are locked on the outside of the end wall of the cooler and are secured in that position by a locking flap foldably connected to the top edge of each end wall panel.

Because the cooler is constructed of inexpensive materials, it may be discarded by the user once it has been emptied, thus dispensing with the necessity for the beverage company returning to reclaim the cooler.

These and other novel features of the present invention will be evident in the following specification and claims.

**BRIEF DESCRIPTION OF THE DRAWING**

FIG. 1 is a plan view, showing the inside face of a foldable blank from which the cooler is formed.

FIG. 2 is a fragmentary perspective view of the initial stage of erection of the cooler, i.e. the folding of both the side and end wall panels to a vertical position.

FIG. 3 is a fragmentary perspective view of the cooler in the second step of the erection procedure, having the bellows panels positioned adjacent the side wall panels.

FIG. 4 is a fragmentary perspective view of the cooler in a further stage of erection having the bellows panel locking flaps folded downwardly to secure the bellows panels against the side walls of the cooler.

FIG. 5 is a fragmentary perspective view of the cooler in a further stage of erection showing the locking tabs in a locked position.

FIG. 6 is a fragmentary perspective view of the cooler in the final stage of its erection showing the end wall locking flaps folded around the locking tabs and wedged securely between the locking tabs and the end wall of the container.

FIG. 7 is a perspective view of the cooler in an erected condition.

**DETAILED DESCRIPTION**

The cooler blank 20 shown in FIG. 1 described in terms applicable to the cooler formed therefrom, includes side wall panels 21 and 22 foldably connected to bottom wall panel 23 along score lines 24 and 25 respectively. End wall panels 26 and 27 are foldably connected to the bottom wall panel along score lines 28 and 29 respectively.

Bellows panel 30 is foldably connected to end wall panel 27 along score line 24 and to side wall panel 21 along score line 29. Bellows panel 31 is foldably connected to end wall panel 26 along score line 24 and to side wall panel 21 along score line 28. Similarly, bellows panel 32 is foldably connected to end wall panel 26 along score line 25 and to side wall panel 22 along score line 28 and bellows panel 33 is foldably connected to end wall panel 27 along score line 25 and to side wall panel 22 along score line 29. Each of the various bellows panels 30-33 include outer portion 70 and inner portion 71 foldably connected along score line 59 which extends from a point on the bellows panel adjacent a corner of the bottom wall panel to the outer free corner of the bellows panel thus bisecting the bellows panel.

Bellows panel locking flap 34 is foldably connected to side wall panel 21 along score line 35 and bellows panel locking flap 36 is foldably connected to side wall panel 22 along score line 37. Score lines 35 and 37 have been double scored for a reason to be hereinafter explained.

Locking tabs 38 and 39 are foldably connected to bellows panel locking flap 34 along score lines 40 and 41 respectively. It will be noted score lines 40 and 41 have been offset slightly with respect to score lines 28 and 29 for a reason to be hereinafter explained. Similarly, locking flaps 42 and 43 are foldably connected to bellows locking flap 36 along score lines 44 and 45 respectively. Score lines 44 and 45 have also been offset slightly from score lines 28 and 29. Notches 46-49 have been provided in locking tabs 38, 39, 42 and 43 respectively for a reason to be hereinafter described.

Locking flaps designated generally as 50 and 51 are foldably connected to end wall panels 26 and 27 along score lines 52 and 53 respectively. Score lines 52 and 53 have

been double scored for a reason to be hereinafter explained.

Locking flaps 50 and 51 each include outer panels 54, inner tuck panel 55 and outer tuck panel 56. Inner tuck panel 55 is foldably connected to outer panel 54 along score 57 which is double scored for a reason to be hereinafter explained. Inner tuck panel 55 is connected to outer tuck panel 56 along score line 58.

FIGS. 2-6 are a series of fragmentary perspective views of the cooler in progressive stages of erection. Only one end of the cooler is shown in the construction phase since the procedure for the erection of the opposite end is identical.

Referring now to FIG. 2, the erection is begun by folding side wall panels 21 and 22 and end wall panel 26 to vertical position. During this step, bellows panels 31 and 32 are folded about bisecting score line 59. The bellows fold panels 32 and 31 having been folded about diagonal scores 59 into a triangular configuration, as shown in FIG. 1 are then pivoted about their vertical connections with the end and side walls of the cooler until bellows panel 31 is positioned adjacent side wall panel 21 and bellows panel 32 is positioned adjacent side wall 22 as shown in FIG. 3. It will be noted that the bellows panels terminate in a point connection with the corner of said bottom wall panel to provide for material continuity at the corners of the cooler. Referring now to FIG. 4, the erection of the cooler proceeds with bellows panel locking flaps 34 and 36 being folded downwardly in the direction of the arrow to secure the bellows panels 31 and 32 between the bellows fold locking flaps and the side wall panels. Score lines 35 and 37 have been double scored to provide rim panels 65 along the top of the side walls of the cooler. Rim panels 65, having a width equal to the distance between the double scores, provide the necessary space between side wall panels 21 and 22 and bellows locking flaps 34 and 36 respectively, to allow for the double thickness of the bellows fold panels.

It will be noted from FIG. 4, that once the bellows fold locking flaps 34 and 36 have been folded downwardly, notch 47 in locking tab 39 opens downwardly and notch 39 and locking tab 43 opens upwardly. Referring now to FIG. 5, locking tabs 39 and 43 are folded inwardly and notch 47 is placed within notch 49 to secure the container in an erected condition. It will be noted score lines 41 and 45, and score lines 40 and 44 connecting the various locking tabs to the bellows locking flaps have been offset outwardly from score lines 28 and 29 to allow for the increased thickness of the folded material along the vertical corners of the cooler when the flaps have been folded to the position disclosed in FIG. 5.

Locking tabs 39 and 43 are then locked in the secured position by end wall locking flap 50. This lock is effected by first folding outer tuck flap 56 about score line 58 in the direction of the arrow in FIG. 5, until it is adjacent to inner tuck panel 55. Locking flap 50 is then folded downwardly about double score line 52 until outer panel 54 is adjacent locking tabs 39 and 43. It will be seen from FIG. 6 that score line 52 has been double scored to provide a rim panel 66 having thickness sufficient to allow for the double thickness of locking tabs 39 and 43.

Finally, tuck panels 55 and 56 are folded about score 57 and wedged between end wall panel 26 and locking panels 39 and 43. Score line 57 has been double scored to provide a rim panel 67 having an appropriate width to allow for the double thickness of locking tabs 39 and 43.

Referring again to FIG. 4, the tuck panels 55 and 56 have been notched as at 80 and 81 such that tuck panels 55 and 56 will take on an angular configuration (see FIG. 5) once the panels have been folded about score line 58. This provides for ease in slipping the tuck panels between end wall panel 26 and locking tabs 39 and 43 as shown in FIG. 6. Because tuck flaps 55 and 56 cooperate to provide a double thickness of material between the end

wall and the locking tabs, a tighter friction engagement is effected thus maintaining the box in a securely erected position. The end wall locking panel also serves as a handle for lifting the cooler in its erected condition.

Although the bellows panels may be folded on the inside of the side wall panels, I prefer to position them on the outside because I have determined they provide greater support for the side walls against bulge.

The cooler may be constructed of solid fibre or corrugated paperboard or equivalent materials. When using paperboard, the blank may be coated with any appropriate material such as a polyethylene base wax for the necessary degree of water-resistance. It is conceived that a plastic liner may be placed within the cooler for added water-resistance, however, I have found the wax coating sufficient.

It will be seen that because the cooler is formed from a one-piece blank, having material continuity throughout, wicking of moisture along various joints is precluded, thus the cooler is well adapted for social functions in homes etc.

It will also be seen that I have provided an inexpensive water-resistant throw-away beverage cooler which may be easily and quickly erected from a paperboard blank by one person without the necessity of gluing, stitching, etc.

An embodiment of the present invention has been set forth in detail for purposes of making a complete disclosure thereof; however, numerous modifications will occur to one skilled in the art without departing from the spirit of the invention.

Having therefore described my invention, I claim:

1. A container constructed from a one-piece, paperboard blank, the container comprising:

- (a) A bottom wall panel;
- (b) A pair of side wall panels foldably connected to said bottom wall panel along opposed edges thereof;
- (c) A pair of end wall panels foldably connected to said bottom wall panel along opposed edges thereof, each vertical edge of each said end wall panels positioned adjacent a vertical edge of one of said side wall panels, thus forming vertical corners of said container;
- (d) Bellows panels at each vertical corner of said container foldably connecting one end of one of said side wall panels to one end of one of said end wall panels, said bellows panels positioned adjacent the side walls of said container;
- (e) Locking flaps foldably connected to the top edge of each of said side wall panels, said locking flaps maintaining said bellows panels adjacent said side walls of said container;
- (f) Locking tabs foldably connected to each end of each of said locking flaps cooperating to secure the container in an erected condition;
- (g) A second pair of locking flaps, each of said second locking flaps foldably connected to the top edge of an end wall panel and including an outer panel, an inner tuck panel and an outer tuck panel foldably connected in series relation, said outer panel lying adjacent the outer surface of said cooperating locking tabs and said inner and outer tuck panels in juxtaposition and frictionally engaged between said end wall panel and the inner surface of said cooperating locking tabs to maintain said cooperating locking tabs in a locked condition.

2. A paperboard blank for a container, comprising:

- (a) A bottom wall panel;
- (b) Side walls panels foldably connected to opposite edges of said bottom wall panel;
- (c) End wall panels foldably connected to opposite edges of said bottom wall panel;
- (d) Bellows panels foldably connecting said side wall panels to said end wall panels;

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- (e) Locking flaps foldably connected to the outer edge of each of said side wall panels;
- (f) Locking tabs foldably connected to each end of each of said locking flaps, each of said locking tabs adapted to cooperate with a locking tab connected to a corresponding end of the other of said locking flaps to maintain said container in an erected condition;
- (g) A second pair of locking flaps, each of said second pair of locking flaps foldably connected to the outer edge of one of said end wall panels and comprising an outer panel, an inner tuck panel and an outer tuck panel foldably connected in series relation, each of said second pair of locking flaps adapted to be folded around said locking tabs and to lock said lock-

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ing tabs in their cooperatingly secured position in the erected condition in the container.

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U.S. Cl. X.R.

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